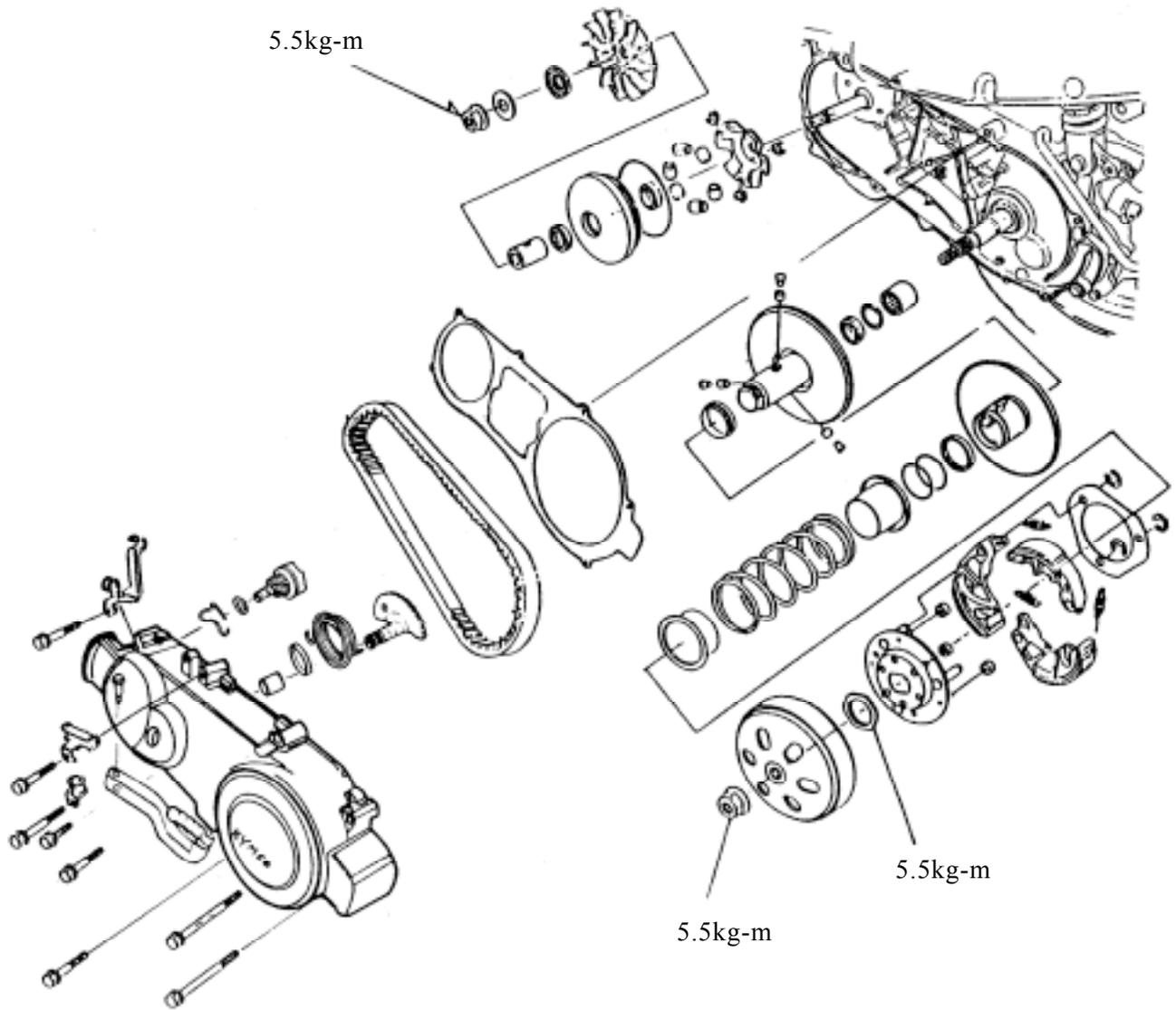


## 9. DRIVE AND DRIVEN PULLEYS/ KICK STARTER

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## 9. DRIVE AND DRIVEN PULLEYS/ KICK STARTER

SERVICE INFORMATION .....	9-1	DRIVE PULLEY .....	9- 3
TROUBLESHOOTING .....	9-1	CLUTCH/DRIVEN PULLEY.....	9- 8
LEFT CRANKCASE COVER .....	9-2	KICK STARTER .....	9-14

### SERVICE INFORMATION

#### GENERAL INSTRUCTIONS

- The drive pulley, clutch and driven pulley can be serviced with the engine installed.
- Avoid getting grease and oil on the drive belt and pulley faces. Remove any oil or grease from them to minimize the slipping of drive belt and drive pulley.

#### SPECIFICATIONS

Item	Standard (mm)		Service Limit (mm)
Movable drive face bushing I.D.	24.011_	24.052	24.06
Drive face collar O.D.	23.960_	23.974	23.94
Drive belt width	20.0_	21.0	19.0
Clutch lining thickness	□		1.5
Clutch outer I.D.	125.0_	125.2	125.5
Driven face spring free length	□		163.7
Driven face O.D.	33.965_	33.485	33.94
Movable driven face I.D.	34.000_	34.025	34.06
Weight roller O.D.	17.920_	18.080	17.40

#### TORQUE VALUES

Drive face nut	5.5kg-m
Clutch outer nut	5.5kg-m
Clutch drive plate nut	5.5kg-m

#### SPECIAL TOOLS

Universal holder	Clutch spring compressor
Driver handle A	Lock nut wrench, 39mm
Outer driver, 32x35mm	Bearing driver
Pilot, 20mm	Bearing driver

#### TROUBLESHOOTING

##### Engine starts but motorcycle won't move

- Worn drive belt
- Broken ramp plate
- Worn or damaged clutch lining
- Broken driven face spring

##### Lack of power

- Worn drive belt
- Weak driven face spring
- Worn weight roller
- Fouled drive face

##### Engine stalls or motorcycle creeps

- Broken clutch weight spring

## 9. DRIVE AND DRIVEN PULLEYS/ KICK STARTER

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### LEFT CRANKCASE COVER

#### REMOVAL

Loosen the drive belt air tube band screw.

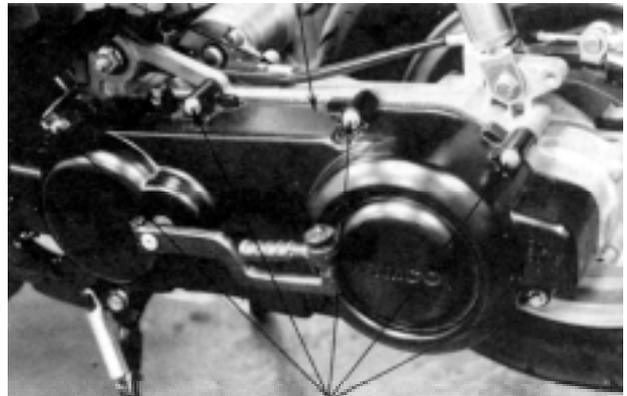
Air Tube Band



Remove the left crankcase cover bolts and left crankcase cover.  
Remove the seal rubber and dowel pins.

Screw

Cable Clamp Left Crankcase Cover

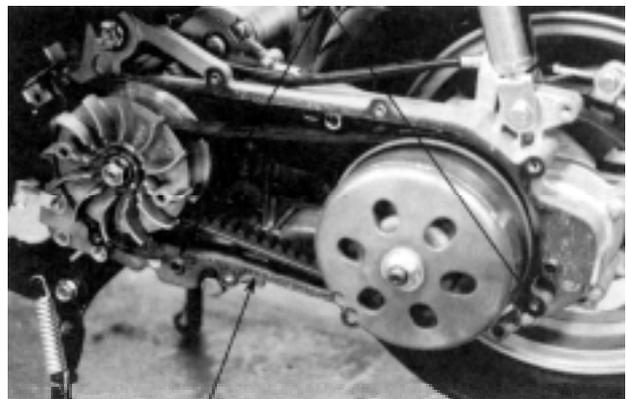


Bolts

Dowel Pins

#### INSTALLATION

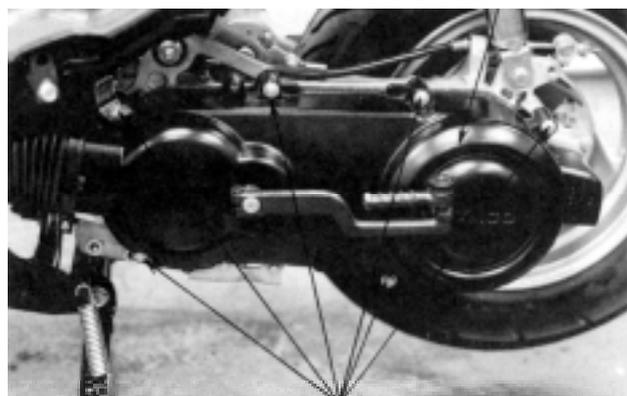
Install the dowel pins and seal rubber.



Seal Rubber

Left Crankcase Cover

Install the left crankcase cover and tighten the left crankcase cover bolts.  
Install the cable clamp to the specified location and tighten the bolt.



Bolts

## 9. DRIVE AND DRIVEN PULLEYS/ KICK STARTER

Install the drive belt air tube and tighten the tube band screw.

### DRIVE PULLEY

#### REMOVAL

Remove the left crankcase cover.  
Hold the drive pulley using an universal holder and remove the drive face nut and starting ratchet.  
Remove the drive pulley face.

**Special**

Universal Holder

Hold the clutch outer with the universal holder and remove the clutch outer nut.  
Remove the clutch/driven pulley and drive belt.

#### INSPECTION

Check the drive belt for cracks, separation or abnormal or excessive wear.  
Measure the drive belt width.

**Service Limit:** 19.0mm replace if below

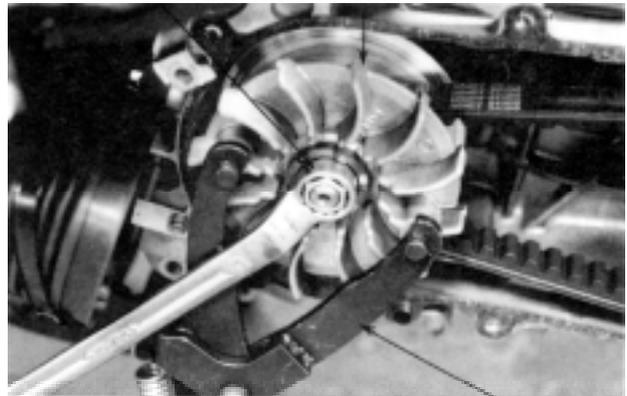
\* Use specified genuine parts for replacement.

Intake Cover



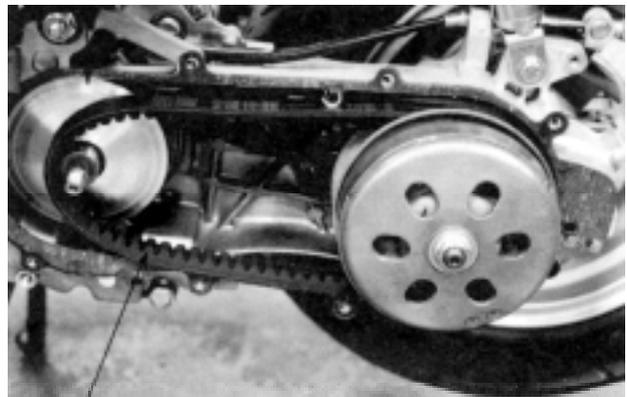
Tube Band Screw

Starting Ratchet Drive Pulley Face

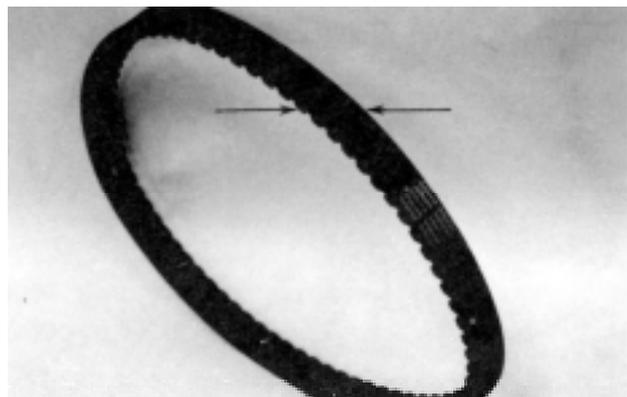


Universal Holder

Movable Drive Face



Drive Belt

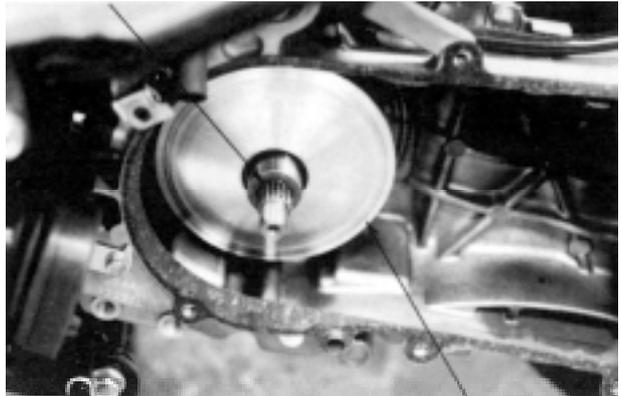


## 9. DRIVE AND DRIVEN PULLEYS/ KICK STARTER

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Remove the movable drive face assembly.  
Remove the drive pulley collar.

Drive Pulley Collar

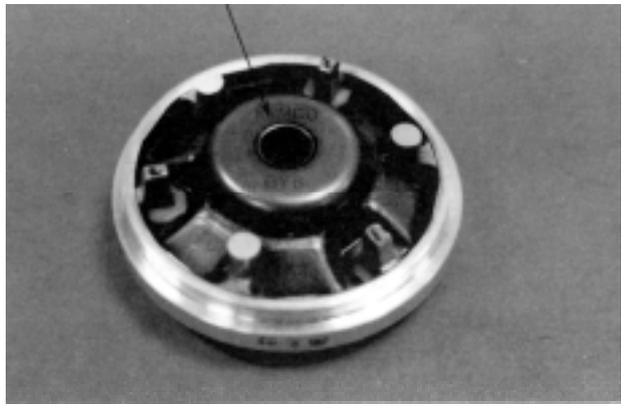


Movable Drive Face Assembly

### DISASSEMBLY

Remove the ramp plate.

Ramp Plate



Remove the weight rollers.



Weight Roller

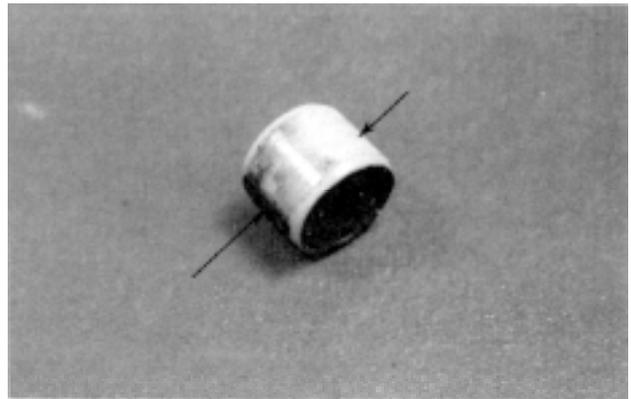
## 9. DRIVE AND DRIVEN PULLEYS/ KICK STARTER

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### INSPECTION

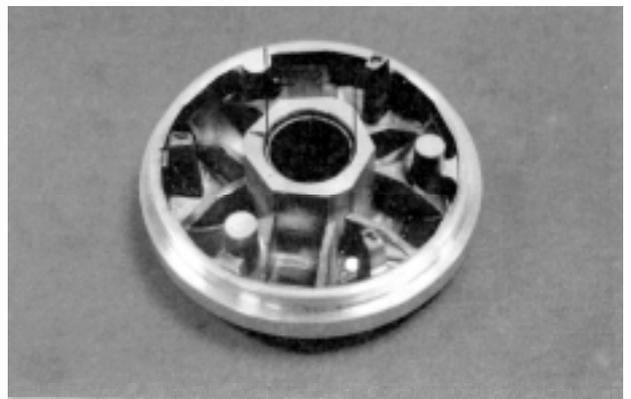
Check each weight roller for wear or damage.  
Measure each weight roller O.D.

**Service Limit:** 17.4mm replace if below



Measure the movable drive face bushing I.D.

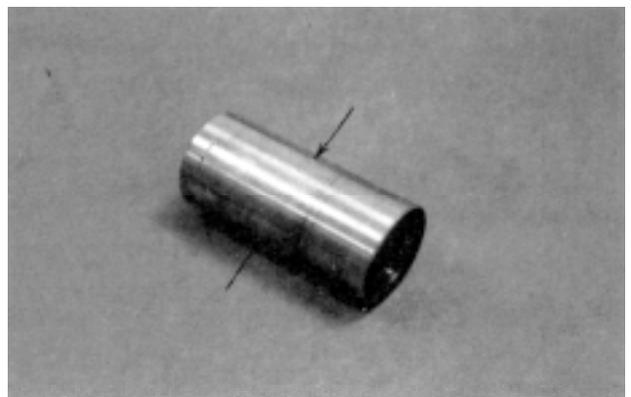
**Service Limit:** 24.06mm replace if over



Check the drive pulley collar for wear or damage.

Measure the O.D. of the drive pulley collar sliding surface.

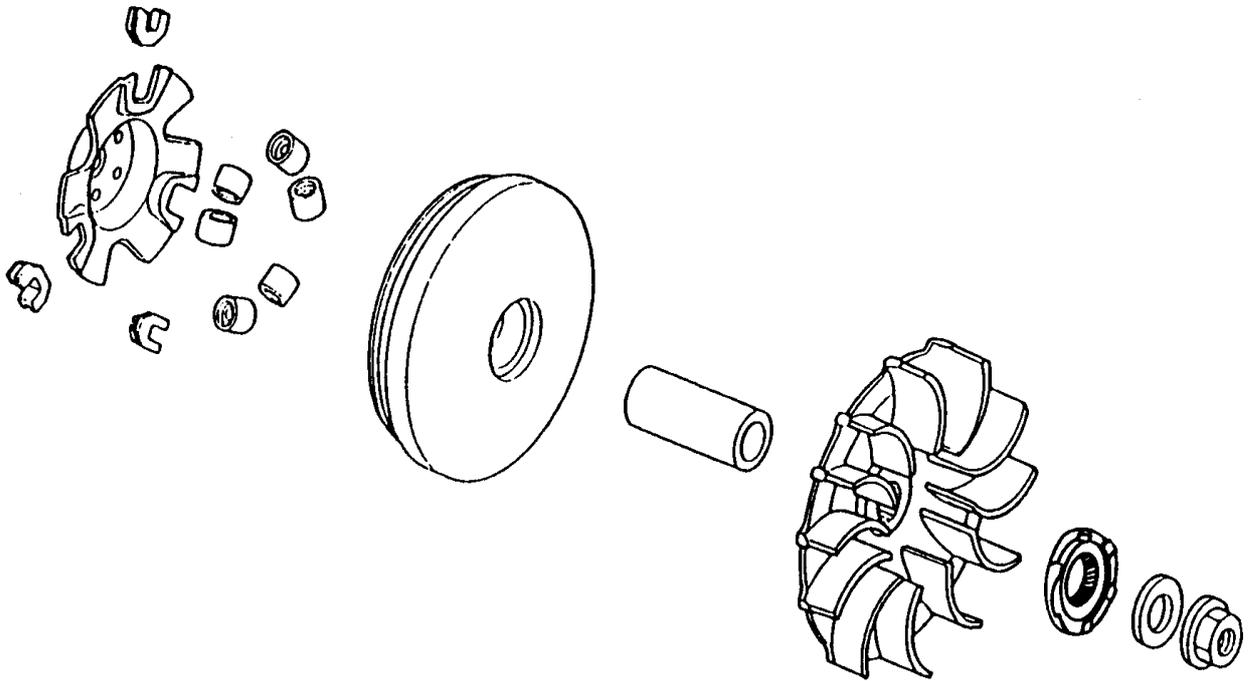
**Service Limit:** 23.94mm replace if below



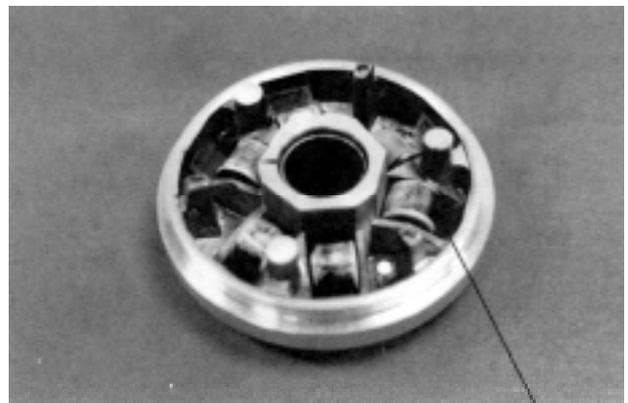
## 9. DRIVE AND DRIVEN PULLEYS/ KICK STARTER

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### ASSEMBLY



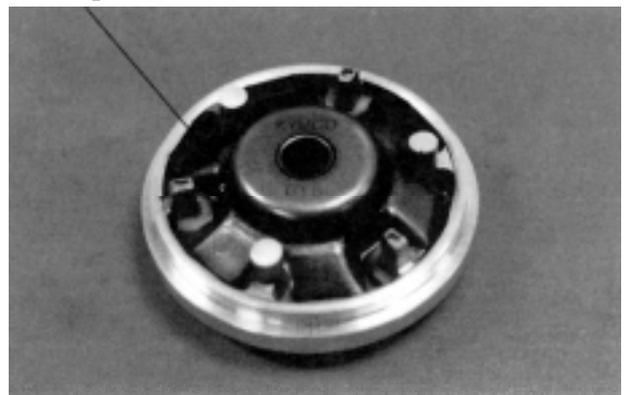
Install the weight rollers into the movable drive face.



Weight Roller

Install the ramp plate.

Ramp Plate



## 9. DRIVE AND DRIVEN PULLEYS/ KICK STARTER

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Insert the drive pulley collar into the movable drive face.

Drive Pulley Collar



### INSTALLATION

Install the movable drive face onto the crankshaft.

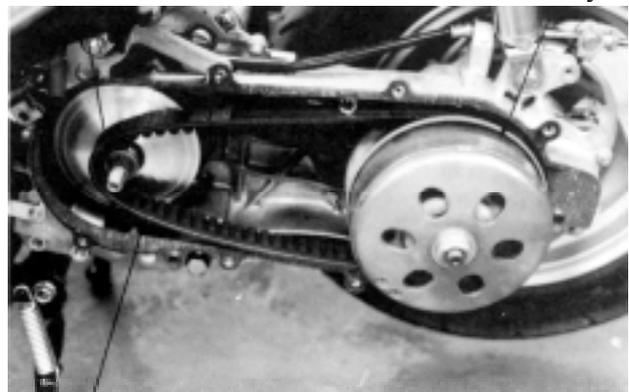


Movable Drive Face Assembly

Drive Pulley Collar

Driven Pulley

Lay the drive belt on the driven pulley.  
Set the drive belt on the drive pulley collar.



Drive Belt

## 9. DRIVE AND DRIVEN PULLEYS/ KICK STARTER

Install the drive pulley face, starting ratchet and drive face nut.

- \*
  - When installing the drive pulley face, compress it to let the drive belt move downward to the lowest position so that the drive pulley can be tightened.
  - Install the starting ratchet by aligning the starting ratchet teeth with

Hold the drive pulley with the universal holder and tighten the drive face nut.

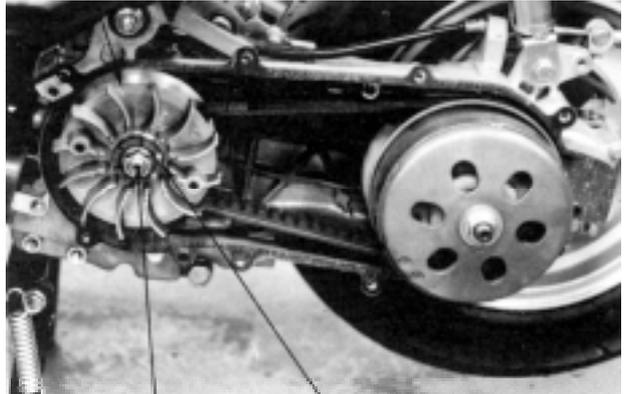
**Torque:** 5.5kg-m

**Special**

Universal Holder

- \*
  - Do not get oil or grease on the drive belt or pulley faces.

Drive Pulley Face



Drive Face Nut Starting Ratchet  
Drive Pulley



Universal Holder

### CLUTCH/DRIVEN PULLEY

Remove the left crankcase cover. (⇒9-2)  
Remove the drive pulley and drive belt.  
(⇒9-3)

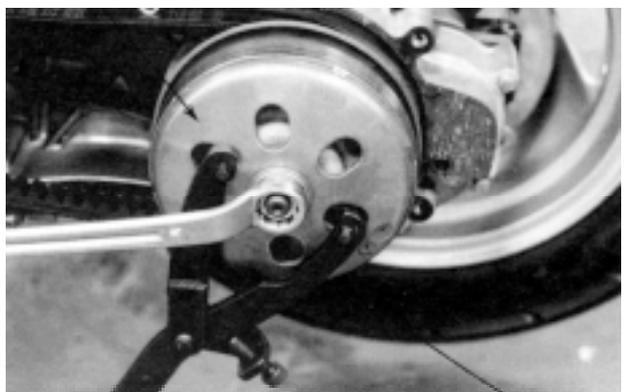
Hold the clutch outer with the universal holder and remove the clutch outer nut.

**Special**

Universal Holder

Remove the clutch outer.

Clutch Outer

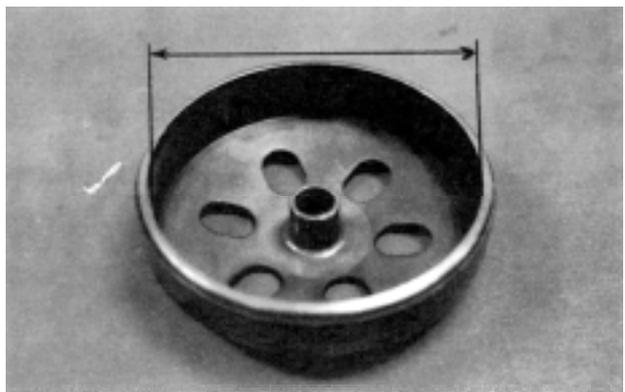


Universal Holder

### INSPECTION

Inspect the clutch outer for wear or damage.  
Measure the clutch outer I.D.

**Service Limit:** 125.5mm replace if over



## 9. DRIVE AND DRIVEN PULLEYS/ KICK STARTER

---

Check the clutch shoes for wear or damage.  
Measure the clutch lining thickness.

**Service Limit:** 1.5mm replace if below



Clutch/Driven Pulley

### CLUTCH/DRIVEN PULLEY DISASSEMBLY



Clutch Spring Compressor

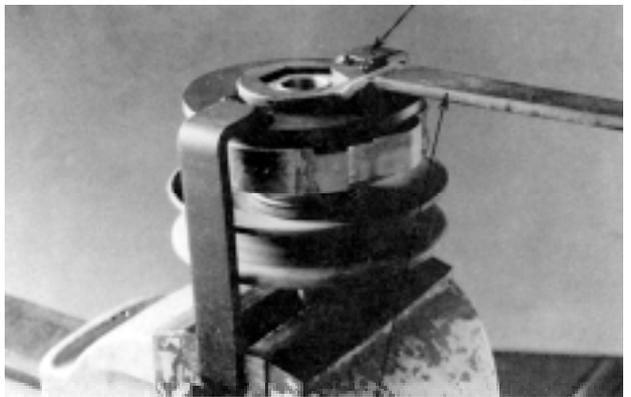
Hold the clutch/driven pulley assembly with  
the clutch spring compressor.

\* Be sure to use a clutch spring  
compressor to avoid spring damage.

**Special**

Clutch Spring Compressor  
Outer Driver, 32x35mm

Set the clutch spring compressor in a vise and  
remove the clutch drive plate nut.



Lock Nut Wrench

**Special**

Lock Nut Wrench, 39mm

Loosen the clutch spring compressor and  
disassemble the clutch/driven pulley  
assembly.

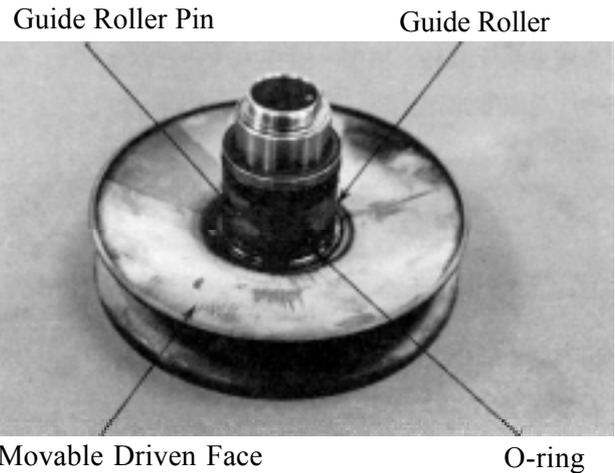
Remove the seal collar.



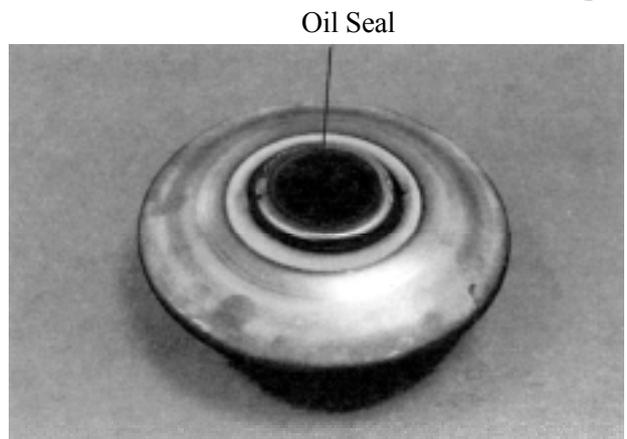
## 9. DRIVE AND DRIVEN PULLEYS/ KICK STARTER

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Pull out the guide roller pins and guide rollers.  
Remove the movable driven face from the  
driven face.

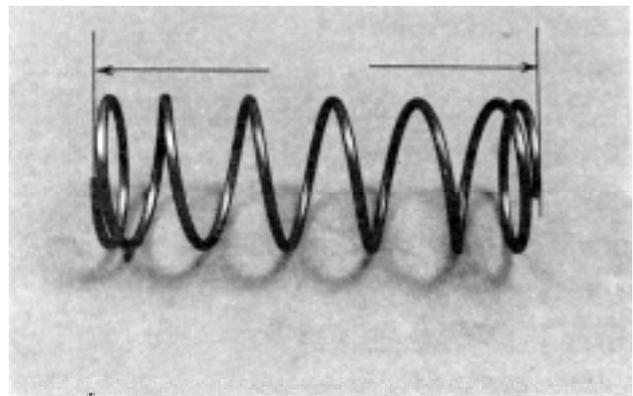


Remove the oil seal from the movable driven  
face.

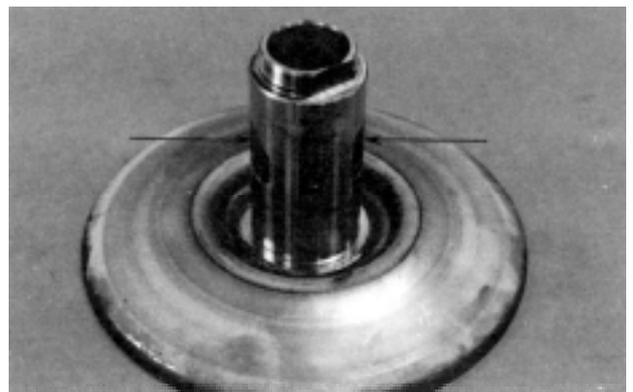


### INSPECTION

Measure the driven face spring free length.  
**Service Limit:** 163.7mm replace if below



Check the driven face for wear or damage.  
Measure the driven face O.D.  
**Service Limit:** 33.94mm replace if below

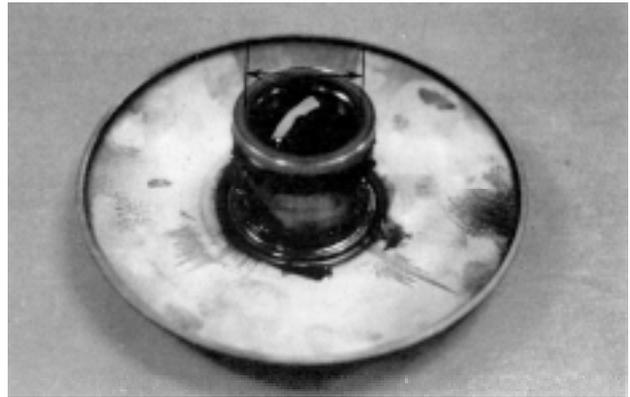


## 9. DRIVE AND DRIVEN PULLEYS/ KICK STARTER

Check the movable driven face for wear or damage.

Measure the movable driven face I.D.

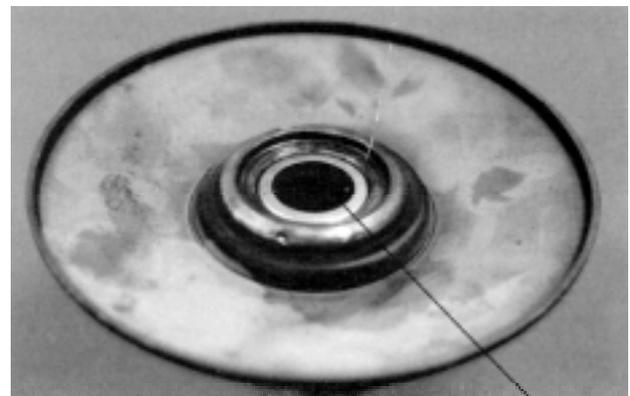
**Service Limit:** 34.06mm replace if over



### DRIVEN PULLEY FACE BEARING REPLACEMENT

Drive the inner needle bearing out of the driven pulley face.

- \* Discard the removed bearing and replace with a new one.



Inner Bearing

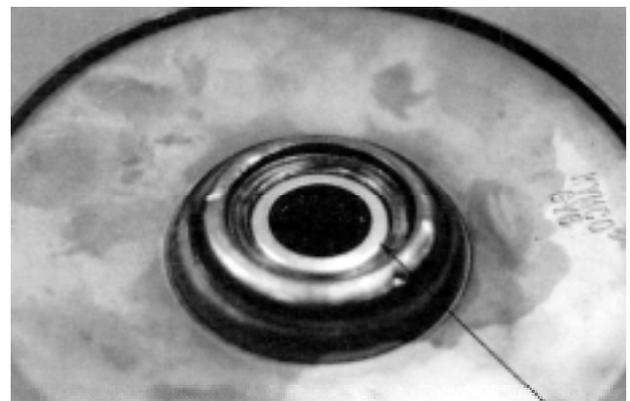
Remove the snap ring and drive the outer bearing out of the driven face.

- \* Discard the removed bearing and replace with a new one.

Apply grease to the outer bearing.  
Drive a new outer bearing into the driven face with the sealed end facing up.

**Special**

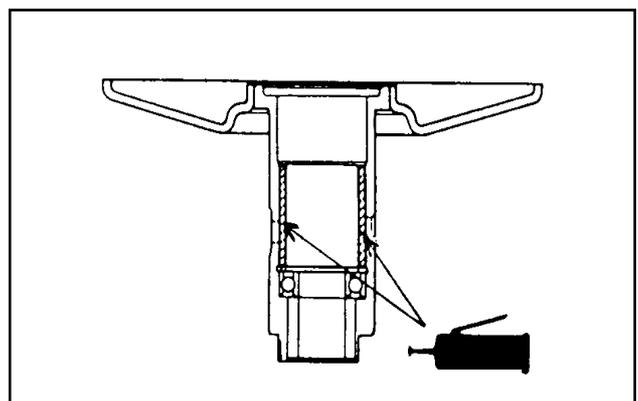
Bearing Driver



Outer Bearing

Seat the snap ring in its groove.  
Apply grease to the driven face bore areas.

- \* Pack all bearing cavities with 9\_ 9.5g grease.  
Specified grease: Heat resistance 230°C



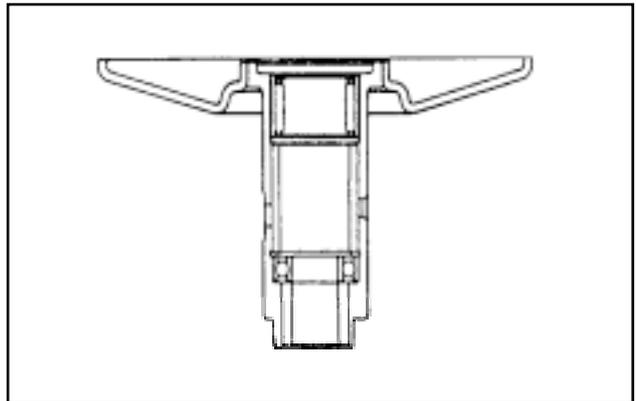
## 9. DRIVE AND DRIVEN PULLEYS/ KICK STARTER

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Press a new needle bearing into the driven face.

**Special**

Bearing Driver  
Pilot, 20mm

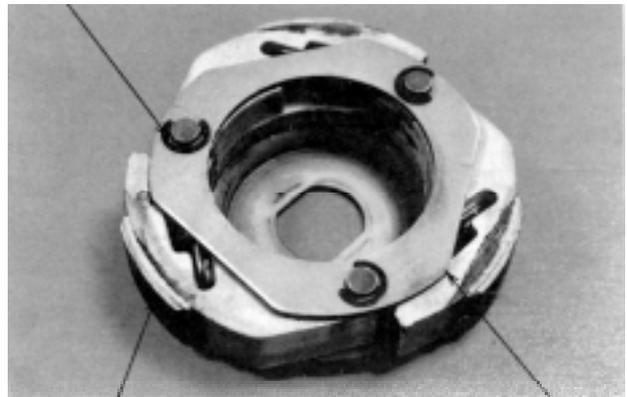


### CLUTCH DISASSEMBLY

Remove the circlips and retainer plate to disassemble the clutch.

\* Keep grease off the clutch linings.

Circlip

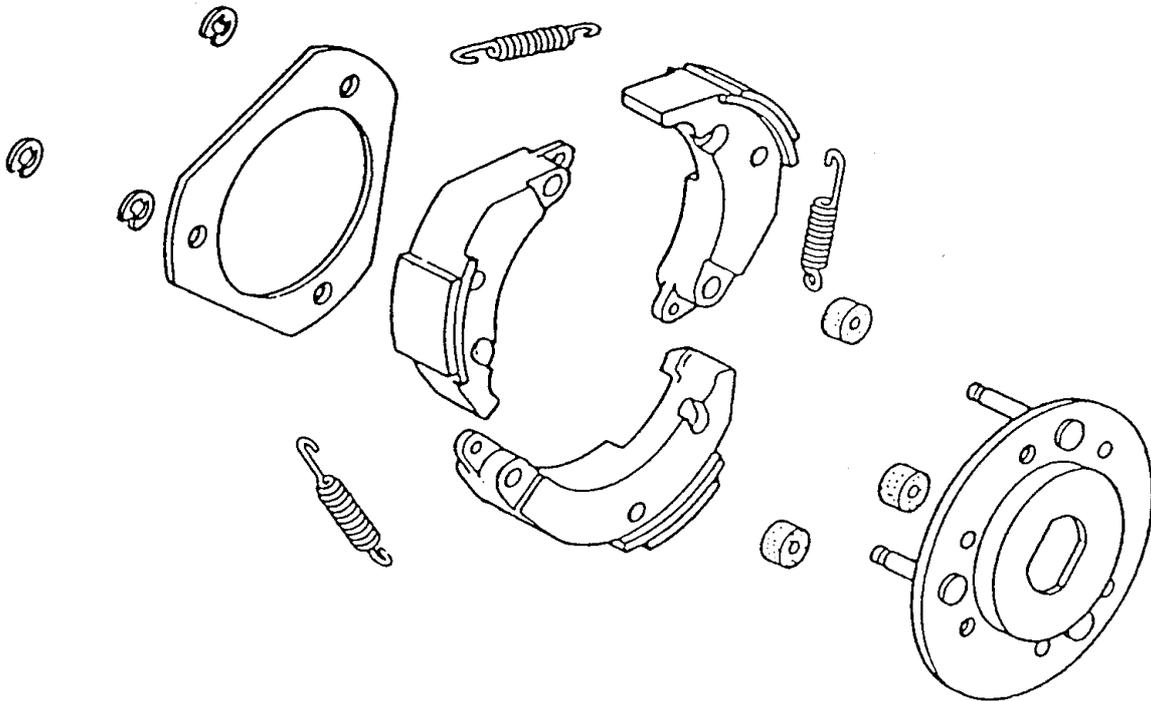


Clutch Lining

Retainer Plate

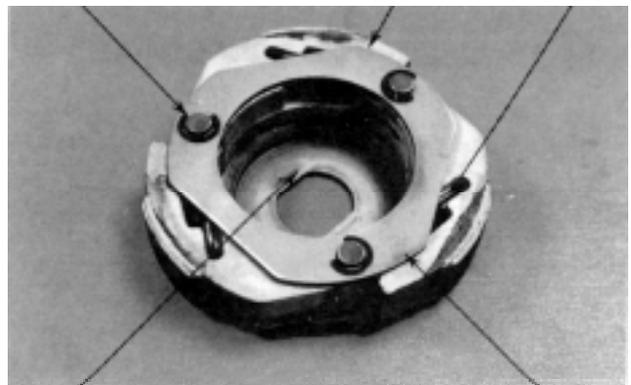
# 9. DRIVE AND DRIVEN PULLEYS/ KICK STARTER

## CLUTCH ASSEMBLY



Install the damper rubbers on the drive plate pins.  
Install the clutch weights/shoes and clutch springs onto the drive plate.  
Install the retainer plate and secure with the circlips.

Circlip      Clutch Weights/Shoes      Springs

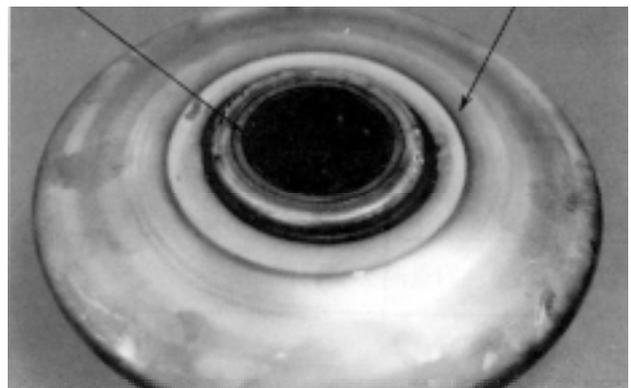


Drive Plate  
Oil Seal

Retainer Plate  
Movable Driven Face

## CLUTCH/DRIVEN PULLEY ASSEMBLY

Clean the driven pulley faces and remove any grease from them.  
Install the oil seal onto the moveable driven face.  
Apply grease to the O-rings and install them onto the moveable driven face.



## 9. DRIVE AND DRIVEN PULLEYS/ KICK STARTER

Install the movable driven face onto the driven face.  
Apply grease to the guide rollers and guide roller pins and then install them into the holes of the driven face.

Guide Roller

Guide Roller Pin



Driven Face

Movable Driven Face

Install the seal collar.  
Remove any excessive grease.

- \* Be sure to clean the driven face off any grease.

Set the driven pulley assembly, driven face spring and clutch assembly onto the clutch spring compressor.

- \* Align the flat surface of the driven face with the flat on the clutch drive plate.

Compress the clutch spring compressor and install the drive plate nut.  
Set the clutch spring compressor in a vise and tighten the drive plate nut to the specified torque.

**Torque:** 5.5kg-m

- \* Be sure to use a clutch spring compressor to avoid spring damage.

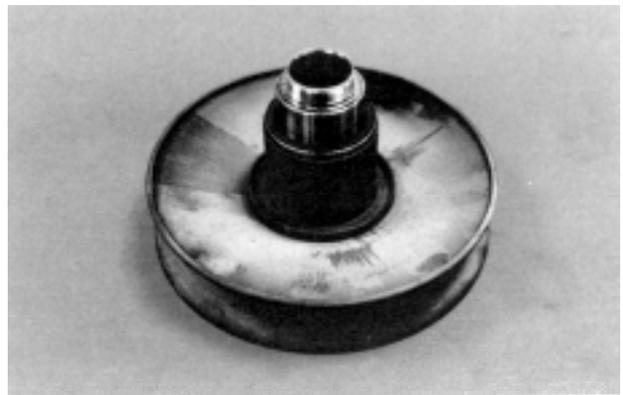
**Special**

Clutch Spring Compressor  
Outer Driver, 32x35mm

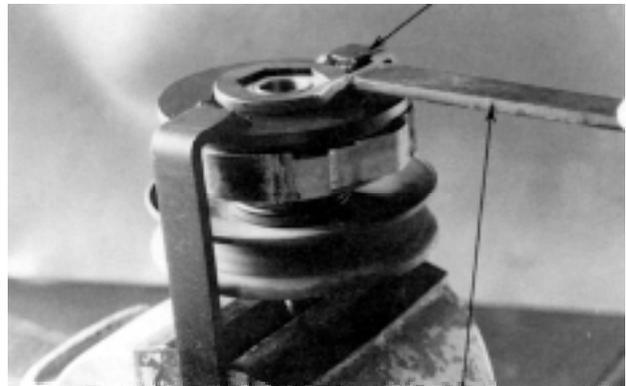
### INSTALLATION

Install the clutch/driven pulley onto the drive shaft.

- \* Keep grease off the drive shaft.



Clutch Spring Compressor



Lock Nut Wrench



Clutch/Driven Pulley

## 9. DRIVE AND DRIVEN PULLEYS/ KICK STARTER

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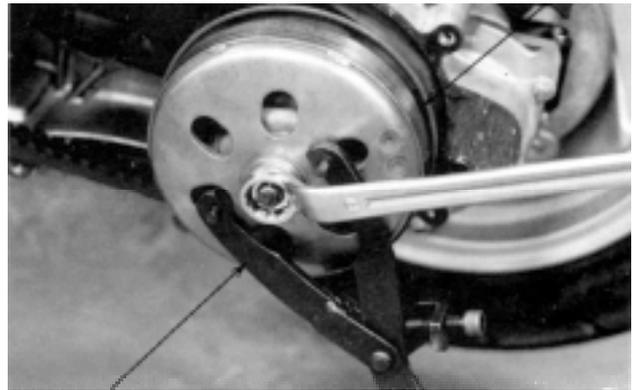
Install the clutch outer.  
Hold the clutch outer with the universal holder.  
Install and tighten the clutch outer nut.  
**Torque:** 5.5kg-m

**Special**

Universal Holder

Install the drive belt. (⇒9-7)  
Install the left crankcase cover. (⇒9-2)

Clutch Outer

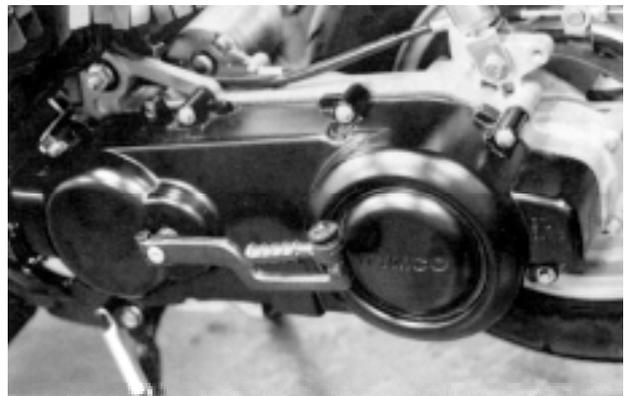


Universal Holder

### KICK STARTER

#### REMOVAL

Remove the left crankcase cover. (⇒9-2)  
Remove the seal rubber and dowel pins.



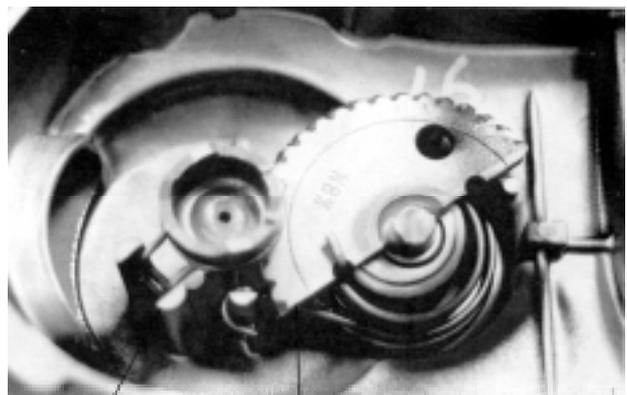
Remove the kick lever.  
Remove the circlip and washer from the kick starter spindle.

Kick Starter Spindle



Circlip

Gently turn the kick starter spindle to remove the starter driven gear together with the friction spring.



Friction Spring Starter Driven Gear

## 9. DRIVE AND DRIVEN PULLEYS/ KICK STARTER

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Remove the kick starter spindle and return spring from the left crankcase cover.  
Remove the kick starter spindle bushing.

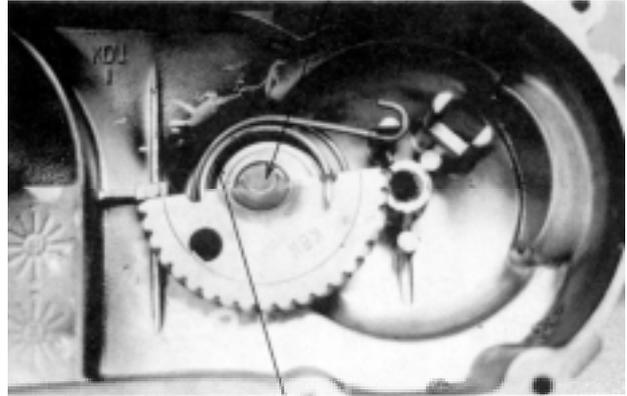
### INSPECTION

Inspect the kick starter spindle and gear for wear or damage.  
Inspect the return spring for weakness or damage.  
Inspect the kick starter spindle bushings for wear or damage.

Inspect the starter driven gear for wear or damage.  
Inspect the friction spring for wear or damage.

Inspect the kick starter spindle and starter driven gear forcing parts for wear or damage.

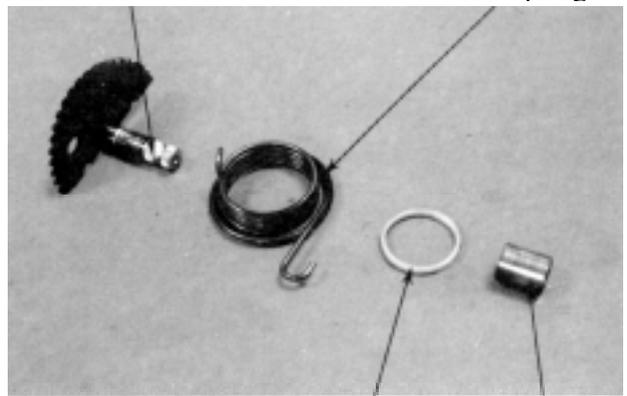
Kick Starter Spindle



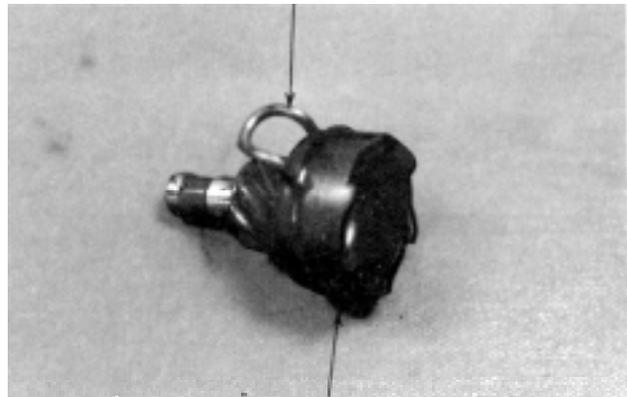
Return Spring

Spindle

Return Spring



Plastic Bushing Spindle Bushing  
Friction Spring



Starter Driven Gear

Kick Starter Spindle Forcing



Starter Driven Gear Shaft Forcing

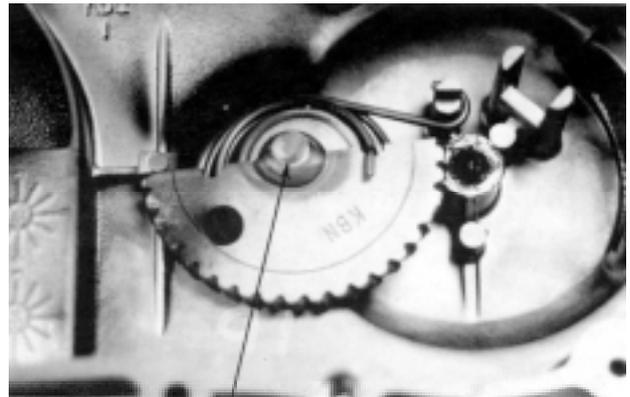
## 9. DRIVE AND DRIVEN PULLEYS/ KICK STARTER

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### INSTALLATION

Install the kick starter spindle bushings and return spring onto the left crankcase cover.

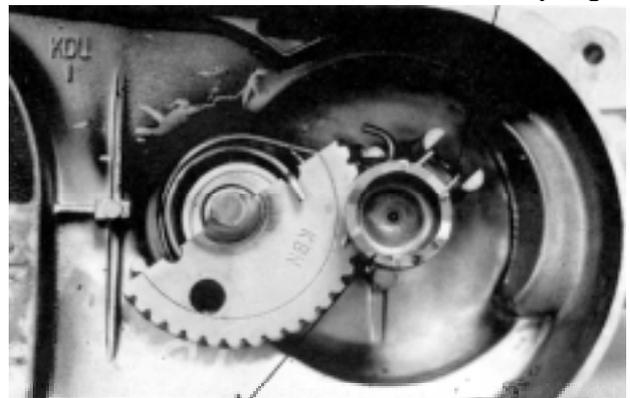
- \* When installing the return spring, use a screw driver to press the inward and outward return spring hooks into their original positions respectively.



Kick Starter Spindle

Friction Spring

Install the starter driven gear and friction spring as the figure shown.

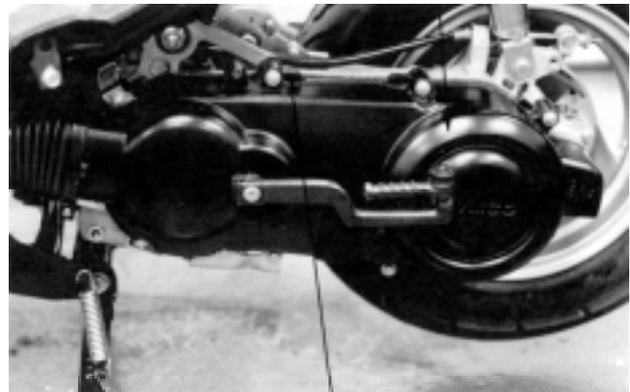


Starting Ratchet

Left Crankcase Cover

Install the kick lever.  
Install the left crankcase cover and tighten the cover bolts diagonally.  
Connect the drive belt air tube and tighten the band screw.

- \* For drum brake, be sure to install the rear brake cable clamp to the specified location and install the brake cable into the brake cable holder.



Rear Brake Cable Clamp