



## IMPROVED ST WIPER RING DESIGN

Seal manufactures are continually trying to improve their product performance as well as find ways to differentiate their products from their competitors. Sometimes the “touted” improvements are more marketing hype than performance improvement. But sometimes there are real advantages to be gained from the “improvements”.

Such would be the case with the Hercules part number “ST-XLF” wiper ring now being supplied by Hercules Sealing Products in their 2014 Seal Catalog on page 303.

During research and development of ways to improve the exclusion of dirt from cylinders, seal manufactures determined that more contaminants entered a cylinder around the OD of the wiper ring through the space between the wiper ring groove in the gland and the OD of the wiper than under the wiper lip on the rod. Consequently seal manufactures have spent considerable time and effort to redesign the wiper ring base to create a closer fit between the wiper ring base and the gland groove while still minimizing the possibility of pressure trap resulting in wiper extrusion.

This new “XLF” style wiper ring goes the additional step of utilizing a “dust lip” or flap molded onto the wiper lip at the outer edge of the wiper lip. This “dust lip” is designed to prevent most contaminants from building up in the area where the wiper lip joins the base and snaps into the wiper groove. Preventing the contaminant from building up in this “canyon” where the wiper lip, wiper base and gland meet keeps more contamination, especially fine dust, from working its way into the gland wiper groove and eventually beyond into the cylinder.

Some cylinder manufactures are already utilizing this new design of ST / D wiper ring. However, the problem with this design in repair work is that the gland must be designed / machined to fit the dimension between the wiper base and the flap. If the gland was not designed for this wiper originally it may need to be “faced off” if that area of the gland is too thick. If the outer flange of the wiper is too narrow to totally fill the space on the wiper it would necessitate a new gland to be manufactured to enjoy the benefits of this wiper design.

