

12. A.C. GENERATOR/STARTER CLUTCH

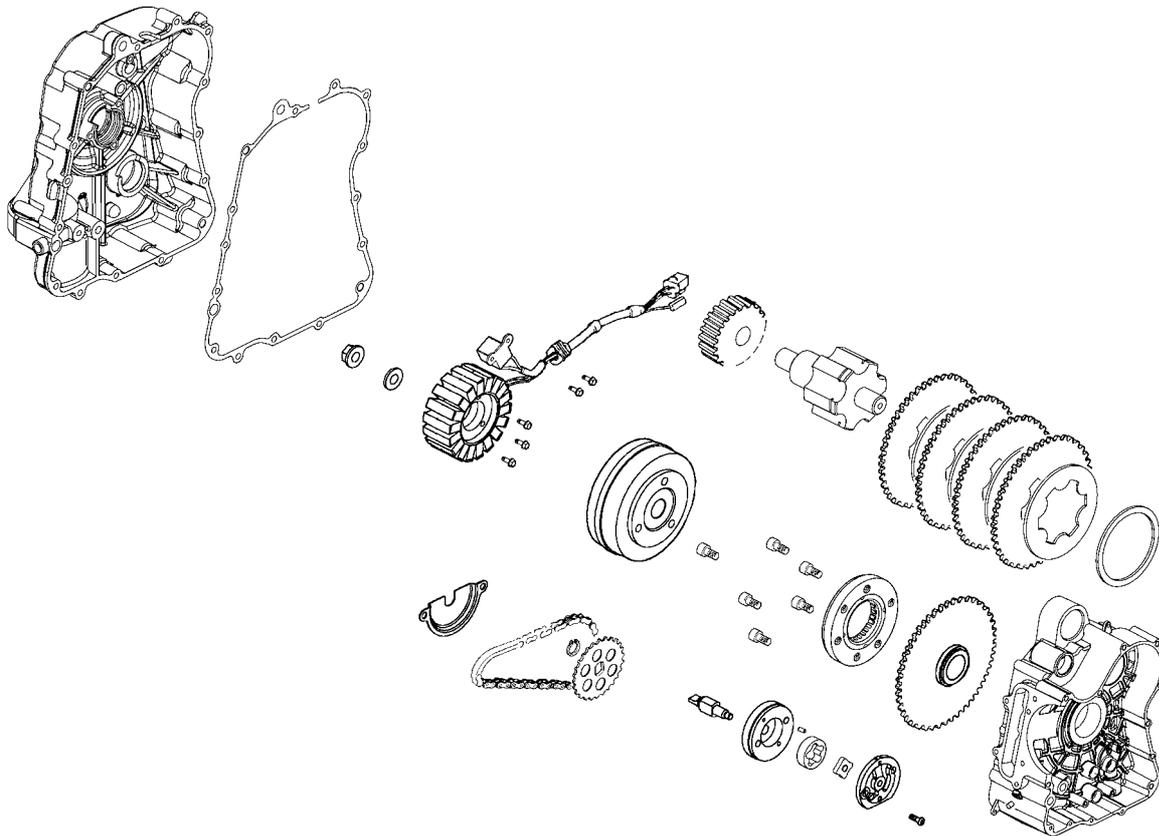
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A.C. GENERATOR/STARTER CLUTCH

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SCHEMATIC DRAWING



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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 section 17 for alternator inspection, and to section 18 for ignition pulse generator inspection.

SPECIFICATIONS

Unit: mm (in)

Item	Standard	Service Limit
Starter driven gear I.D.	27.026 (1.081)~27.045 (1.0818)	27.1 (1.084)
Starter driven gear O.D.	45.66 (1.8264)~45.673 (1.8292)	45.6 (1.824)

SPECIAL TOOLS

Flywheel puller	E054
Flywheel holder	E021

TORQUE VALUES

Flywheel nut: 55 N•m (5.5 kgf•m, 40 lbf•ft)

TROUBLESHOOTING

Starter motor turns, but engine does not turn

- Faulty starter clutch
- Damaged starter reduction gear

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ALTERNATOR STATOR

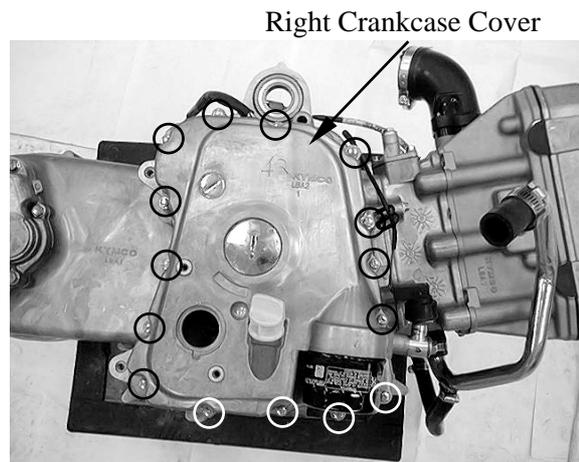
REMOVAL

Remove the right center body cover (page 2-5).

Remove the exhaust muffler (page 2-15).

Remove water pump (page 6-10).

Remove the fifteen bolts and right crankcase cover, dowel pins and gasket.



Remove the two pulse coil mount bolts. Remove the three stator mount bolts, grommet and the stator from the right crankcase cover.

INSTALLATION

Install the stator and tighten the stator mount bolts to the specified torque.

Torque: 12 N•m (1.2 kgf•m, 9 lbf•ft)

Apply sealant to the grommet seating surface and install it to the cover groove properly.

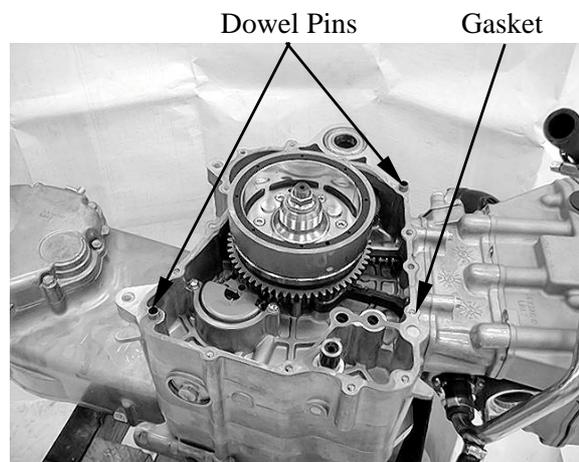
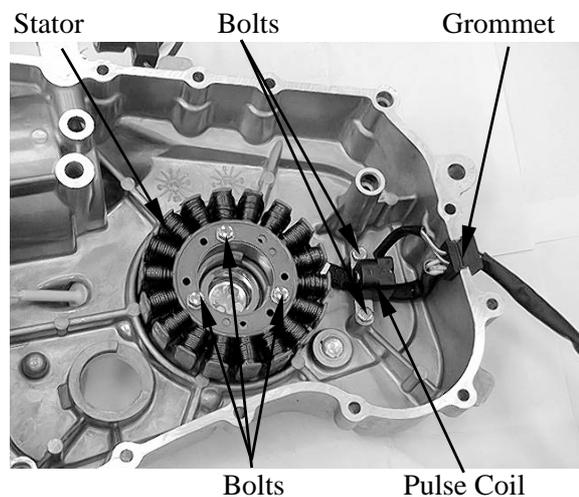
Install the pulse coil and tighten mount bolts to the specified torque.

Torque: 12 N•m (1.2 kgf•m, 9 lbf•ft)

Clean the mating surfaces of the right crankcase and cover.

Install the dowel pins and gasket.

Install the right crankcase cover and tighten the bolts in a crisscross pattern in 2 or 3 steps.



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FLYWHEEL/STARTER CLUTCH

REMOVAL

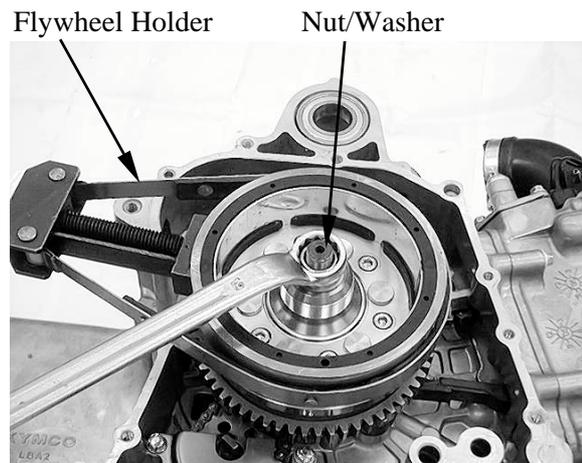
Remove the right crankcase cover (page 12-3).

Hold the flywheel with the special tool and loosen the flywheel nut.

Special tool:

Flywheel holder **E021**

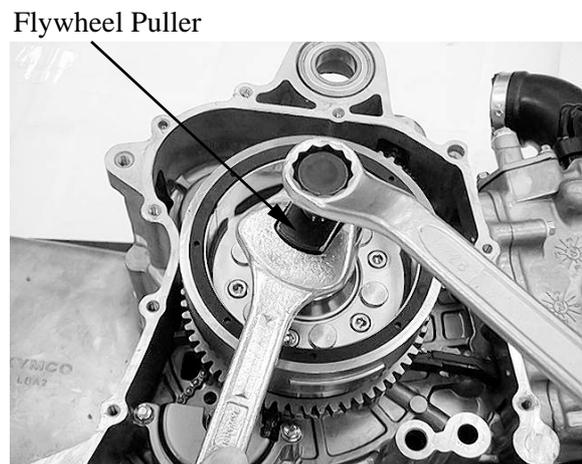
Remove the flywheel nut and washer.



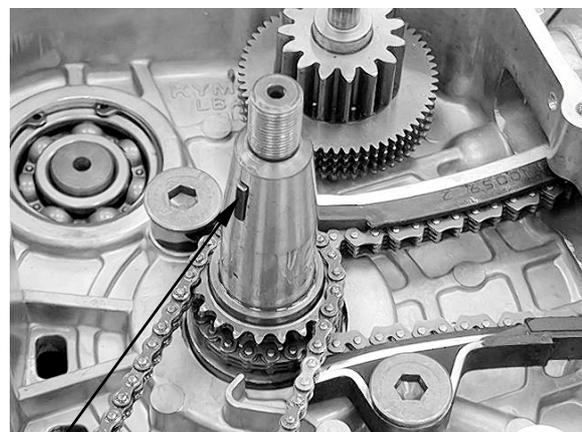
Remove the flywheel/starter driven gear assembly using the special tool.

Special tool:

Flywheel puller **E054**



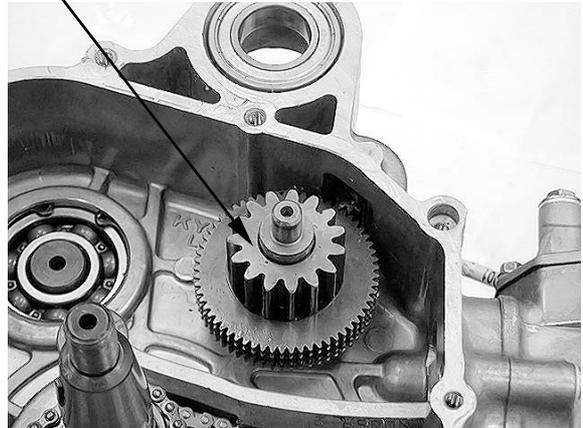
Remove the woodruff key.



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Remove the reduction gear.

Reduction Gear

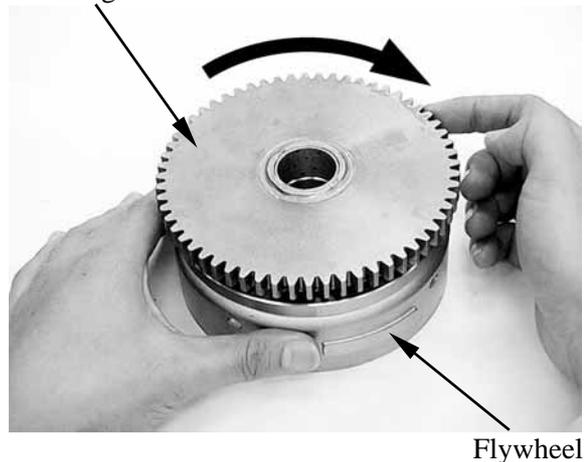


INSPECTION

Check the operation of the sprag clutch by turning the driven gear. You should be able to turn the driven gear clockwise smoothly, but the gear should not turn counterclockwise.

Remove the starter driven gear by turning the driven gear.

Driven gear



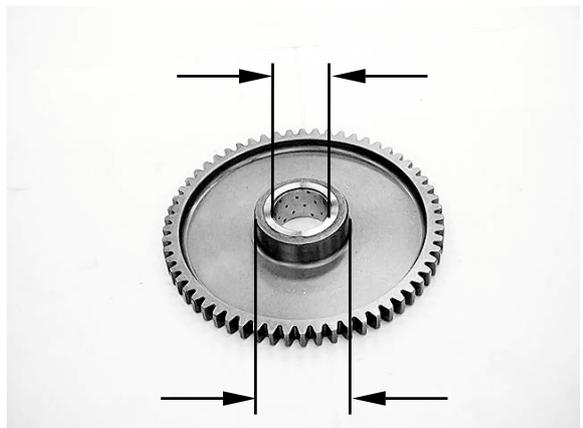
Check the starter driven gear teeth for wear or damage.

Measure the starter driven gear boss O.D..

Service limit: 45.6 mm (1.824 in)

Measure the starter driven gear bushing I.D..

Service limit: 27.1 mm (1.084 in)

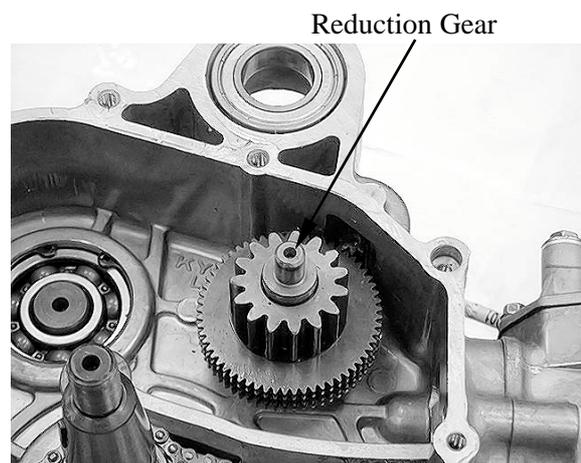


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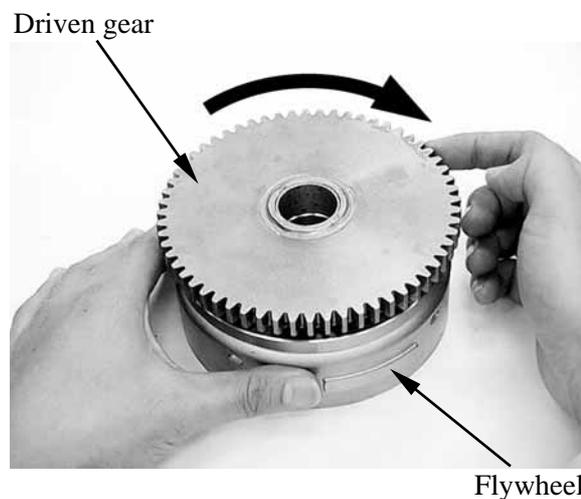
Check the starter reduction gear teeth and shaft for wear or damage.



Apply oil to the starter reduction gear.
Install the starter reduction gear to the right crankcase.



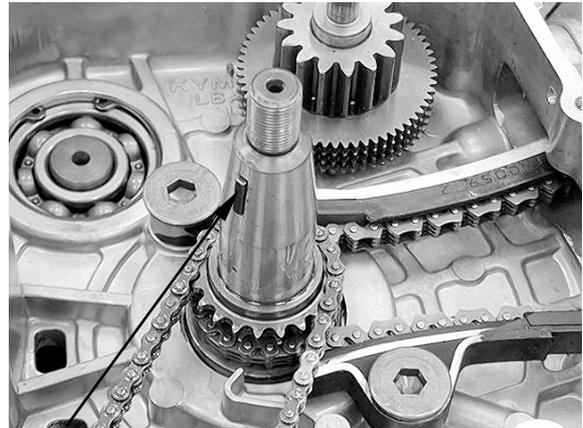
Apply molybdenum oil solution to the starter driven gear bushing.
Install the starter driven gear by turning the driven gear clockwise.



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Clean any oil from tapered portion of the crankshaft.

Install the woodruff key in the crankshaft key groove.



Woodruff Key

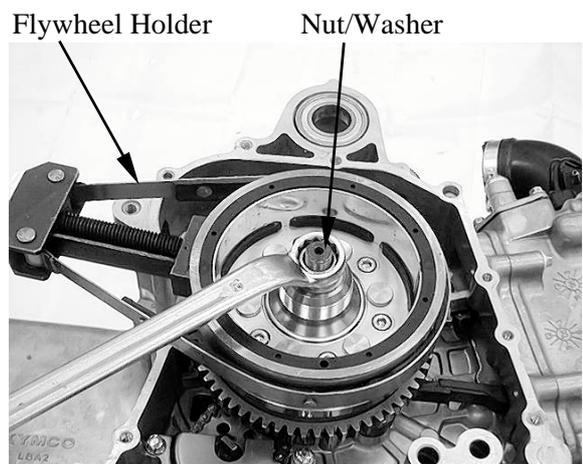
Clean any oil from the tapered portion of the flywheel I.D..

Install the flywheel/driven gear onto the crankshaft, aligning the key way with woodruff key.

Apply oil to the washer and flywheel nut threads and seating surface.

Install the washer and flywheel nut to the crankshaft.

Hold the flywheel with the special tool and tighten the flywheel nut to the specified torque.



Special tool:

Flywheel holder E021

Torque: 55 N•m (5.5 kgf•m, 40 lbf•ft)