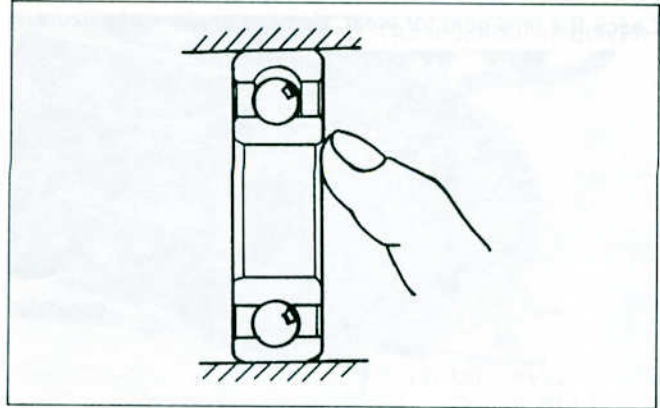


## FINAL REDUCTION

### BEARING INSPECTION

Turn the inner race of each bearing with your finger. The bearings should turn smoothly and quietly. Also check that the bearing outer race has not been spinning in the case.

Discard the bearings if the races do not turn smoothly and quietly, or if they have been spinning in the case.



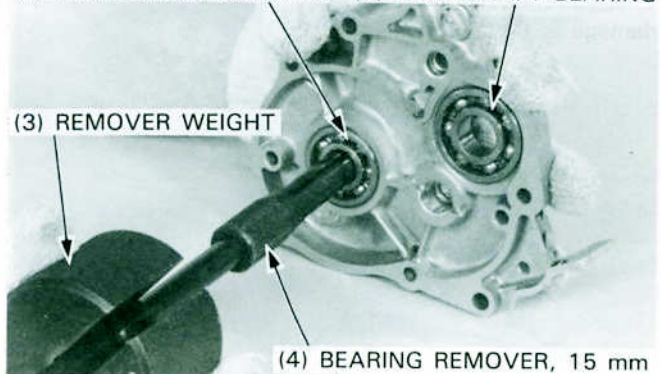
### TRANSMISSION BEARING REPLACEMENT

Remove the driveshaft bearing and final shaft bearing from transmission case using special tools.

#### TOOLS:

REMOVER WEIGHT	07741-0010201 OR 07936-3710200
BEARING REMOVER, 15 mm	07936-KC10500

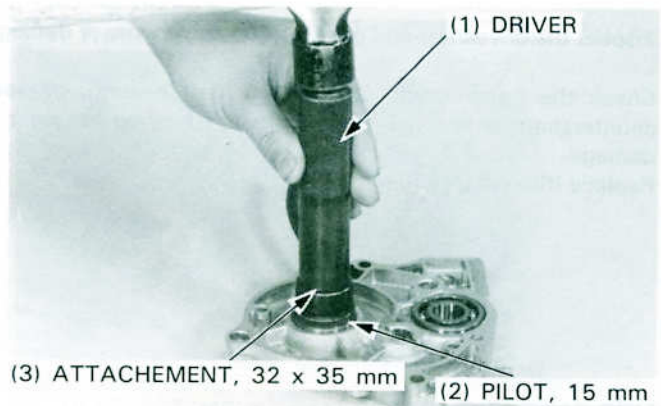
(1) FINAL SHAFT BEARING (2) DRIVESHAFT BEARING



Drive a new final shaft bearing into the transmission cover.

#### TOOLS:

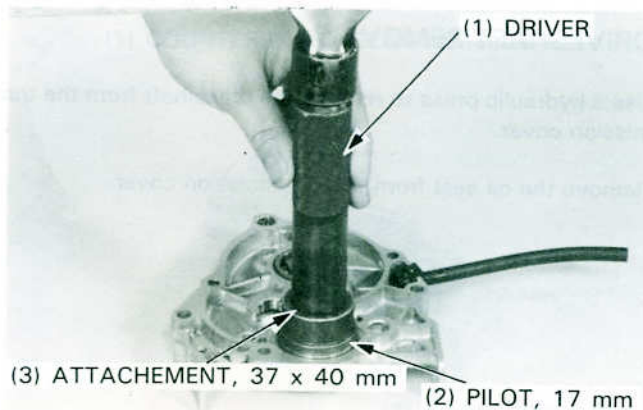
DRIVER	07749-0010000
ATTACHMENT, 32 x 35 mm	07746-0010100
PILOT, 15 mm	07746-0040300



Drive a new driveshaft bearing into the transmission cover.

#### TOOLS:

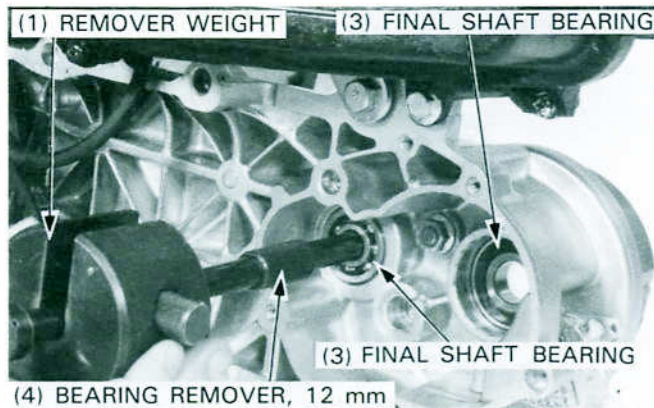
DRIVER	07749-0010000
PILOT, 17 mm	07746-0040400
ATTACHMENT, 37 x 40 mm	07746-0010200



Remove the oil seal.  
 Remove the final shaft bearing from the left crankcase using the special tools.  
 Remove the driveshaft bearing from the left crankcase.

**TOOLS:**

**REMOVER WEIGHT** 07741-0010201 OR 07936-3710200  
**BEARING REMOVER, 12 mm** 07936-1660100

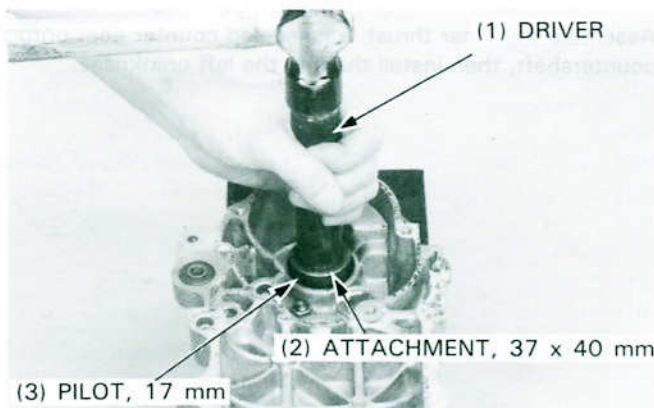


Remove the engine (page 5-2).

Drive a new driveshaft bearing into the left crankcase.

**TOOLS:**

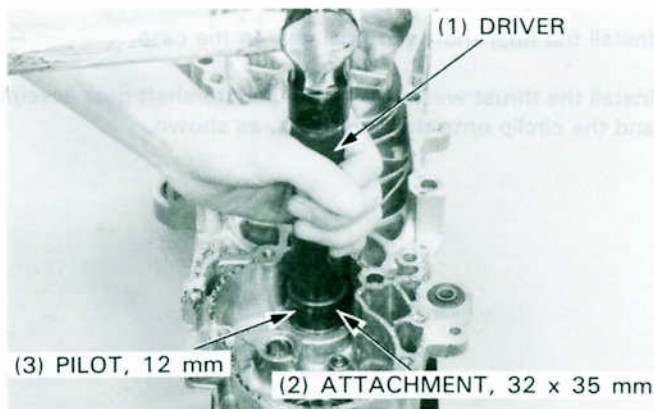
**DRIVER** 07749-0010000  
**PILOT, 17 mm** 07746-0040400  
**ATTACHMENT, 37 x 40 mm** 07746-0010200



Drive a new final shaft bearing into the left crankcase, then install the oil seal and engine (page 5-3).

**TOOLS:**

**DRIVER** 07749-0010000  
**PILOT, 12 mm** 07746-0040200  
**ATTACHEMENT, 32 x 35 mm** 07746-0010100

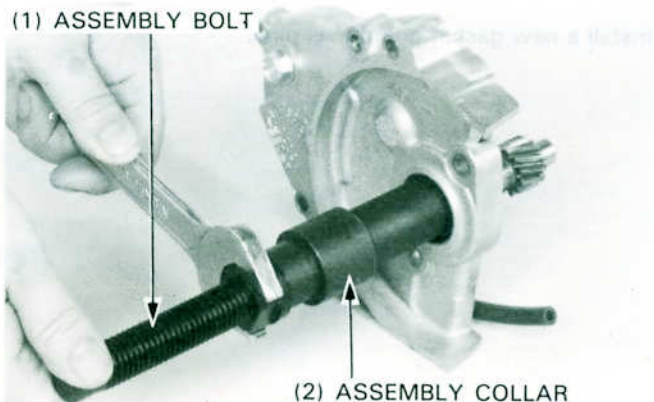


## FINAL REDUCTION ASSEMBLY

Insert the driveshaft into the driveshaft bearing in the cover from the left side.

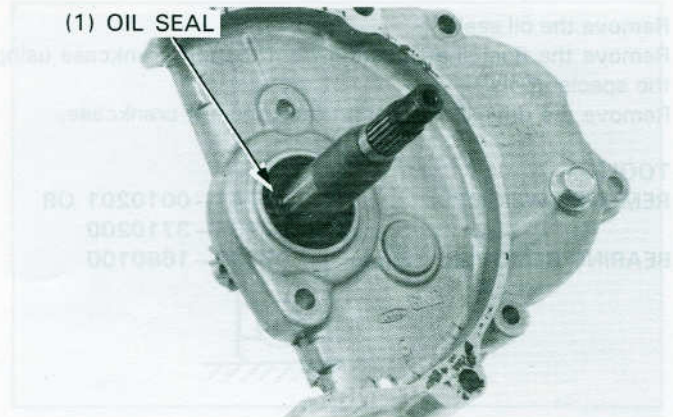
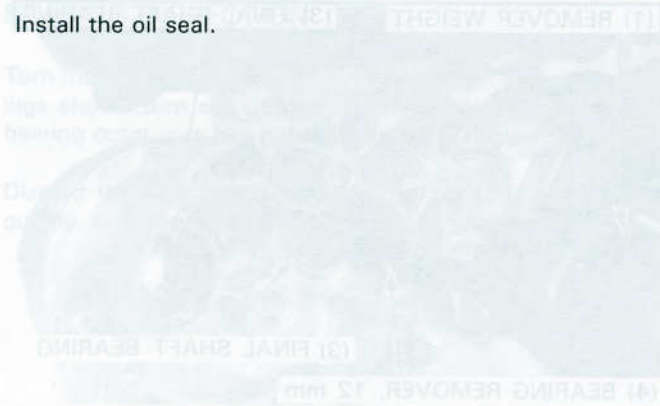
**TOOLS:**

**ASSEMBLY BOLT** 07965-GM00300 OR 07965-1480100  
**ASSEMBLY COLLAR** 07965-GM00100 OR 07965-1480100

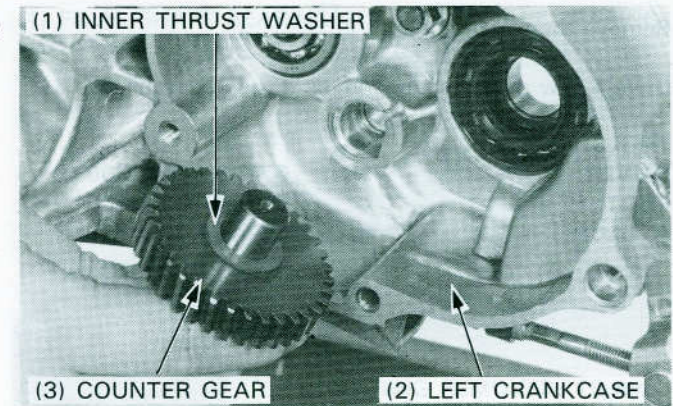
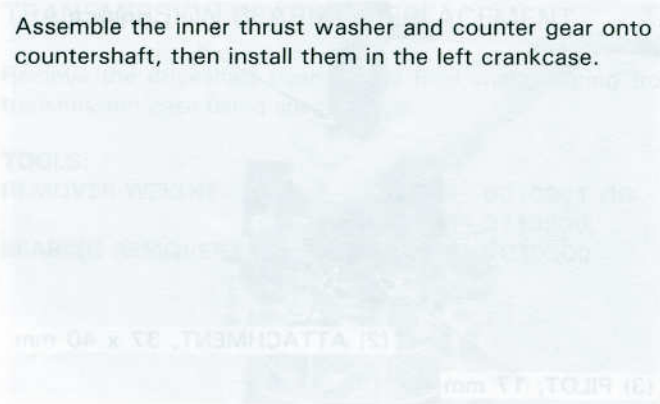


## FINAL REDUCTION

Install the oil seal.

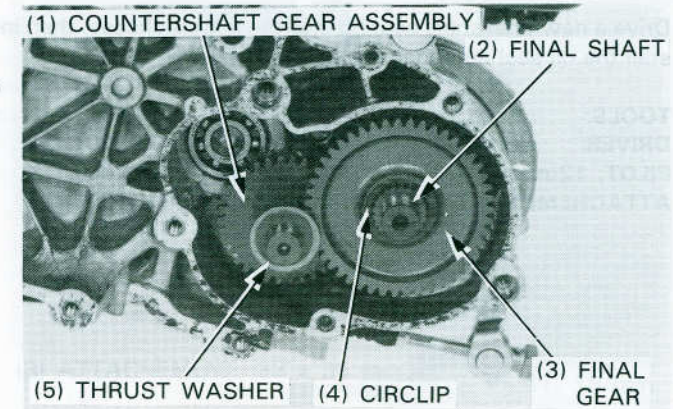
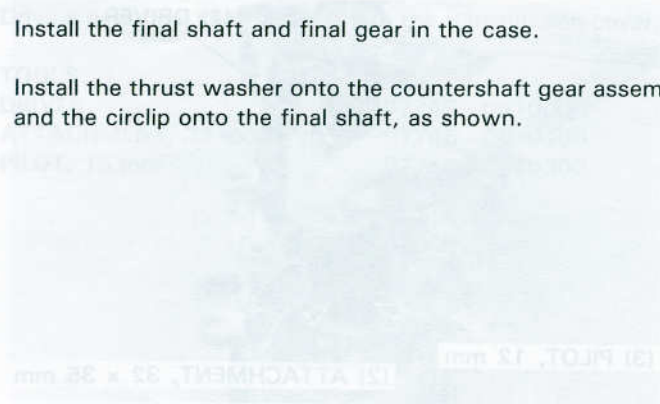


Assemble the inner thrust washer and counter gear onto the countershaft, then install them in the left crankcase.

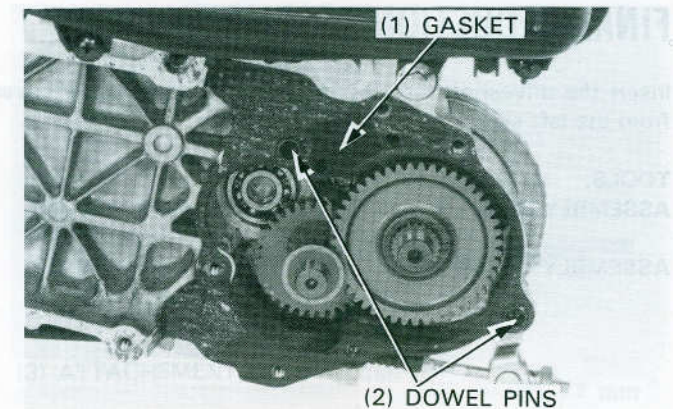


Install the final shaft and final gear in the case.

Install the thrust washer onto the countershaft gear assembly and the circlip onto the final shaft, as shown.



Install a new gasket and dowel pins.



Install the following:

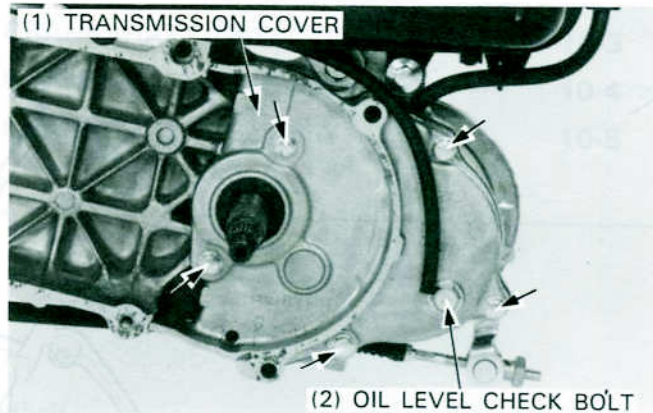
- Transmission cover.
- Driven pulley/clutch (page 8-16).
- Drive pulley, drive belt and left crankcase cover (page 8-5).
- Rear wheel (page 13-2).

Pour the specified amount of oil through the filler opening.

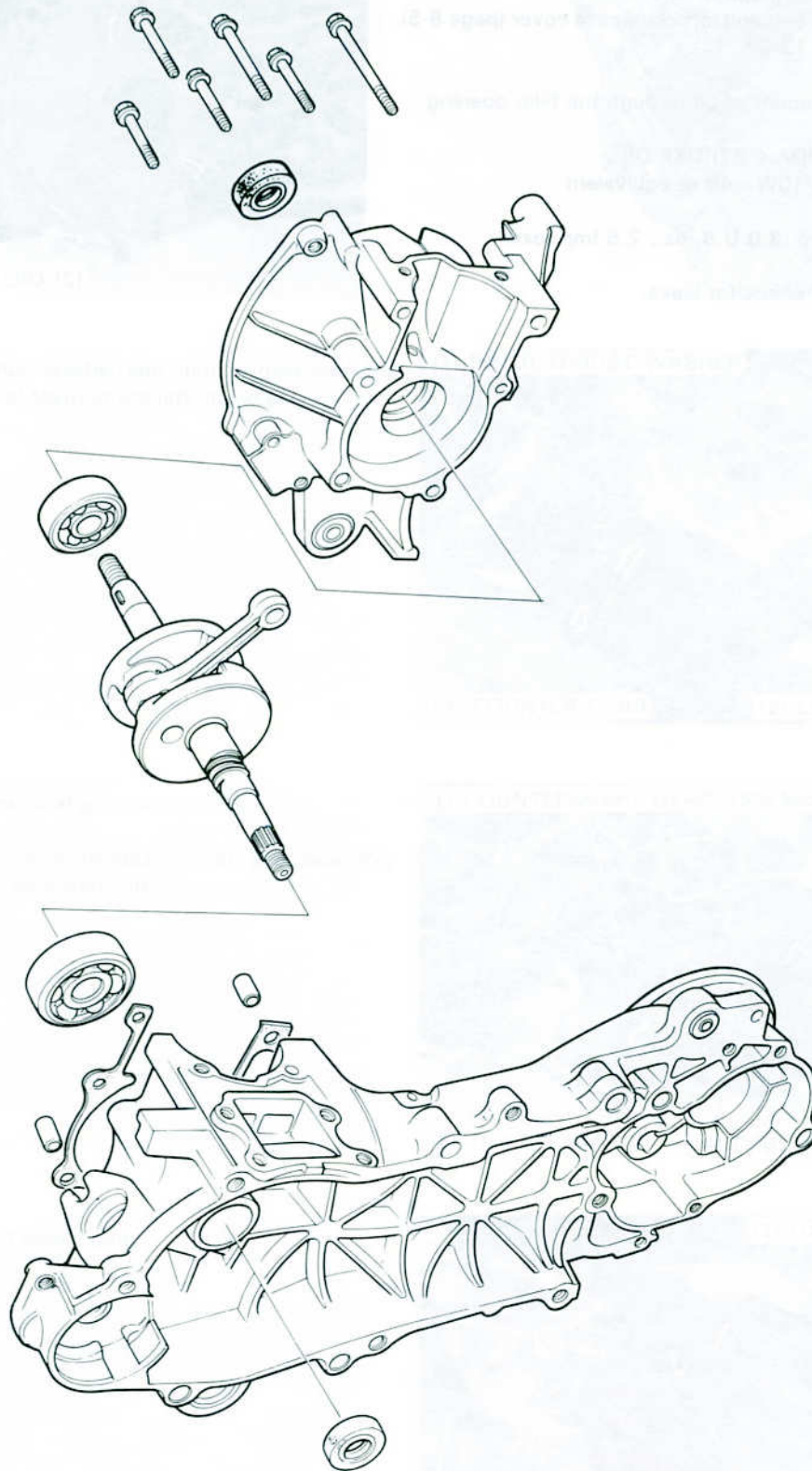
**SPECIFIED OIL: HONDA 4 STROKE OIL**  
SAE 10W-40 or equivalent

**QUANTITY: 90 cc (3.0 U.S. oz., 2.5 Imp. oz.)**

Start the engine and check for leaks.



CRANKCASE/CRANKSHAFT



# 10. CRANKCASE/CRANKSHAFT

SERVICE INFORMATION	10-1	CRANKSHAFT INSPECTION	10-3
TROUBLESHOOTING	10-1	CRANKSHAFT ASSEMBLY	10-4
CRANKCASE SEPARATION	10-2	CRANKCASE ASSEMBLY	10-5
CRANKSHAFT REMOVAL	10-2		

## SERVICE INFORMATION

### GENERAL

- This section covers crankcase separation to service the crankshaft.
- The following parts must be removed before separating the crankcase:
  - Engine (Section 5)
  - Carburetor (Section 4)
  - Oil pump (Section 2)
  - Drive pulley (Section 8)
  - Reed valve (Section 4)
  - Alternator (Section 7)
  - Cylinder head, cylinder (Section 6)
  - Starter motor (Section 14)
- In addition to the above, remove the following parts when the left crankcase half must be removed:
  - Rear wheel (Section 13)
  - Final reduction (Section 9)

### SPECIFICATIONS

Unit: mm (in)

ITEM	STANDARD	SERVICE LIMIT
Connecting rod big end side clearance	—	0.6 (0.02)
Connecting rod big end radial clearance	—	0.04 (0.0016)
Crankshaft runout A	—	0.15 (0.006)
B	—	0.10 (0.004)

### TOOLS

#### Special

Universal bearing puller	07631-0010000	— Equivalent commercially available in U.S.A.
Case puller	07935-GK80000 or 07935-8050002	
Assembly collar	07965-GM00100 or 07965-1480100	
Assembly bolt	07965-GM00300 or 07965-1480100	
Thread protector	07931-1870000	

#### Common

Attachment, 37 x 40 mm	07746-0010200
Pilot, 17 mm	07746-0040400
Attachment, 42 x 47 mm	07746-0010300
Pilot, 20 mm	07746-0040500
Driver	07749-0010000

## TROUBLESHOOTING

#### Abnormal engine noise

- Worn main journal bearing
- Worn crankpin bearing
- Worn transmission bearing