

## **10. A.C. GENERATOR/STARTER CLUTCH**

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### **A.C. GENERATOR/STARTER CLUTCH**

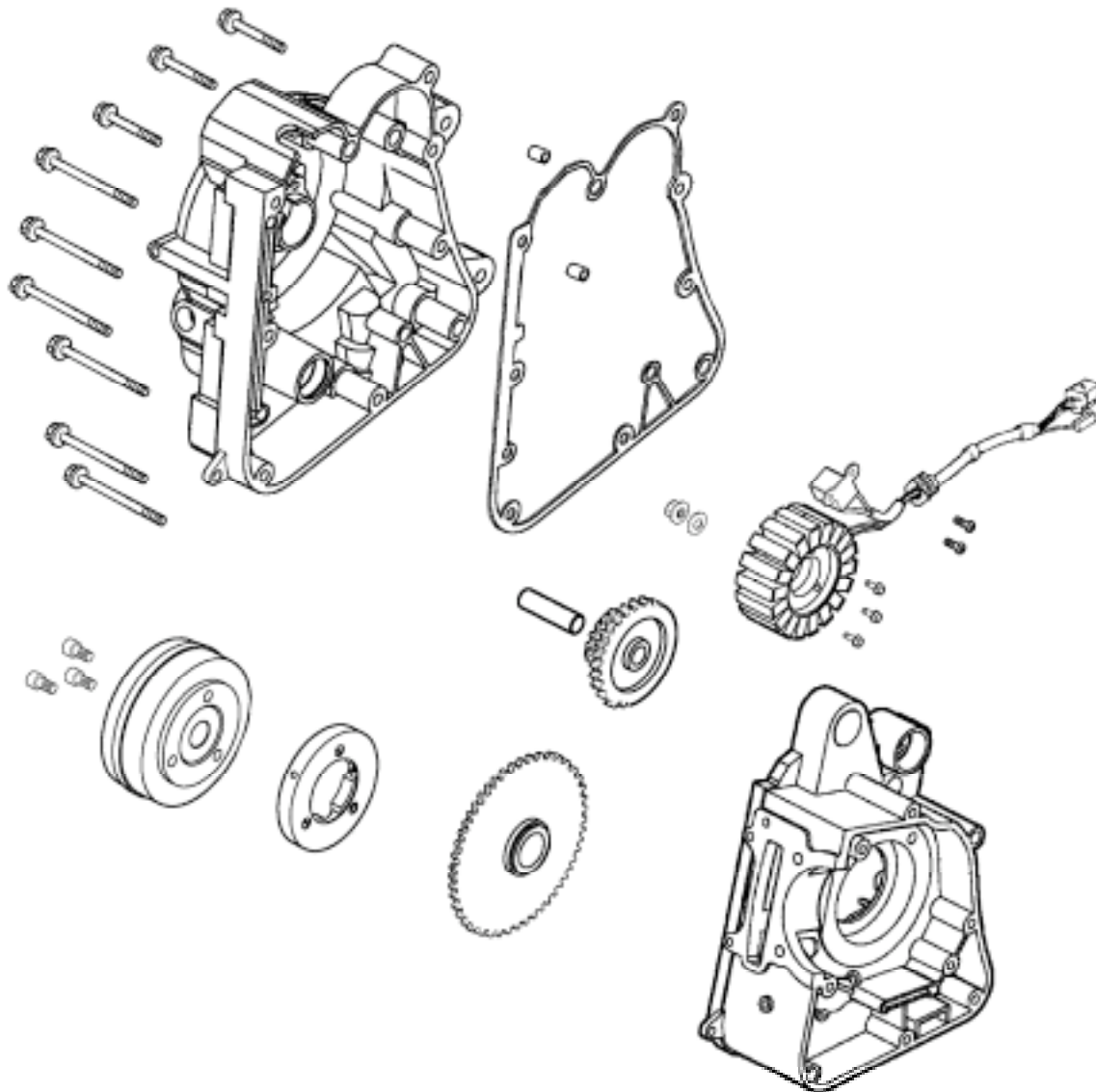
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SCHEMATIC DRAWING -----	10-1
SERVICE INFORMATION -----	10-2
TROUBLESHOOTING -----	10-2
RIGHT CRANKCASE COVER REMOVAL-----	10-3
STATOR REMOVAL -----	10-3
FLYWHEEL REMOVAL-----	10-3
STARTER CLUTCH -----	10-4
FLYWHEEL INSTALLATION-----	10-5
STATOR INSTALLATION -----	10-6
RIGHT CRANKCASE COVER INSTALLATION-----	10-6

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### SCHEMATIC DRAWING



## 10. A.C. GENERATOR/STARTER CLUTCH

### SERVICE INFORMATION

#### GENERAL INSTRUCTIONS

- All servicing operations and inspections in this section can be made with the engine installed.
- Drain the coolant before removing the right crankcase cover.
- Be careful not to drain the coolant when the engine temperature is high. (Perform this operation when the engine is cold.)
- Drain the coolant into a clean container.
- Drain the engine oil into a clean container before removing the right crankcase cover.
- When the right crankcase cover is installed, fill with the recommended engine oil and coolant. Then, bleed air from the water jacket.
- Refer to page 18-4 for A.C. generator inspection.

#### SPECIFICATIONS

Engine oil: SAE15W/40#  
API-SG/CD

Oil capacity at change: 0.9 liter

Coolant: distilled water + coolant concentrate

Coolant capacity: 1165cc

#### SPECIAL TOOLS

Flywheel puller

Flywheel holder

#### SPECIFICATIONS

Item	Standard (mm)		Service Limit (mm)
Starter driven gear I.D.	22.026_	22.045	22.15mm
Starter driven gear O.D.	42.195_	42.208	41.5mm

#### TORQUE VALUES

Flywheel nut : 53.9\_ 63.7N-m

#### TROUBLESHOOTING

Refer to page 1-27 for A.C. generator troubleshooting.

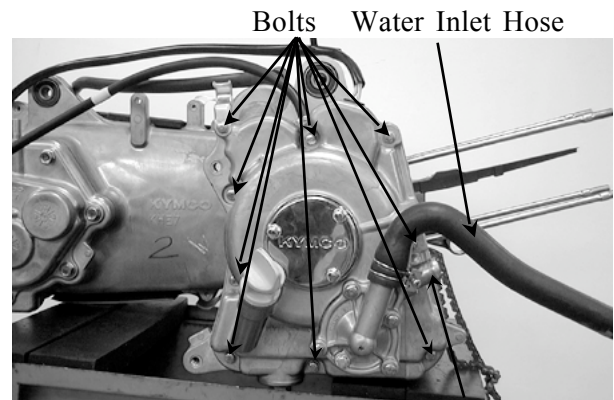
##### **Starter motor rotates but engine does not start**

- Faulty starter clutch
- Starter motor rotates reversely
- Weak battery

## 10. A.C. GENERATOR/STARTER CLUTCH

### RIGHT CRANKCASE COVER REMOVAL

Disconnect the water hoses from the right crankcase cover.  
Remove the nine bolts attaching the right crankcase cover and the cover.

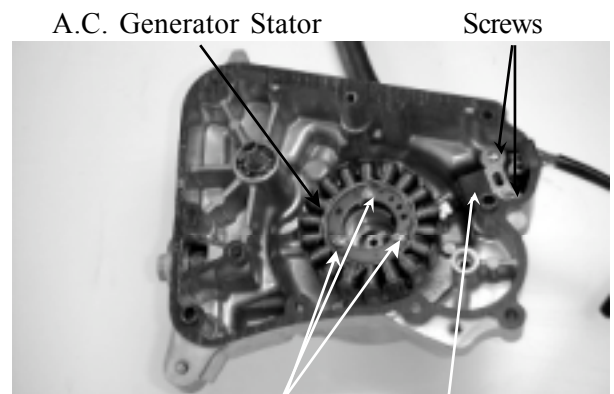


Water Inlet Hose

### STATOR REMOVAL

Remove the two pulser coil attaching screws and the pulser coil.  
Remove the three A.C. generator stator bolts and the stator.

\* When removing the pulser coil and stator, be careful not to damage them to avoid shorted or broken wire.



A.C. Generator Stator

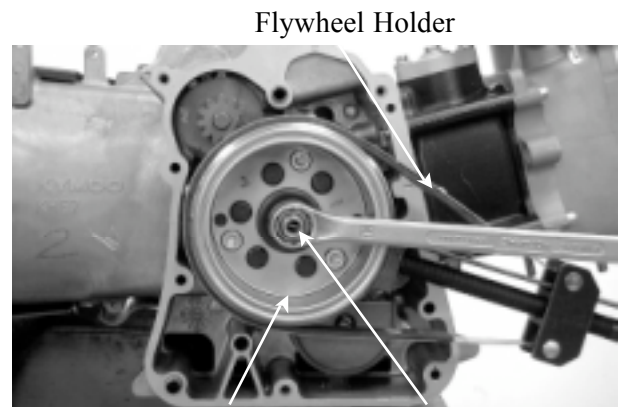
Screws

Bolts

Pulser Coil

### FLYWHEEL REMOVAL

Hold the flywheel with a flywheel holder and remove the flywheel nut.

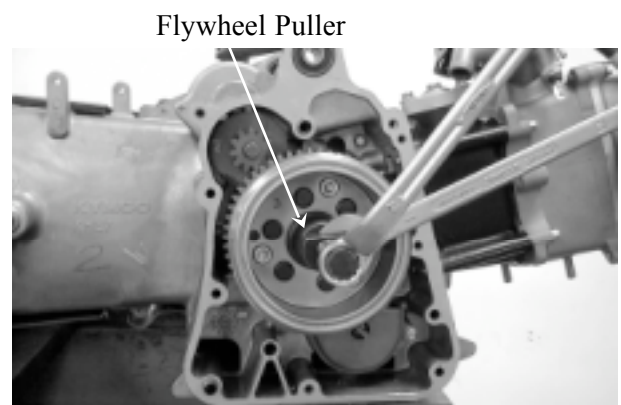


Flywheel Holder

Flywheel

Nut

Remove the flywheel with a flywheel puller.



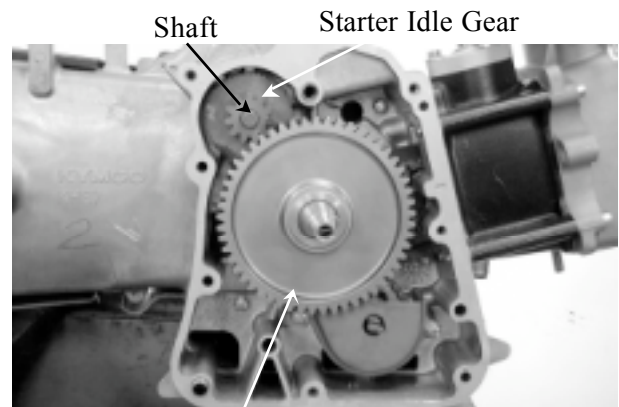
Flywheel Puller

# 10. A.C. GENERATOR/STARTER CLUTCH

## STARTER CLUTCH

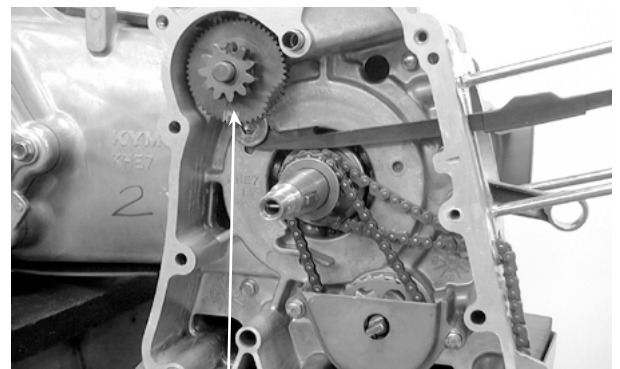
### REMOVAL

Remove the starter driven gear.



Starter Driven Gear

Remove the starter idle gear and shaft.



Starter Idle Gear

### INSPECTION

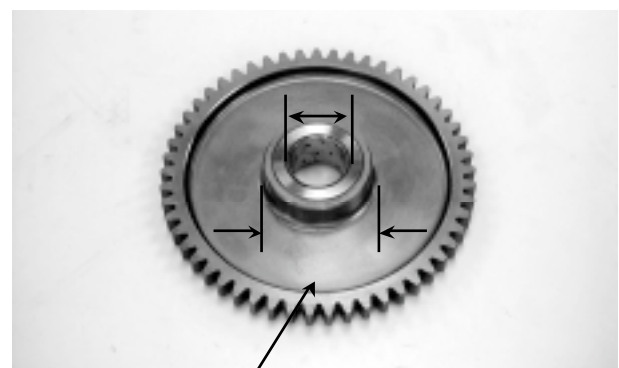
Inspect the starter driven gear for wear or damage.

Measure the starter driven gear I.D. and O.D.

#### Service Limits:

**I.D.** : 22.15mm replace if over

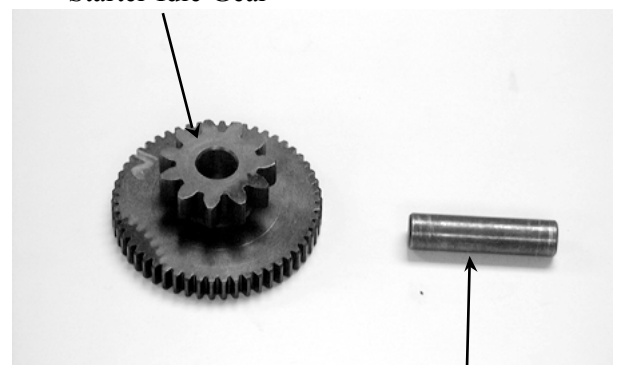
**O.D.** : 41.50mm replace if below



Starter Driven Gear

Starter Idle Gear

Inspect the starter idle gear and shaft for wear or damage.



Shaft

## 10. A.C. GENERATOR/STARTER CLUTCH

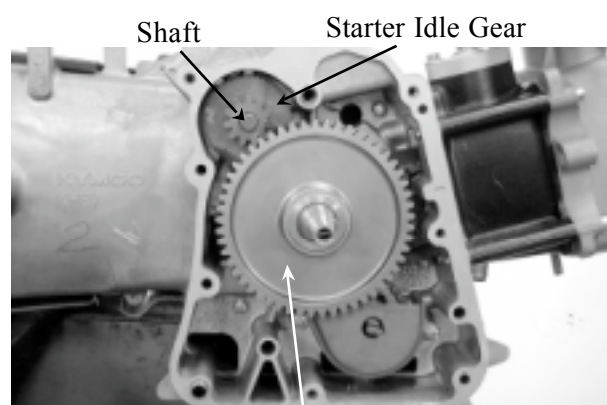
Remove the starter one-way clutch rollers, plungers and springs.



### INSTALLATION

Install the starter driven gear onto the crankshaft.

Install the starter idle gear and shaft.



### FLYWHEEL INSTALLATION

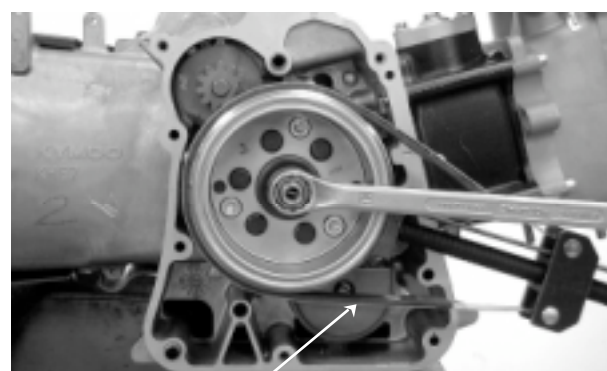
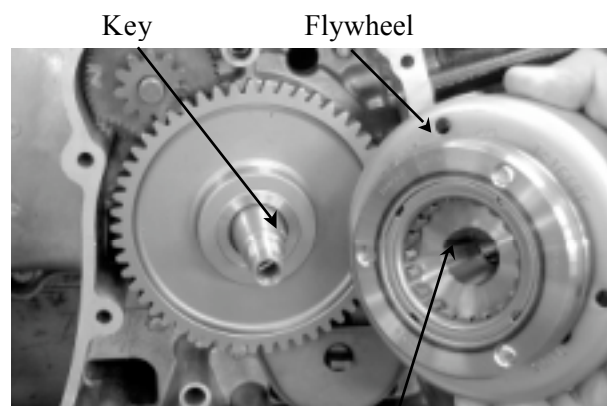
Install the flywheel onto the crankshaft by aligning the key on the crankshaft with the groove in the flywheel.

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- Before installation, check and make sure that the inside of the flywheel is not contaminated.

Hold the flywheel with the flywheel holder and tighten the flywheel nut.

**Torque:** 53.9\_ 63.7N-m





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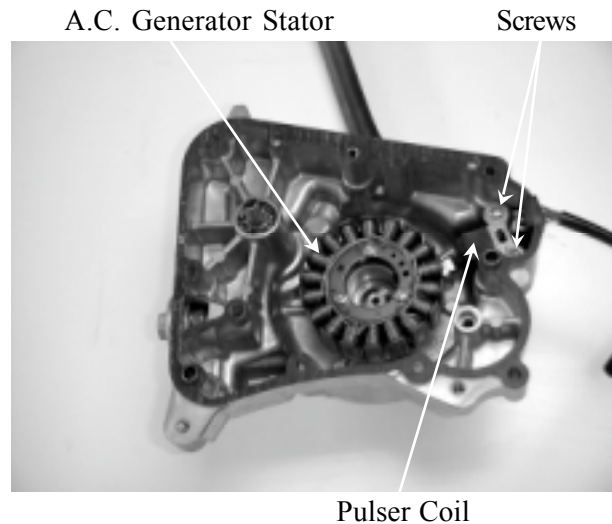
### STATOR INSTALLATION

Install the A.C. generator stator on the right crankcase cover and secure it with the three bolts.

Install the pulser coil on the right crankcase cover and secure it with the two screws.

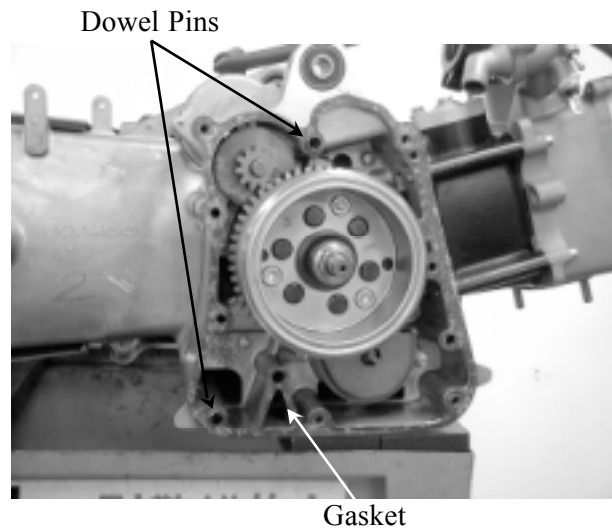
Install the wire grommet in the groove in the right crankcase cover securely.

- \* Be sure to route the stator wire under the pulser coil.



### RIGHT CRANKCASE COVER INSTALLATION

Install the two dowel pins and a new gasket.



Install the right crankcase cover over the crankcase, aligning the water pump shaft groove with the oil pump shaft.

Tighten the nine right crankcase cover bolts.

Connect the water hoses to the right crankcase cover.

Add the recommended engine oil. (⇒4-3)

Fill the cooling system with the specified coolant. (⇒3-9)

- \* Be sure to bleed air from the water jacket after filling the coolant.

