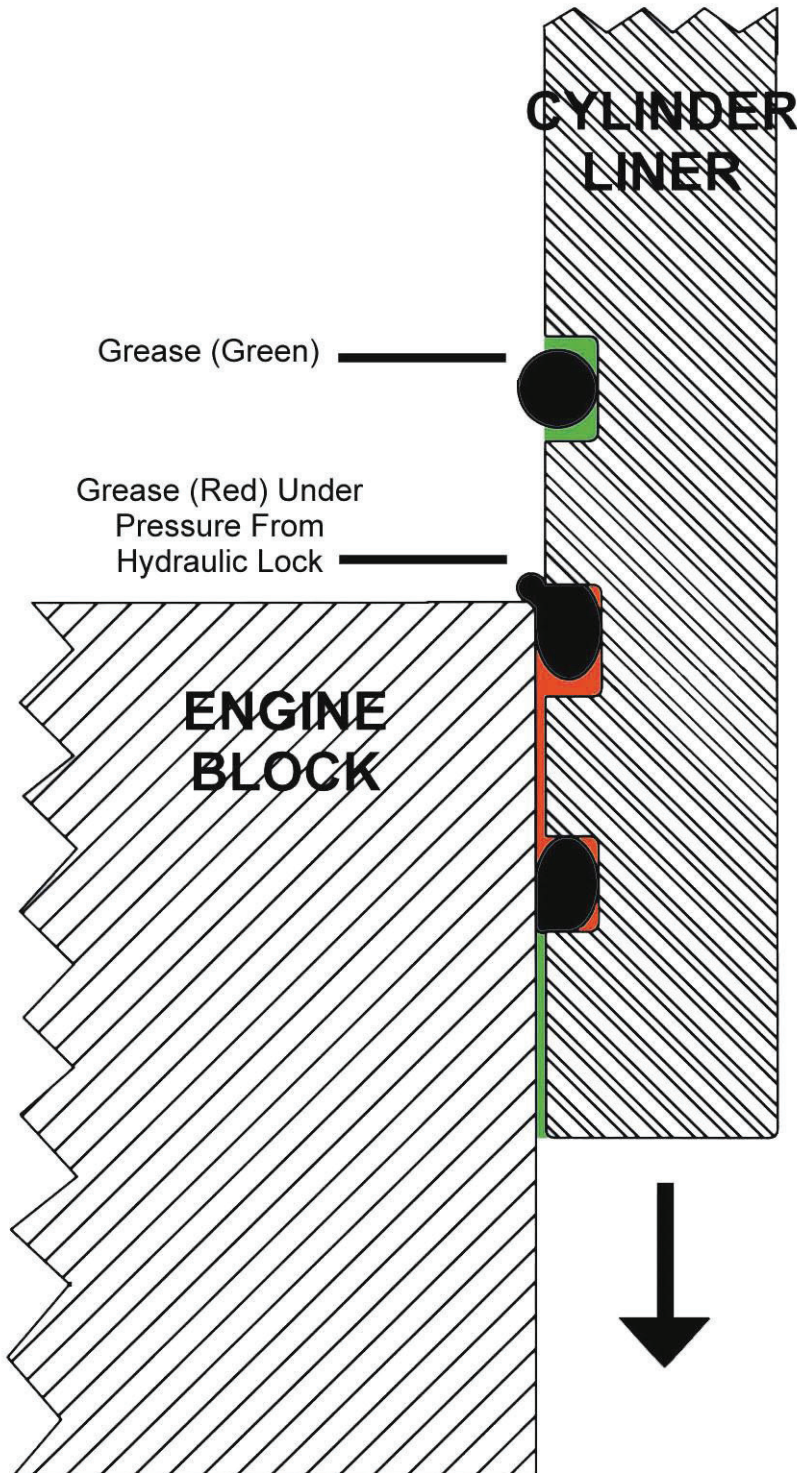


Incorrect Liner Seal Lubrication.



Over the years several types of liner seal lubricants have been used. OEM companies have recommended such lubricants as engine oil, vegetable oil, antifreeze, brake fluid, castor oil, vegetable shortening, silicone spray and soap.

In the last few years, due to changes in liner seal materials, recommendations for seal lubricants have also changed. If you check an old service manual and compare it to a new manual or tech bulletin you will usually find a different recommendation. Many of the above lubricants are acceptable but must be used with caution. Some products can cause premature swelling of the seal rings, creating installation difficulties and seal damage. Others can corrode the liners or other engine parts during assembly. Others, when used in excess can physically damage the seals during installation.

Using Vaseline, grease, white lead or other dense lubricants is **NOT RECOMMENDED**. The heavy consistency of these products could reduce the expansion volume needed when the seal is compressed into the confines of the block bore. This hydraulic lock condition will often shear off a section of the seal or can cut an entire strip from the seal resembling a rubber band. Not only could this distort the liner resulting in piston scoring but can cause coolant leakage past the seal into the lube oil. This type of failure is very common with the IH 300 & 400 Series diesels when correct procedures are not followed. The illustration to the left shows the second seal ring about to be sheared. The same condition will exist again as the top seal ring tries to enter the block bore.