

11. FINAL REDUCTION

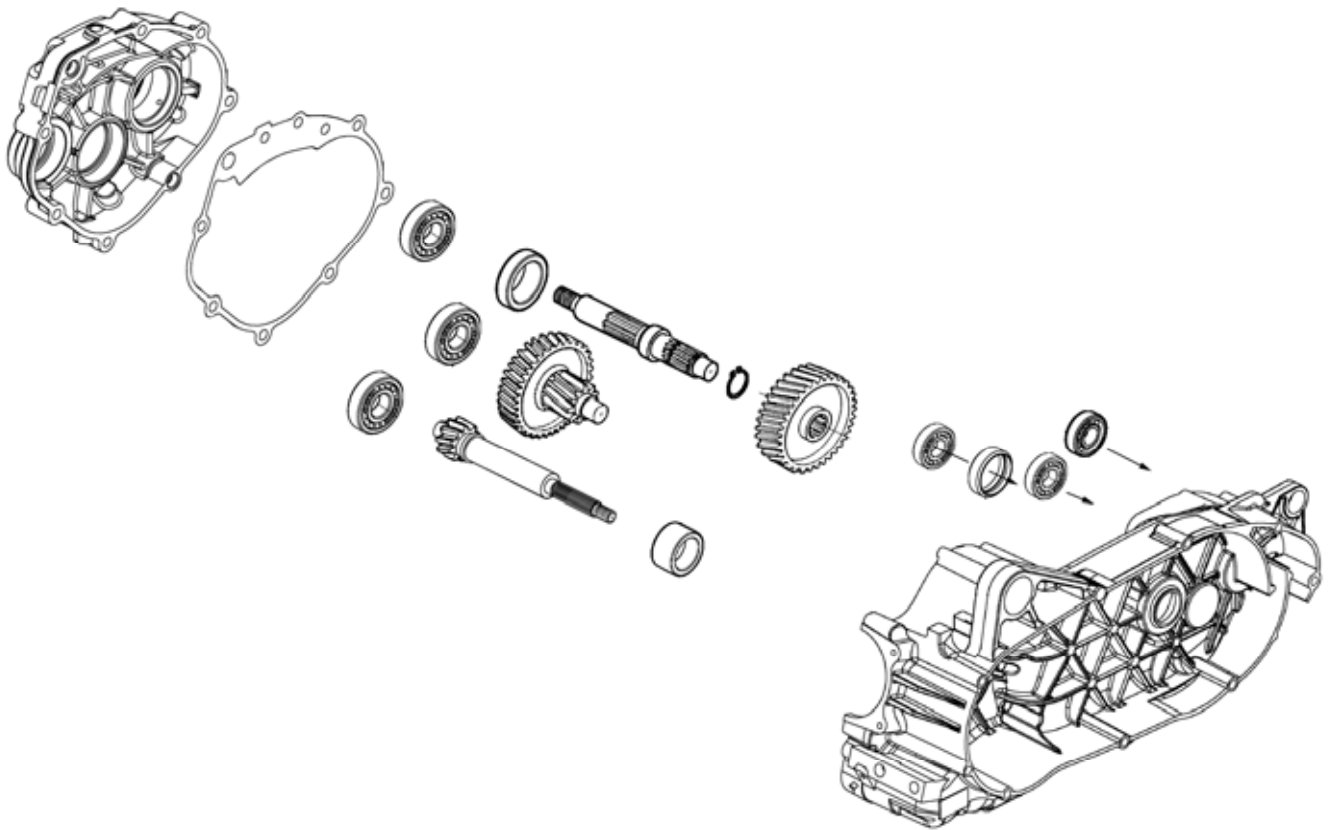
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FINAL REDUCTION

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SCHEMATIC DRAWING



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SERVICE INFORMATION

GENERAL INSTRUCTIONS

- The servicing operations of this section can be made with the engine installed.
- When replacing the drive shaft, use a special tool to hold the bearing inner race for this operation.

SPECIFICATIONS

Specified Oil: SAE 90#

Oil Capacity:

At disassembly : 0.55 L (0.57 US qt, 0.5 Imp qt)

At change : 0.45 L (0.48 US qt, 0.4 Imp qt)

TORQUE VALUES

Transmission case cover bolt 27 N•m (2.7 kgf•m, 20 lbf•ft)

Oil drain bolt 24 N•m (2.4 kgf•m, 18 lbf•ft)

Oil filler bolt 24 N•m (2.4 kgf•m, 18 lbf•ft)

SPECIAL TOOLS

Bearing puller E037

Oil seal & bearing driver E014

Universal bearing puller E030

TROUBLESHOOTING

Engine starts but motorcycle won't move

- Damaged transmission
- Seized or burnt transmission
- Faulty drive and driven pulleys/clutch

Abnormal noise

- Worn, seized or chipped gears
- Worn bearing

Oil leaks

- Oil level too high
- Worn or damaged oil seal
- Cracked crankcase

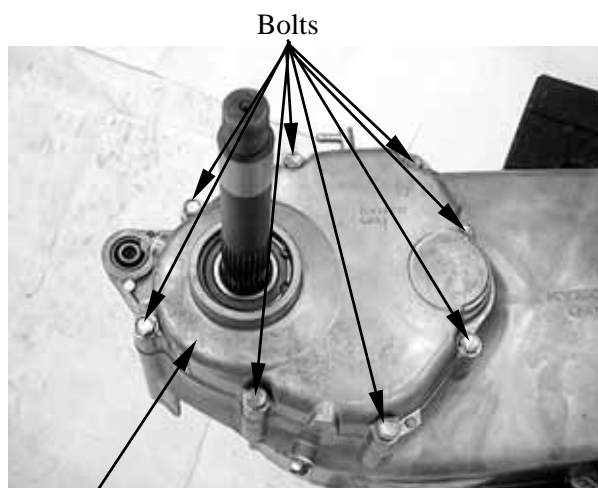
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FINAL REDUCTION DISASSEMBLY

Remove the exhaust muffler (page 2-15).
Remove the rear brake caliper (page 16-26).
Remove the right rear shock absorber (page 15-10).
Remove the rear fork (page 15-4).
Remove the rear wheel (page 15-4).

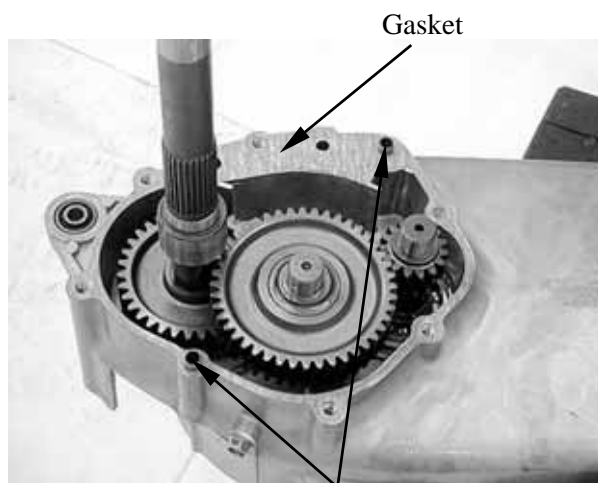
Drain the transmission gear oil into a clean container.

Remove the eight bolts and transmission cover.



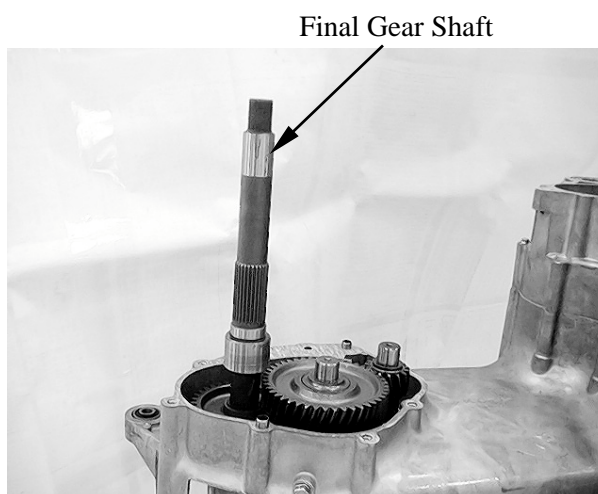
Transmission Cover

Remove the gasket and dowel pins.



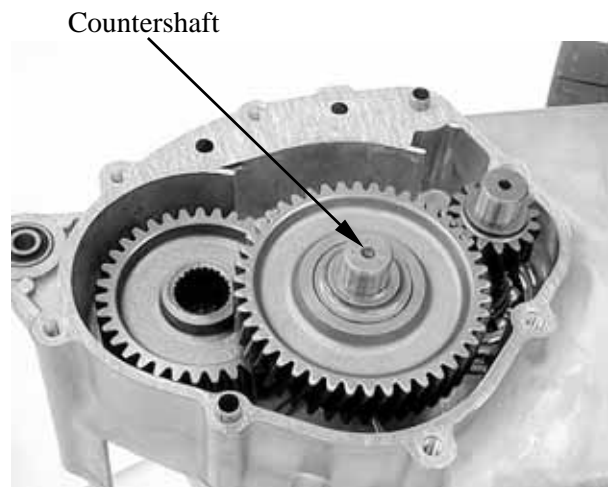
Dowel Pin

Remove the final gear shaft.

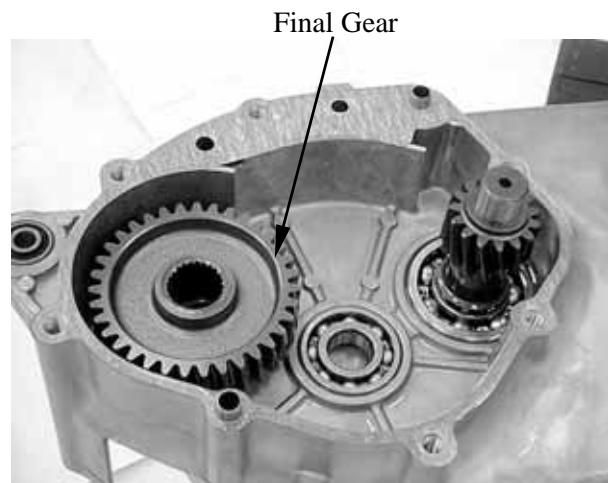


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Remove the countershaft.



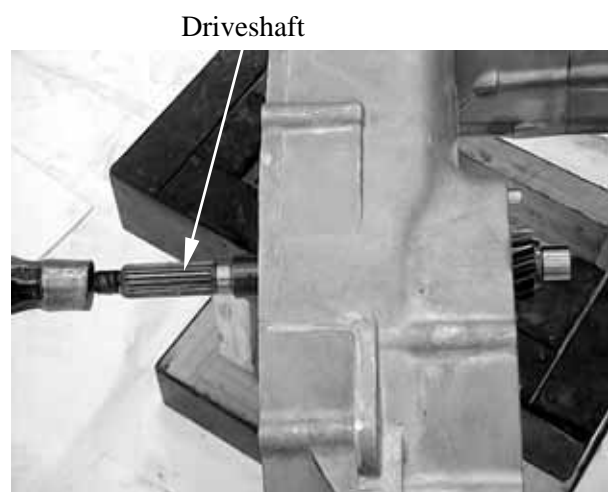
Remove the final gear.



Remove the driven pulley (page 10-13).

Press the driveshaft out of the left crankcase.

Check the drive shaft for wear or damage.



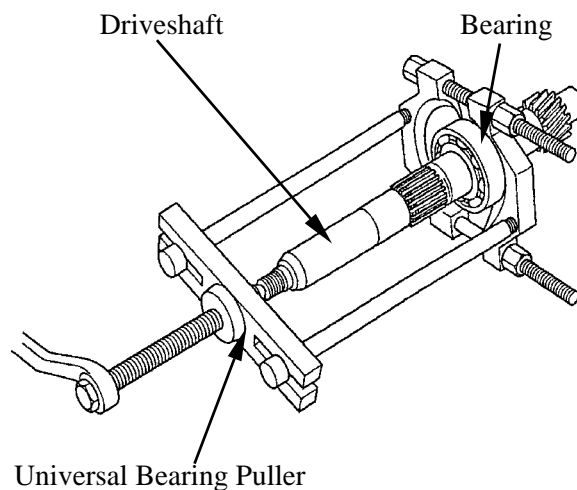
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Remove the driveshaft oil seal and bearing from the transmission case.



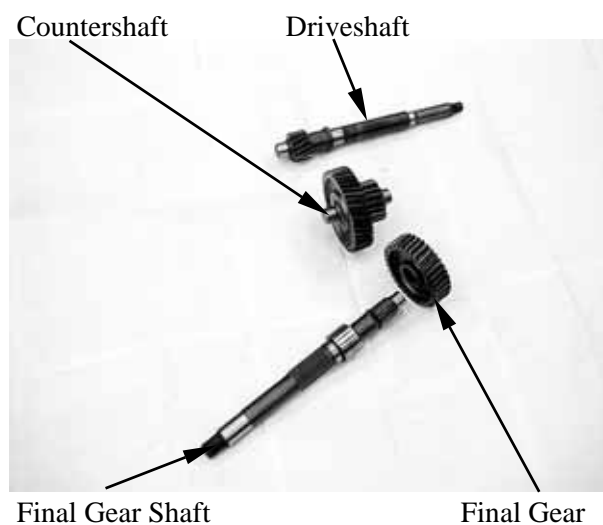
If the bearing is left on the driveshaft, remove it with the special tool.

Special tool:
Universal bearing puller E030



FINAL REDUCTION INSPECTION

Check the driveshaft, countershaft, final gear and final gear shaft for wear or damage.



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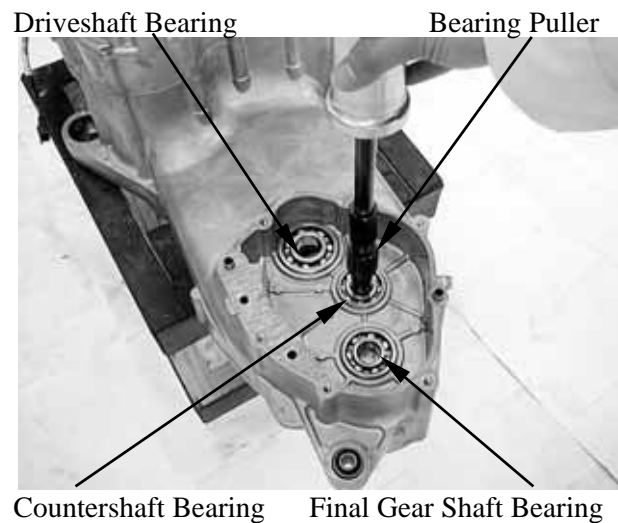
Check the oil seal and bearings in the left crankcase for wear or damage.

BEARING REPLACEMENT (TRANSMISSION CASE)

Remove the countershaft or final gear shaft bearing using the special tool.

Special tool:

Bearing puller E037

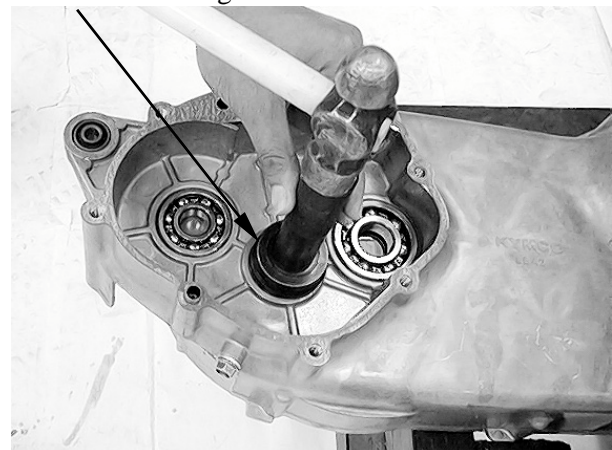


Apply engine oil to new bearings cavities.
Drive new bearings into the transmission case.

Special tool:

Oil seal & bearing driver E014

Oil Seal & Bearing Driver



BEARING REPLACEMENT (TRANSMISSION COVER)

Remove the final gear shaft oil seal.

Oil Seal

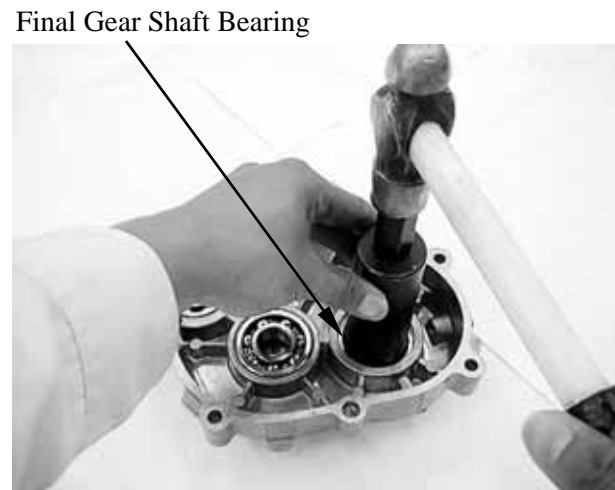


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Remove the bearing snap ring.

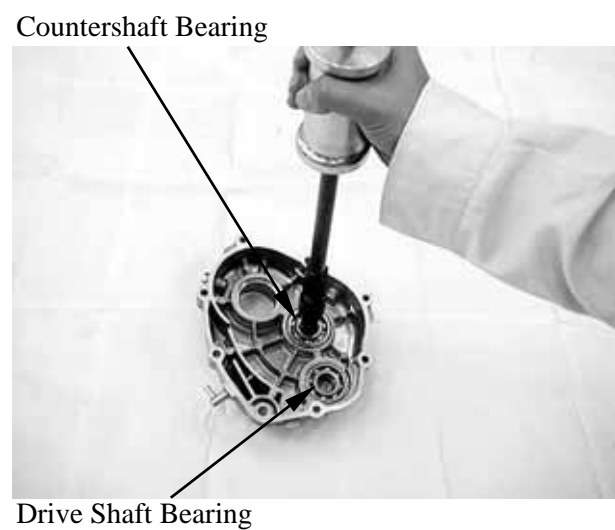


Remove the final gear shaft bearing.



Remove the countershaft or drive shaft bearing using the special tool.

Special tool:
Bearing puller E037



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Apply engine oil to new bearings cavities.
Drive new bearings into the transmission cover.

Special tool:

Oil seal & bearing driver E014

Oil Seal & Bearing Driver



Apply engine oil to new final gear shaft bearing cavity.
Drive new bearing into the transmission cover.

Special tool:

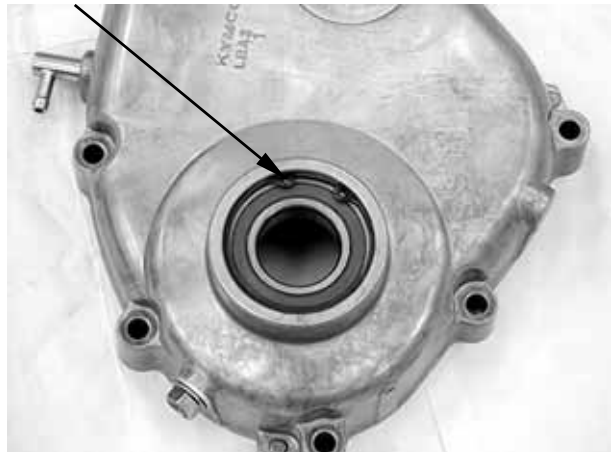
Oil seal & bearing driver E014



Oil Seal & Bearing Driver

Install the bearing snap ring.

Snap Ring



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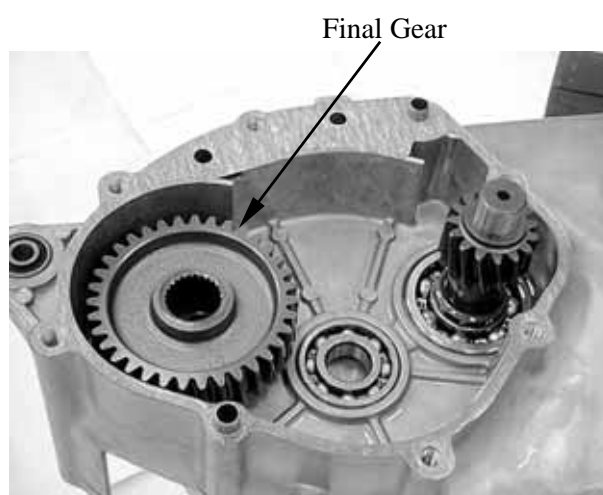
Apply oil to a new final gear shaft oil seal lip and outer surface.

Install the final gear shaft oil seal.

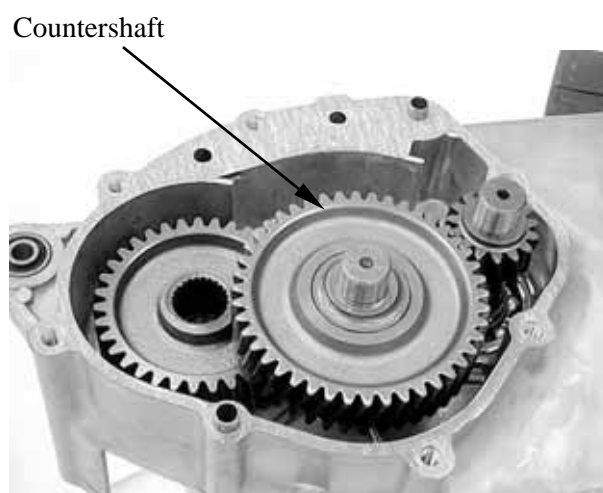


FINAL REDUCTION ASSEMBLY

Install the final gear to the transmission case.



Install the countershaft to the transmission case.



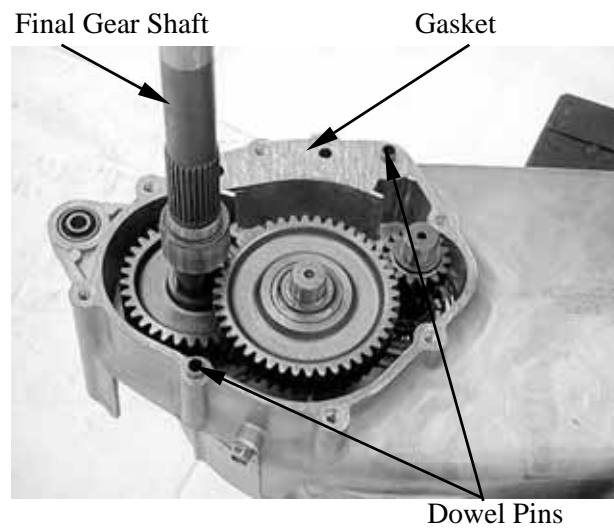
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Install the final gear shaft to transmission case.

Install the dowel pins.

Clean the mating surfaces of the left crankcase and transmission cover.

Install the new gasket.



Install the transmission cover and tighten the eight bolts in a crisscross pattern in 2 – 3 steps to the specified torque.

Torque: 27 N•m (2.7 kgf•m, 20 lbf•ft)

Fill the transmission case with the recommended oil (page 3-17).

