

Recommended Wet Liner Installation Procedure.

- ▶ Make sure the block counterbore and seal bore are clean and free from rust and scale.
 - Generally the seal land to block clearance can be as little as .001" - .003". This leaves no room for rust or scale and very little room for someone using grease in error as a lubricant.
- ▶ If seals are used on the exterior of the liner check the top of the seal land area for sharp edges or burrs and proper chamfer. Correct as necessary.
- ▶ Inspect counterbore for correct depth and damage like cracks, fretting, cupping or downward tilt.
 - Variation in depth should not exceed .001".
 - No downward tilt is allowed.
- ▶ Slip the liner into the block without any seals. It should slip in freely without force and turn easily by hand.
- ▶ Clamp down liner and check flange protrusion for correct dimension.
- ▶ Thoroughly wash liner with a scrub pad in hot water and soap. Rinse and dry immediately.
- ▶ Install dry seal rings in the block or on the liner being careful not to overstretch them.
 - Prelubing o-rings could cause premature swelling and also makes it difficult to see and follow the molding flash line to determine if the o-ring is twisted.
 - Keeping the area behind the liner seal dry helps prevent o-rings from rolling or twisting.
 - Do not install an o-ring in the center weep hole drain groove on early John Deere's. This groove is not machined for an o-ring and using one usually will distort the liner. We do recommend plugging the weep hole from the outside with a small amount of RTV and encourage the owner to check for leakage occasionally by inserting a toothpick through the RTV plug.
- ▶ If seals are used on the exterior of the liner remove any twists by inserting a screwdriver or pick with a smooth polished shaft under the seals and rotating it around the liner 3 or 4 times. On o-rings, a molding line is usually visible in the center of the OD. This line will be parallel to the groove when twist is eliminated.
 - A roll or twist increases the density of the seal in the area of the twist when installed in the confines of the block bore. If you compress the seal material, it displaces itself and the roll/twist creates a hard spot that attracts heat and/or can distort the liner and reduce piston clearance and promote scoring.
- ▶ We recommend using a special liner seal lubricating soap such as John Deere NAR54749.
- ▶ Lightly coat the liner and the block at the o-ring area with lubricating soap and install the liner.
- ▶ Clamp the liner down to the block again and with a dial bore gauge check the bore for size, taper and out-of-round conditions especially at seal land area.