

ENGINE (300)

Balance Shaft Bearing Inspection

NOTE: Replace all seals whenever the crankcase is disassembled.

1. Inspect the balance shaft bearings in the crankcase.

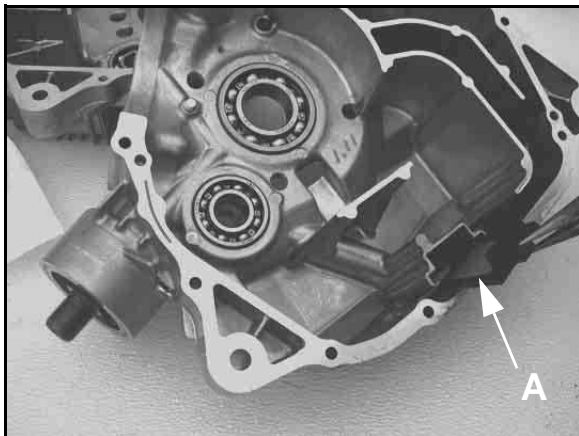
NOTE: Due to extremely close tolerances and minimal movement, the bearing must be inspected visually and by feel. Look for signs of discoloration, scoring or galling. Turn the inner race of bearing. The bearing should turn smoothly and quietly. The outer race should fit tightly in the crankcase. The inner race should be firm with minimal side to side movement and no detectable up and down movement.

2. To remove balance shaft bearings, use a blind hole bearing puller.

NOTE: Bearings are stressed during the removal procedure and *should not be re-used*.

Crankcase Oil Pickup Strainer Inspection

1. Pull the strainer screen (A) from the case carefully and clean or replace it if heavily clogged, or if damaged.



Bearing / Seal Installation

NOTE: To ease crankcase bearing installation, warm the crankcase until hot to the touch. Placing the bearing in a freezer prior to installation will assist the assembly process.

1. Install the bearing so the numbers are visible.
2. Drive or press the new bearing into the crankcase, using the proper driver.

CAUTION

Press only on outer race of bearing to prevent bearing damage.

3. Install new seals with the lip facing in.

CAUTION

Press only on outer diameter to prevent damage.

End Play Inspection / Adjustment

Before reassembling the crankcase, the following steps should be performed to determine the amount of crankshaft, counter balancer shaft, and pump shaft end play. Excessive end play may cause engine noise at idle and slow speeds. Too little play will side load the bearings which may lead to premature bearing failure.