

Be sure shims are not placed between the two halves of bearing insert.

As the bearing cap is tightened the ends of the insert must crush .0015". When more than two shims are removed from each side, the parting surface of insert must be filed away .002" for each shim removed. This is because the insert will not crush more than .0015". Failure to follow this procedure will stretch the main bearing caps. When removing metal from inserts, remove some from each of the four ends. Do not file the original bearing caps.

When fitting a replacement cap to a cylinder block, fit the cap with a new insert and shaft so that four shims are used on each side. This may be done by filing cap.

The main bearing insert oil holes must line up with the drilled passages in the block. These passages must be clean.

Be sure the crankshaft gear is pressed on shaft until tight against shoulder.

Tighten the main bearing capscrews to 85 foot lbs. Later tractors use special self locking capscrews and no lockwire or washers are needed.

The bearings should have .002" to .003" oil clearance when properly fitted. This will allow shaft to turn freely. This clearance can be measured by placing a one inch length of .010" soft lead wire between shaft and insert the tightening bearing. Remove and measure wire with micrometer. A piece of .002" shims stock can also be used, tightening bearing until a definite drag is felt.

Never remove all shims at one time when trying bearing fit. This may stretch bearing cap. Remove one shim from each side at one time. When the final fit is secured it may be necessary to have an extra shim on one side of cap.

Dip the clutch pilot bearing wick in oil and insert in crankshaft. The wick must be pushed in. Pulling wick will cause it to stretch and allow passage of too much oil to the clutch shaft pilot bearing. The wick should be flush with front side of shaft and extend from rear of shaft only enough to touch the clutch shaft. Too much wick at rear will cause binding between the clutch shaft and crankshaft. This will cause gears to be difficult to shift and also excessive pressure on the thrust flange of the front main bearing. Later tractors have no wick. If this shaft is used the pilot bearing must be removed from flywheel.

CONNECTING RODS

Removal

Remove the oil sump and cylinder head. Mark the rod and rod cap of each rod 1-2-3-4. Clean the carbon from top of cylinder liner. Remove rod cap and push rod and piston assembly from cylinder liner.

To remove the piston from the connecting rod, insert a punch in a vise and place piston pin over the punch. Loosen the piston pin clamp screw. This will prevent twisting the rod. Never clamp rod in vise.

Inspection

Check the rod for straightness in a connecting

rod aligner. Check the bearing and journal the same as for main bearings.

Assembly

Adjust bearings in same manner as outlined under crankshaft and main bearings. Tighten the nuts to 70 ft. lbs. When luglock nuts are used in place of castellated nuts, tighten to 40 ft. lbs. Install the piston on connecting rods as outlined under cylinder liners pistons and rings. (See sketch.) The WD-45 connecting rod uses no shims when the correct diametrical clearance of .001" to .003" cannot be obtained due to worn parts, install standard or undersize bearing inserts. Do not file the bearing caps. Torque piston pin clamp screw to 20 ft. lbs.