

## OUTPUT GEAR

### BACKLASH INSPECTION

Place the output gear case in a vise.

#### CAUTION

*Use soft jaws to prevent damage to the gear case.*

Set a horizontal type dial indicator on the output drive shaft as shown.

Hold the output driven gear shaft and rotate the drive shaft until the gear slack is taken up.

Turn the drive shaft back and forth to read the backlash.

**STANDARD:**        **0.080–0.180 mm**  
                          **(0.0031–0.0071 in)**

**SERVICE LIMIT:**  **0.250 mm (0.0098 in)**

Remove the dial indicator. Turn the output drive shaft 120° and measure the backlash. Repeat this procedure one more.

Compare the difference of the three measurement.

#### DIFFERENCE OF MEASUREMENTS

**SERVICE LIMIT: 0.10 mm (0.004 in)**

If the difference in the measurements exceeds the limit, it indicates that the bearing is not installed squarely.

Inspect the bearings and replace if necessary.

If backlash is excessive, replace the driven shaft adjustment shim with a thinner one.

If the backlash is too small, replace the driven shaft adjustment shim with a thicker one.

Backlash is changed by about 0.06 mm (0.002 in) when the thickness of the shim is changed by 0.10 mm (0.004 in).

#### OUTPUT DRIVEN GEAR SHAFT ADJUSTMENT SHIMS:

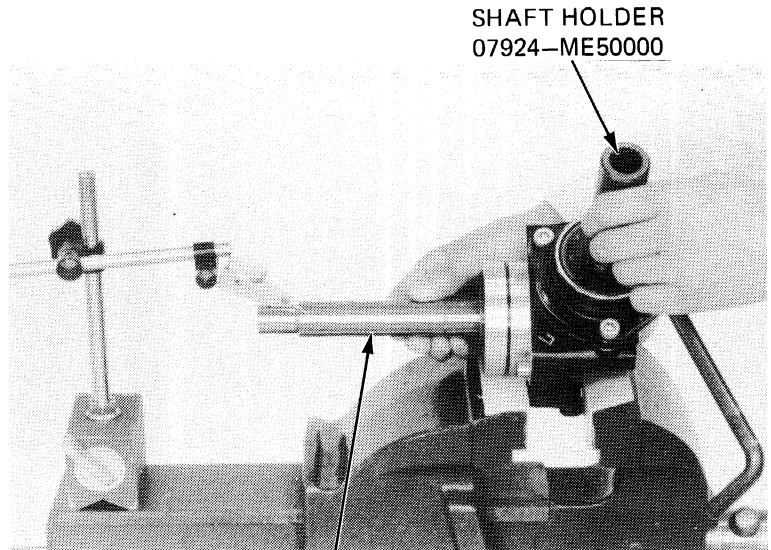
- A:  0.40 mm (0.016 in)
- B:  0.45 mm (0.018 in)
- C:  0.50 mm (0.020 in)   **Standard**
- D:  0.55 mm (0.022 in)
- E:  0.60 mm (0.024 in)
- F:  0.30 mm (0.012 in)
- G:  0.35 mm (0.014 in)

### OUTPUT DRIVEN GEAR DISASSEMBLY

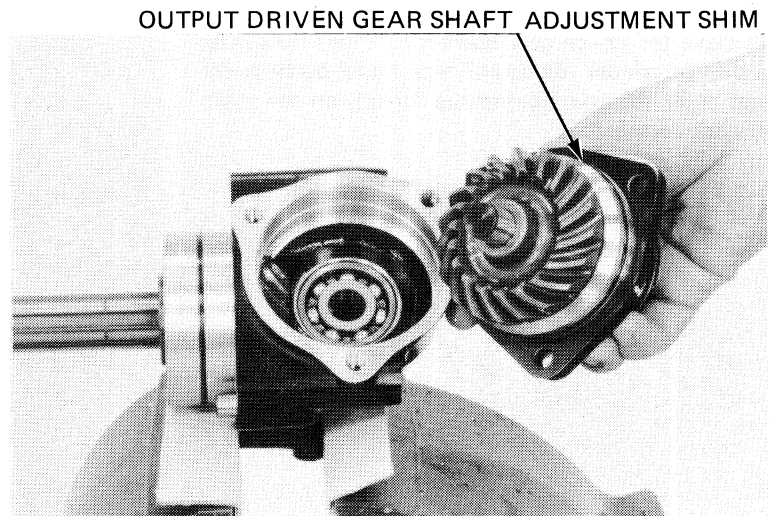
Place the output gear case in a vise, being careful not to distort it and remove the oil seal.

#### CAUTION

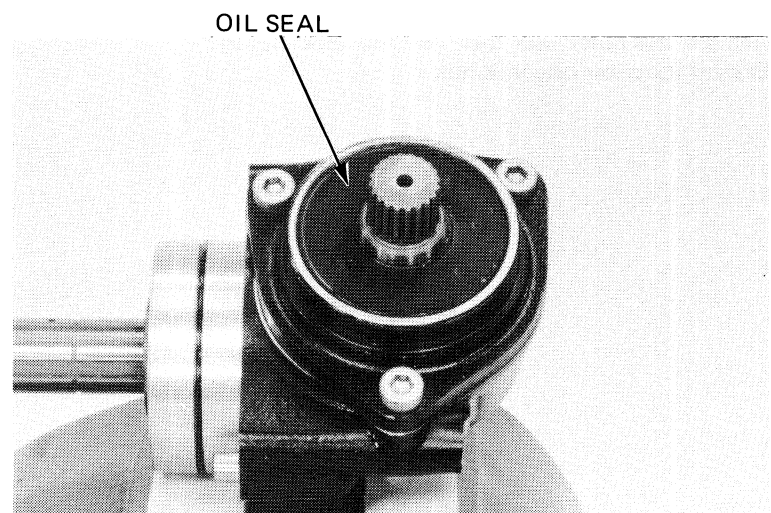
*Use soft jaws to prevent damage to the gear case.*



OUTPUT DRIVE GEAR



OUTPUT DRIVEN GEAR SHAFT ADJUSTMENT SHIM



OIL SEAL