



Cylinder Sleeve Installation on John Deere 300 Series Diesel Engines

The AERA Technical Committee offers the following information on cylinder sleeve installation on John Deere 300 series diesel engines. This information should be considered anytime the cylinder sleeves have been removed. Although not a common practice John Deere authorizes re-installation of these wet sleeves if they're within re-use limits.

These engines use two unique O-Ring seals and a rectangular packing ring to seal crankcase oil and coolant from each other. Installation and location of the proper seal is critical for a leak-free repair. Refer to the steps and illustrations listed below for a successful installation after first thoroughly cleaning the O-Ring grooves C in the cylinder block.

IMPORTANT: DO NOT use oil or hand cleaner soap on cylinder sleeve packing or O-Rings. Petroleum products will cause the red (or white) O-ring to swell, which may result in O-Ring damage during sleeve installation.

- Dip O-rings in AR54749 Soap Lubricant.
- Install the black O-ring (A) in the lower O-ring groove in the cylinder block (C).
- Install the red (or white) O-ring (B) in the upper O-ring groove in the cylinder block.

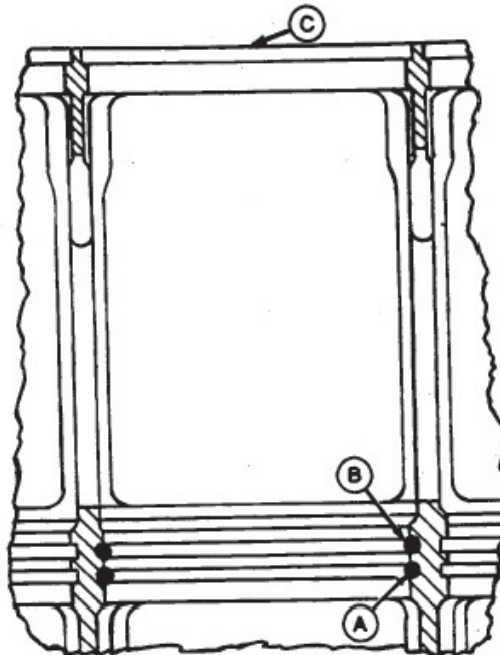


Figure 1. Cylinder Sleeve & Block

- Turn cylinder liner (B) in Figure 2 upside-down. Dip square packing (A) in soap and install over outside of sleeve.
- Slide packing down firmly against shoulder on liner. Make sure packing is not twisted.
- Coat the liner packing sealing area of the cylinder sleeve and block O-Rings with liquid soap.

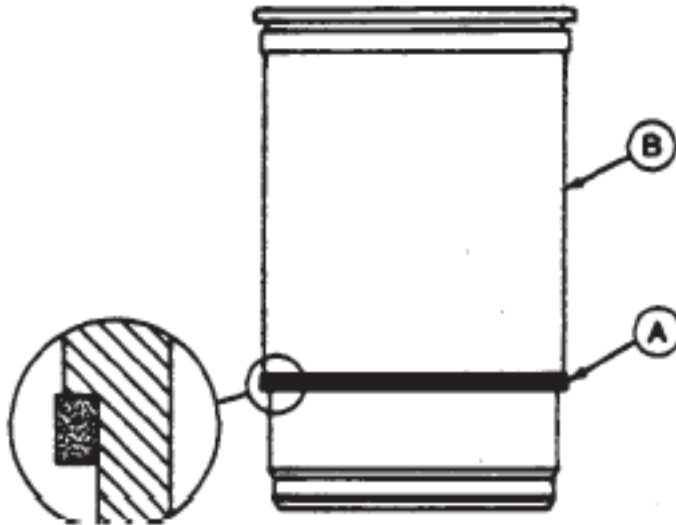


Figure 2. Sleeve Detail

IMPORTANT: Do not scuff the liner packing across the upper counterbore.

- Install liner in block bore with hand pressure being careful not to twist any seals
- A resistance will be felt when cylinder liner is aligned in pilot bore. Seat liners with wood block and hammer
- KCD10001 Puller may also be used to seat liners
- NOTE: Cylinder liner will protrude over top of cylinder block more than normal due to uncompressed packings and O-rings
- Hold liners in place with large flat washers and cap screws. Turn cap screws snug but do not tighten too much, keep in place till further engine assembly.