

**9. DRIVE AND DRIVEN PULLEYS**

**DRIVE AND DRIVEN PULLEYS**

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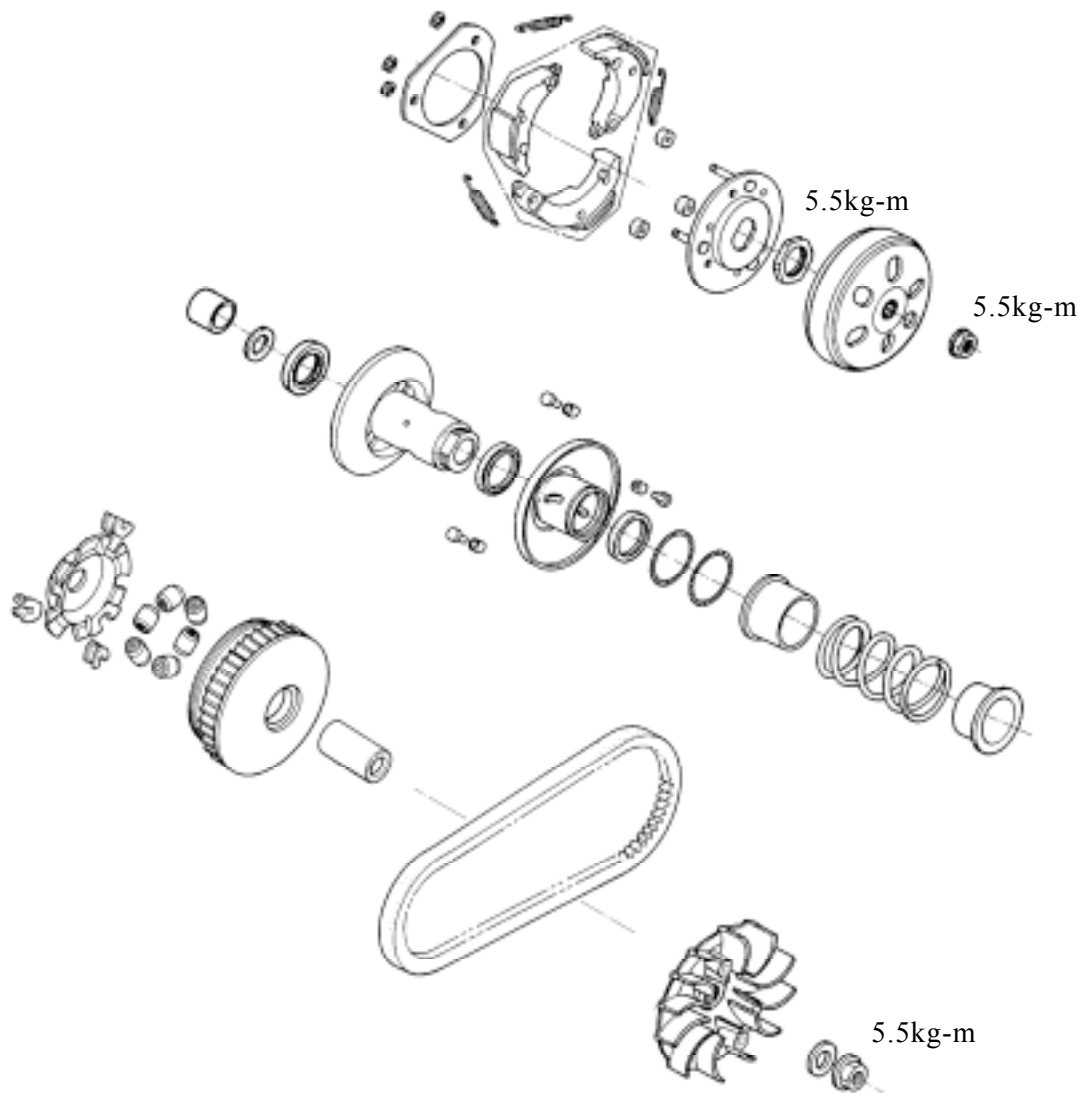
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## 9. DRIVE AND DRIVEN PULLEYS



## 9. DRIVE AND DRIVEN PULLEYS

### SERVICE INFORMATION

#### GENERAL INSTRUCTIONS

- The drive pulley, clutch and driven pulley can be serviced with the engine installed in the frame.
- 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.	27.0_	27.021	27.06
Drive face collar O.D.	26.97_	26.99	226.94
Drive belt width	20.0_	21.0	19.0
Clutch lining thickness	□		2.0
Clutch outer I.D.	130.0_	130.2	130.5
Driven face spring free length	□		83.2
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.	20.95_	21.1	20.42

#### TORQUE VALUES

Drive face nut	5.5_	6.5kgf-m
Clutch outer nut	5.0_	6.0kgf-m

#### SPECIAL TOOLS

Universal holder E017	Clutch spring compressor E027
Bearing puller E008	Oil seal and bearing install E014

### 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

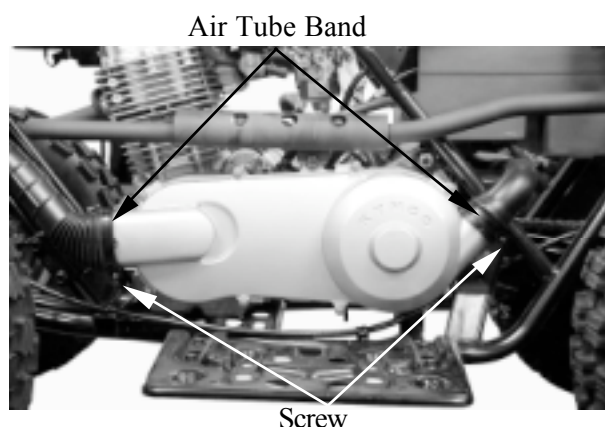
- Broken clutch weight spring

## 9. DRIVE AND DRIVEN PULLEYS

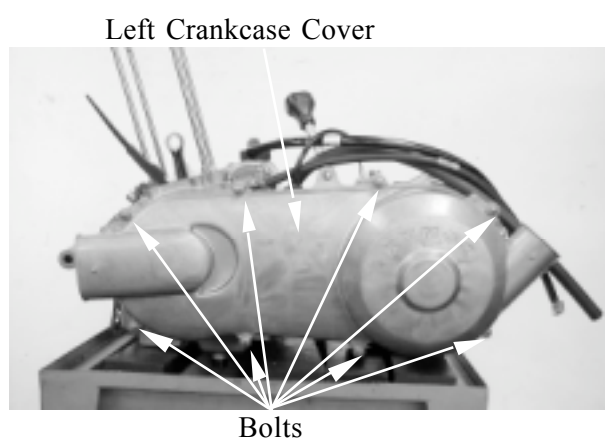
### LEFT CRANKCASE COVER

#### REMOVAL

Loosen the drive belt air tube band screw.



Remove the left crankcase cover bolts and left crankcase cover.  
Remove the gasket and dowel pins.



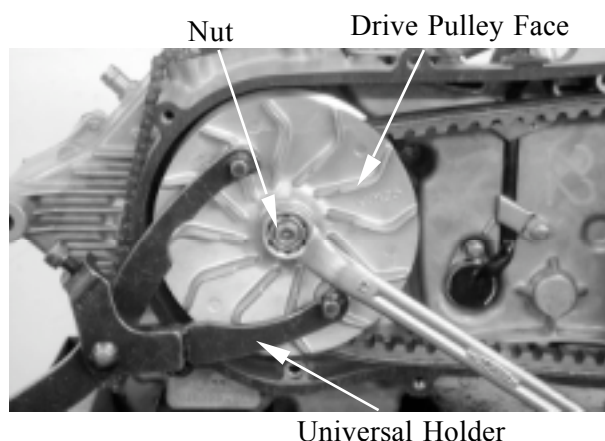
### DRIVE PULLEY

#### REMOVAL

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 E017

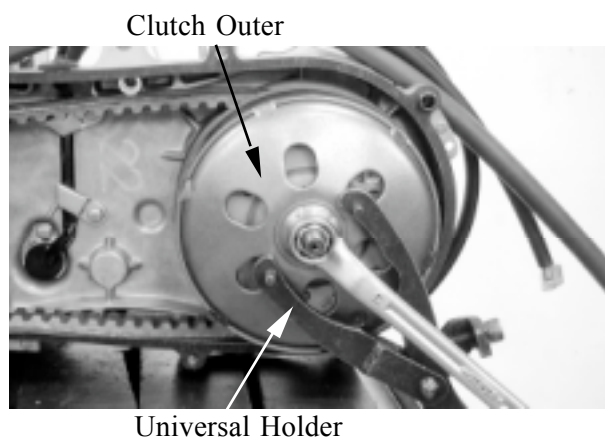


### CLUTCH/DRIVEN PULLEY

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

**Special**

Universal Holder E017



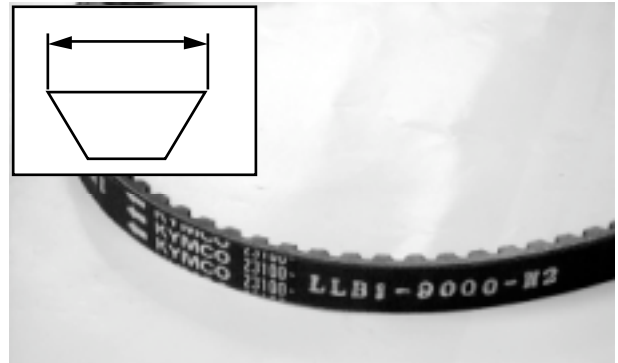
## 9. DRIVE AND DRIVEN PULLEYS

### INSPECTION

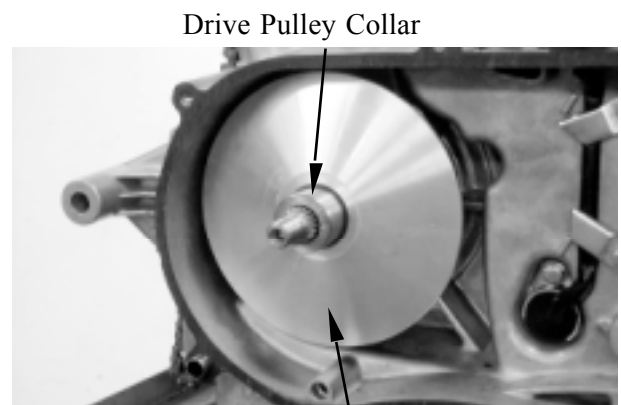
Check the drive belt for cracks, separation or abnormal or excessive wear.  
Measure the drive belt width.

**Service Limit:** 17.0mm replace if below

- \* Use specified genuine parts for replacement.



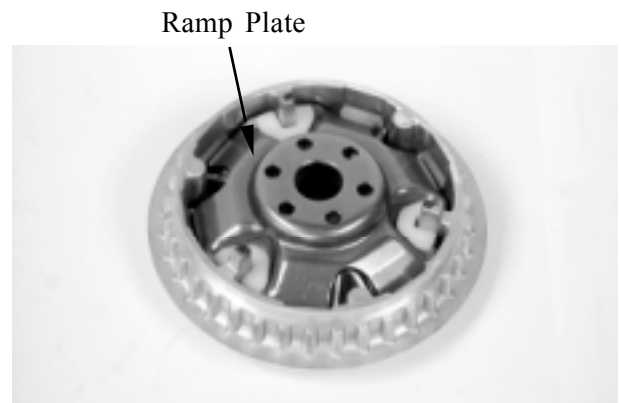
Remove the movable drive face assembly.  
Remove the drive pulley collar.



Movable Drive Face Assembly

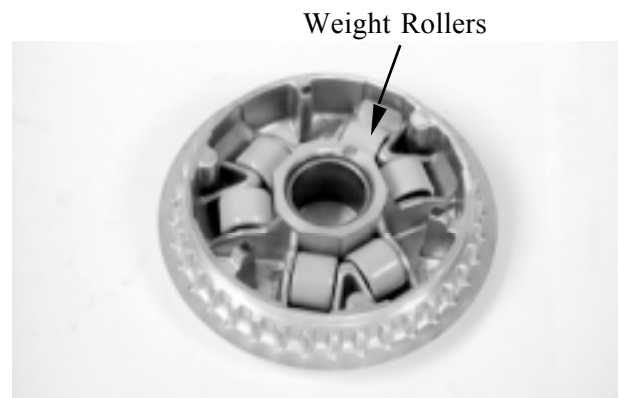
### DISASSEMBLY

Remove the ramp plate.



Ramp Plate

Remove the weight rollers.



Weight Rollers

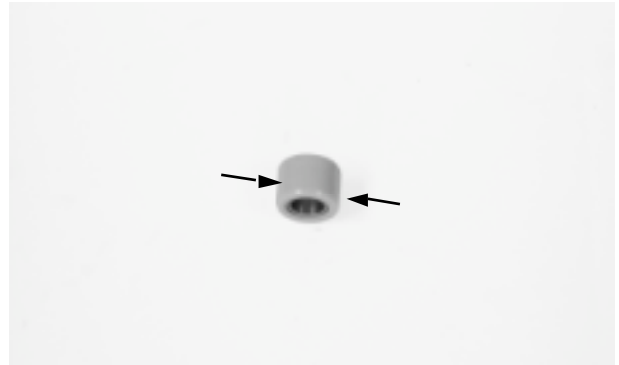
## 9. DRIVE AND DRIVEN PULLEYS

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### INSPECTION

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

**Service Limit:** 20.42mm replace if below.



Measure the movable drive face bushing I.D.

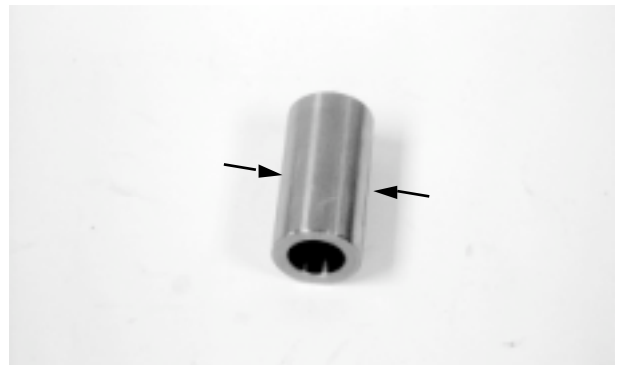
**Service Limit:** 27.06mm replace if over



Check the drive pulley bushing for wear or damage.

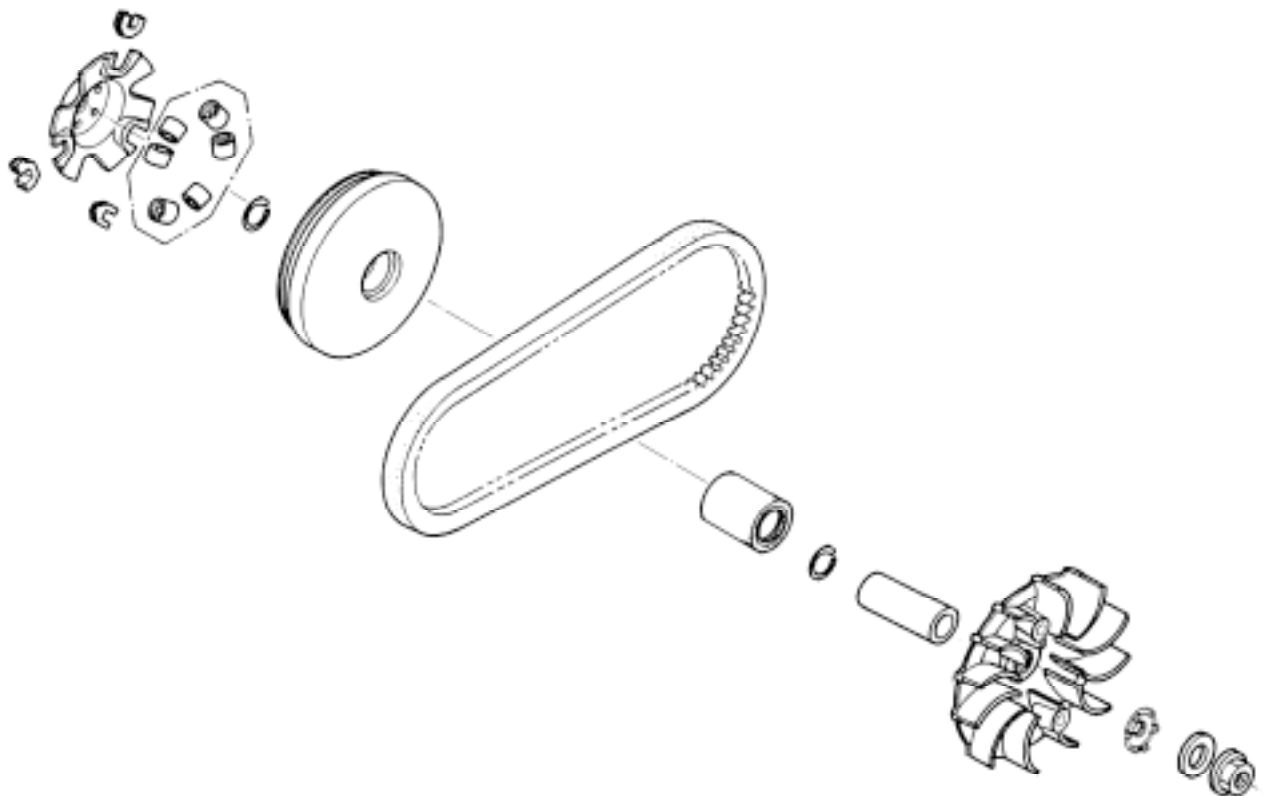
Measure the O.D. of the drive pulley bushing sliding surface.

**Service Limit:** 26.94mm replace if below



## 9. DRIVE AND DRIVEN PULLEYS

### ASSEMBLY

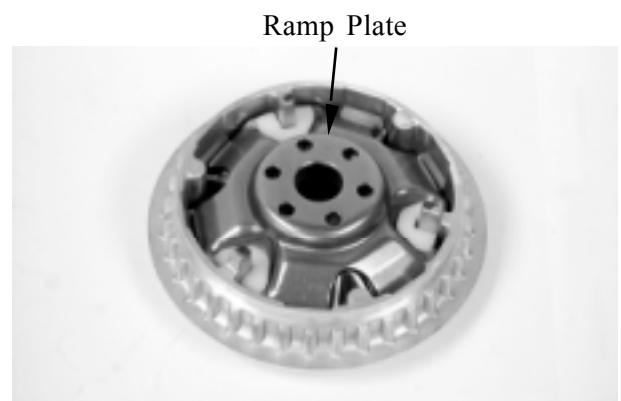


Install the weight rollers into the movable drive face.



Weight Roller

Install the ramp plate.



Ramp Plate

## 9. DRIVE AND DRIVEN PULLEYS

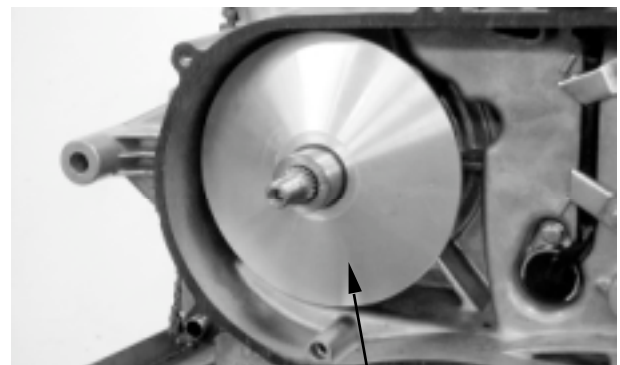
Insert the drive pulley collar into the movable drive face.

Drive Pulley Collar



### INSTALLATION

Install the movable drive face onto the crankshaft.

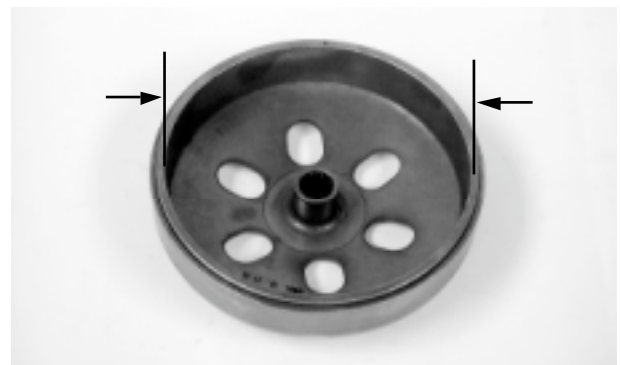


Movable Drive Face Assembly

### INSPECTION

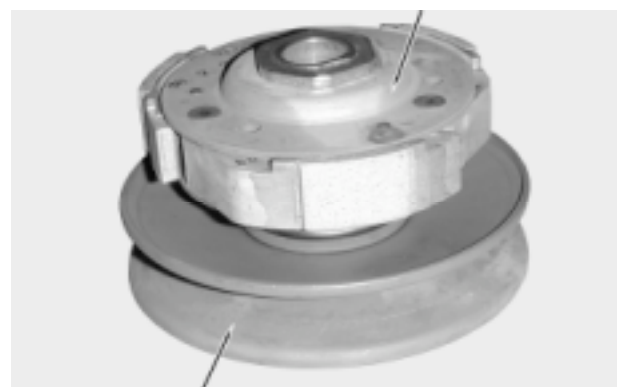
Inspect the clutch outer for wear or damage.  
Measure the clutch outer I.D.

**Service Limit:** 130.5mm replace if over



### CLUTCH/DRIVEN PULLEY DISASSEMBLY

Clutch



Driven Pulley



## 9. DRIVE AND DRIVEN PULLEYS

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 E027

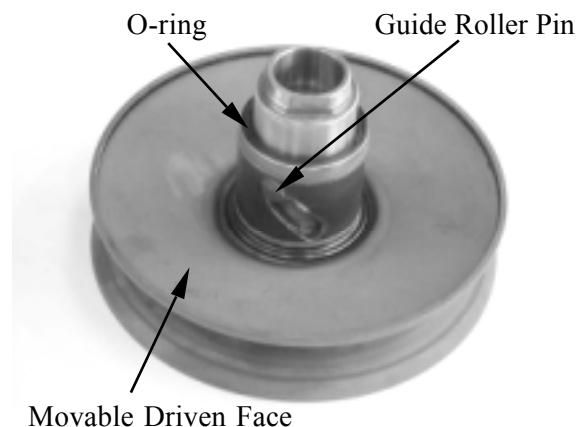
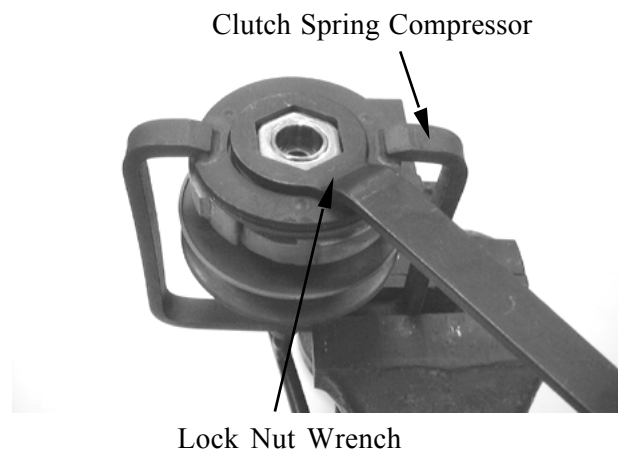
Set the clutch spring compressor in a vise and remove the clutch drive plate nut.

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

Check the driven face for wear or damage. Measure the clutch lining thickness.

**Service Limit:** 2.0mm replace if below

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



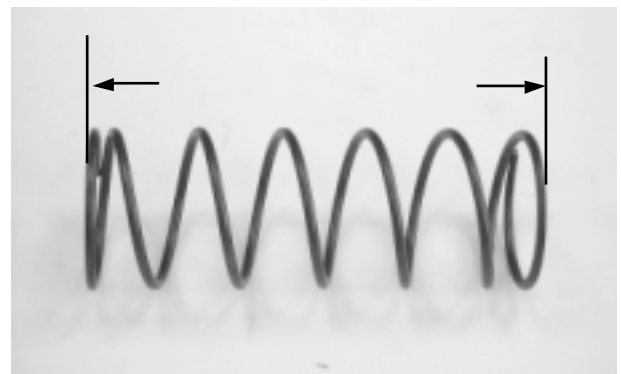
## 9. DRIVE AND DRIVEN PULLEYS

Remove the oil seal from the movable driven face.

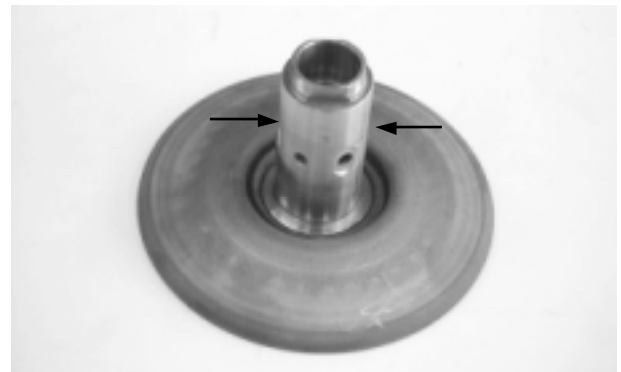


### INSPECTION

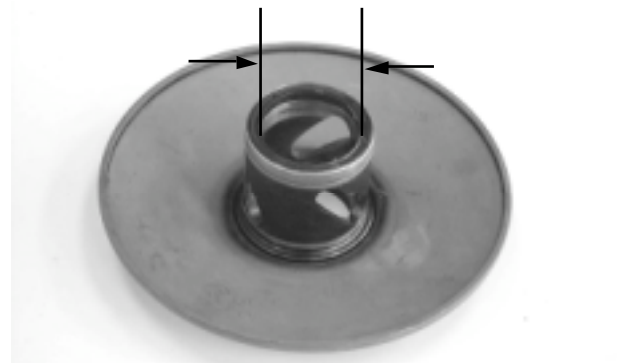
Measure the driven face spring free length.  
**Service Limit:** 83.2mm replace if below



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



Check the movable driven face for wear or damage.  
Measure the movable driven face I.D.  
**Service Limit:** 34.06mm replace if over



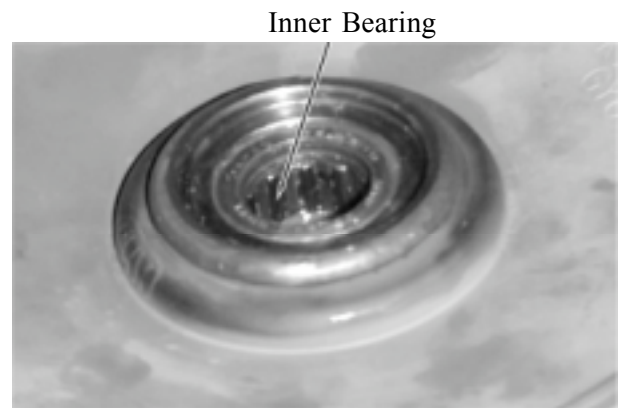
## 9. DRIVE AND DRIVEN PULLEYS

### 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.



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

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



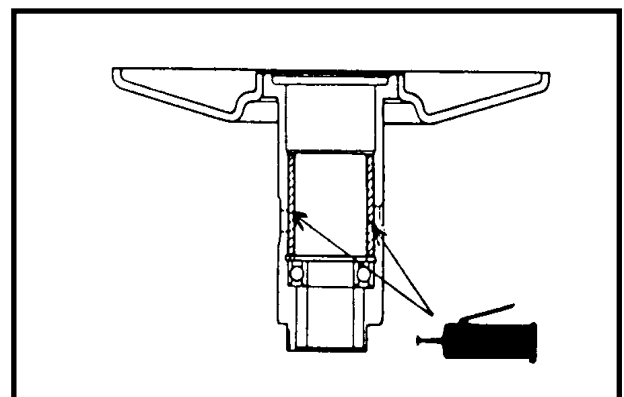
Apply grease to the outer bearing.  
Drive a new outer bearing into the driven face with the sealed end facing up.

**Special**

Bearing Puller E008

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



Press a new needle bearing into the driven face.

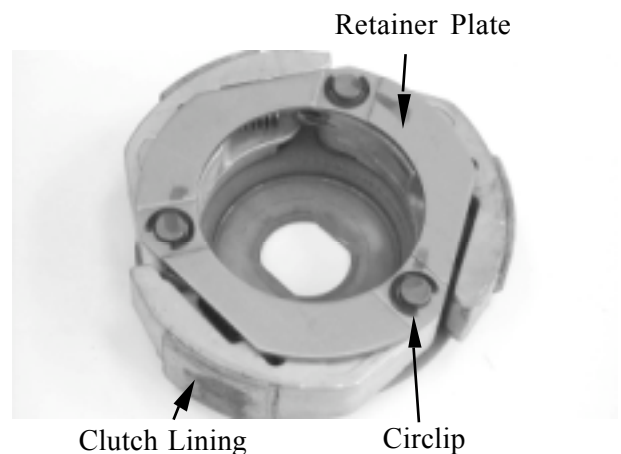
**Special**

Oil Seal And Bearing Install E014

### CLUTCH DISASSEMBLY

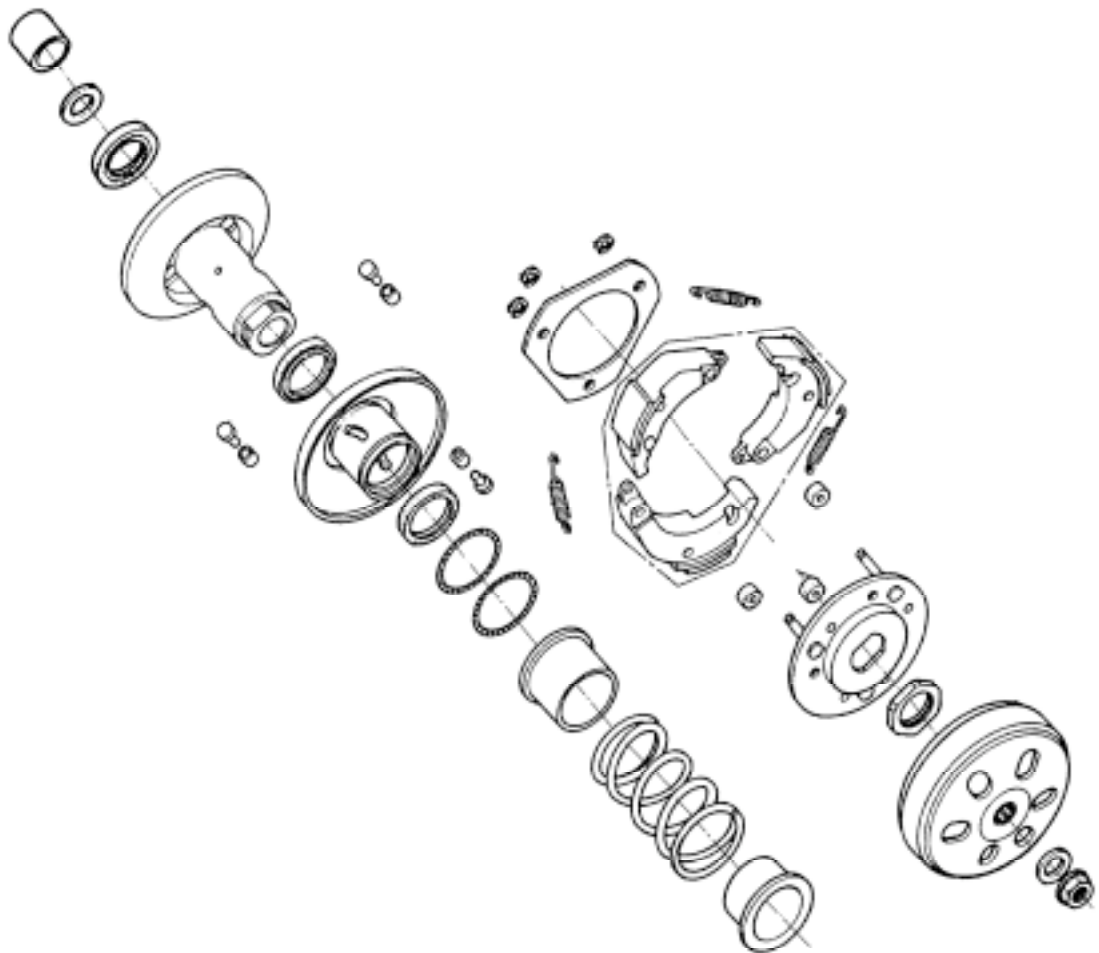
Remove the circlips and retainer plate to disassemble the clutch.

- \* Keep grease off the clutch linings.



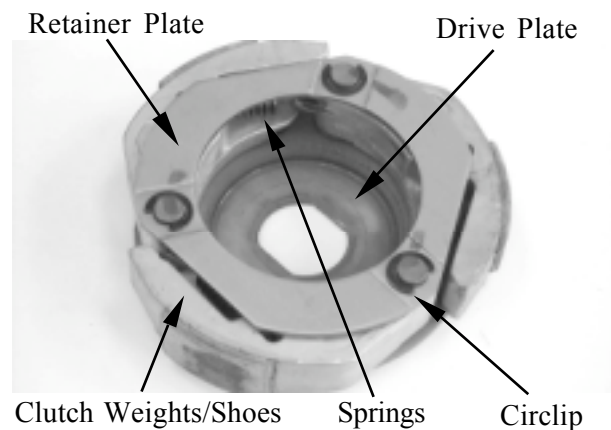
## **9. DRIVE AND DRIVEN PULLEYS**

### **CLUTCH / DRIVEN PULLEY ASSEMBLY**



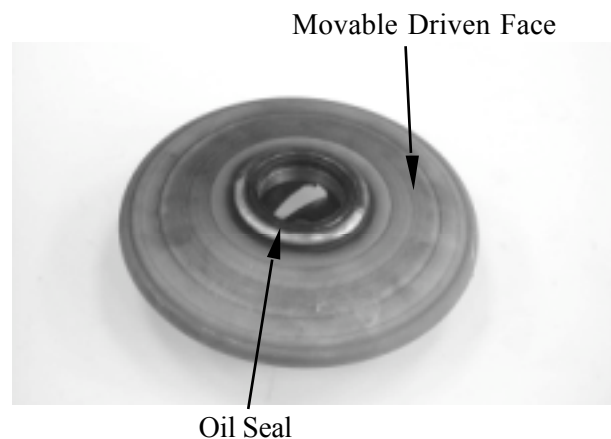
## 9. DRIVE AND DRIVEN PULLEYS

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.

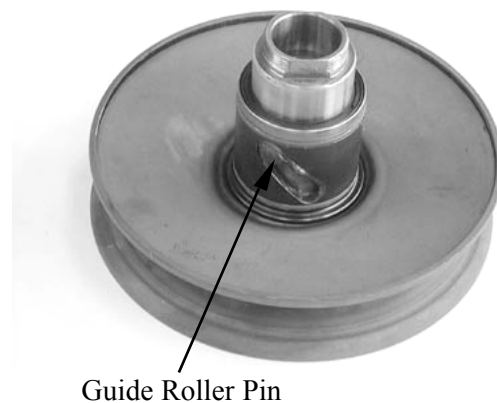


### CLUTCH/DRIVEN PULLEY ASSEMBLY

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



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.

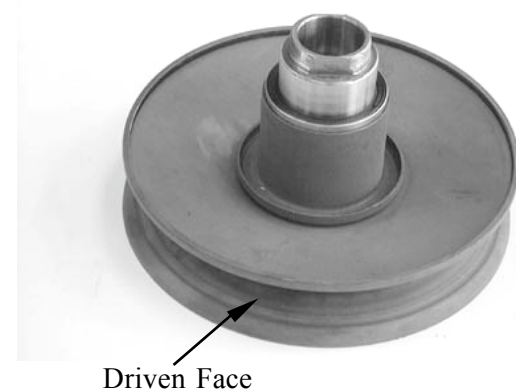


Install the seal collar.  
Remove any excessive grease.

- \* 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.



## 9. DRIVE AND DRIVEN PULLEYS

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:** 5.0\_ 6.0kgf-m

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

**Special**

Clutch Spring Compressor E027

### INSTALLATION

Install the clutch/driven pulley onto the drive shaft.

- \* Keep grease off the drive shaft.

Install the clutch outer.  
Hold the clutch outer with the flywheel holder.  
Install and tighten the clutch outer nut.

**Torque:** 5.5kg-m

**Special**

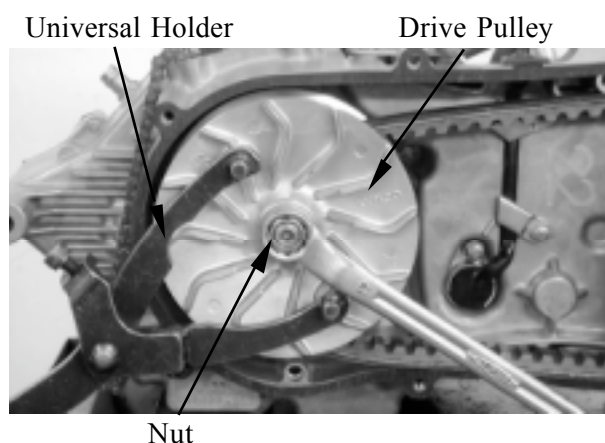
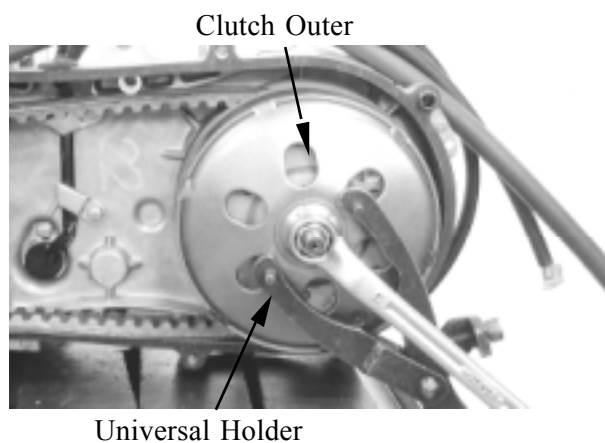
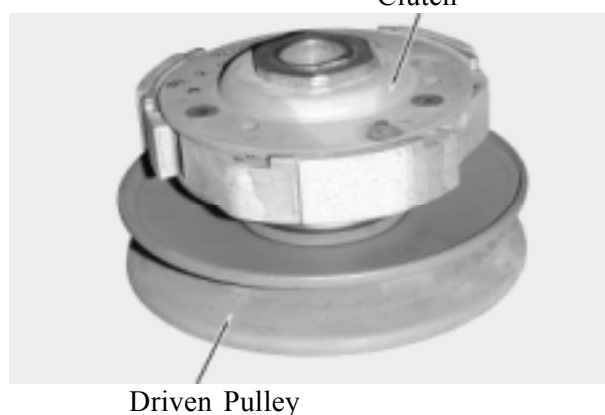
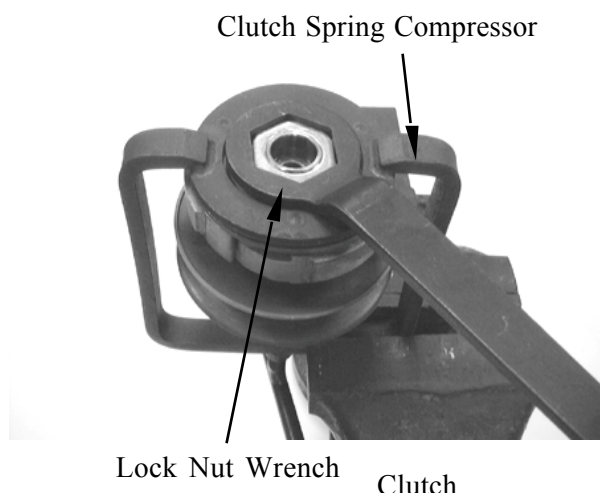
Universal Holder E017

Install the drive belt.

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 the crankshaft teeth.  
Do not get oil or grease on the drive belt or pulley faces.

**Torque:** 5.5\_ 6.5kgf-m



## **9. DRIVE AND DRIVEN PULLEYS**

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

