

.010 (.254mm) and .012 (.305mm) inch. Do not install an undersize bearing that will reduce clearance below specifications.

### Removal

(1) Remove oil pan and identify bearing caps before removal.

(2) Remove bearing caps one at a time. Remove upper half of bearing by inserting Tool C-3059 (Fig. 45) into oil hole of crankshaft.

(3) Slowly rotate crankshaft clockwise, forcing out upper half of bearing.

### Installation

Only one main bearing should be selectively fitted while all other main bearing caps are properly torqued.

When installing a new upper bearing shell, slightly chamfer the sharp edges from the plain side.

(1) Start bearing in place, and insert Tool C-3059 into oil hole of crankshaft (Fig. 45).

(2) Slowly rotate crankshaft counter-clockwise sliding the bearing into position. Remove Tool.

### REAR MAIN BEARING OIL SEAL

Service seals are of split rubber type composition. The seals make it possible to replace the upper rear seal without removing the crankshaft. **The seal must be used as a complete upper and lower set and cannot be combined with the rope seal.**

(1) With oil pan removed, remove rear seal retainer and rear main bearing cap.

(2) Remove lower rope oil seal by prying from the side with a small screwdriver.

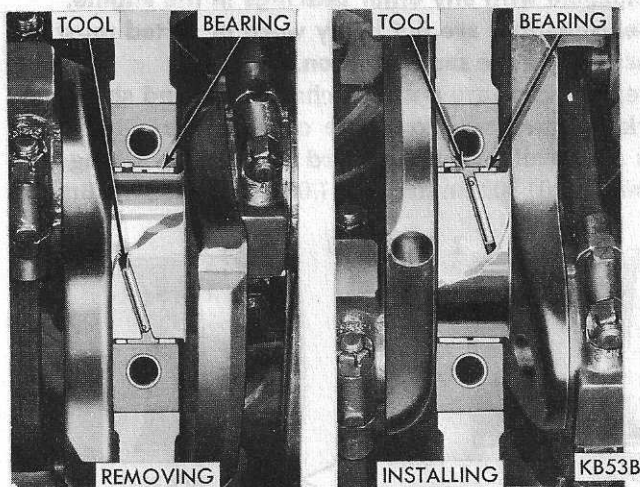


Fig. 45—Removing and Installing Upper Main Bearing with Tool C-3059

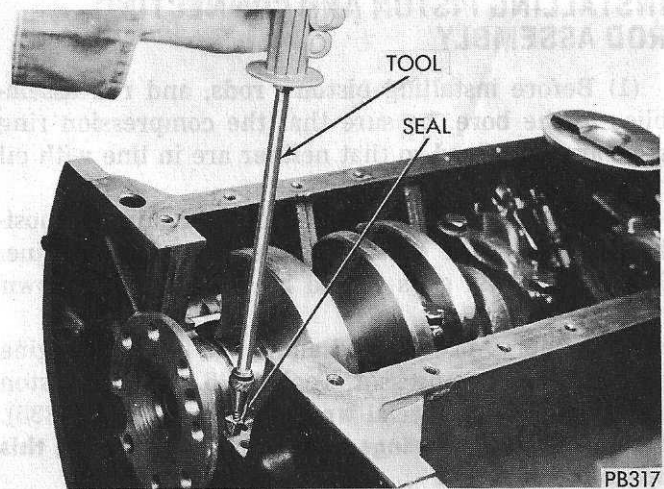


Fig. 46—Removing Upper Oil Seal with Tool C-414B

(3) Remove upper rope seal by screwing Tool C-4148 into the end of the seal, being careful not to damage the crankshaft (Fig. 46). Pull the seal out with the tool while rotating the crankshaft.

**CAUTION:** Always wipe crankshaft surface clean, then oil lightly before installing a new seal.

(4) Oil seal lip lightly with engine oil.

(5) Hold seal (with paint stripe to the rear) tightly against crankshaft with thumb to make sure that the sharp edge of the groove in the block does not shave or nick the back of the seal, install seal in the block groove. Rotate the crankshaft, if necessary, while sliding seal into groove. **Care must be exercised not to damage the sealing lip.**

(6) Install other half of the seal into the lower seal retainer with paint stripe to rear.

(7) Install rear main bearing cap, tighten to 85 ft. lb. (115 N·m). **Do not use sealer or cement on seal ends or lip.**

### Side Seals Installation

Perform the following operations as rapidly as possible. These side seals are made from a material that expands quickly when oiled.

(1) Clean seal retainer side grooves.

(2) Apply mineral spirits or diesel fuel to the side seals. Do not apply any sealer to side seals, as this will prevent the oil from swelling the seals.

(3) Install seals immediately in the seal retainer grooves. Apply sealer to bottom of retainer—both sides.

(4) Install seal retainer and tighten screws to 25 ft. lb. (34 N·m).

**Failure to pre-oil the seals will result in an oil leak.**