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Tech Tip #33

Product Improvement – Voyager Hub Seals

STEMCO has made a significant product improvement to several popular Voyager seals which increases both reliability and durability. This was accomplished by increasing the seals ability to resist penetration of air and water borne contamination while simultaneously allowing the seal to run cooler. The seal looks the same and maintains all of the same Voyager features:

- *Hub-installed*
- *Smart features*
- *Unitized design*
- *Uses the same installation tools & procedure*
- *4-Zone labyrinth contamination exclusion system*

Release Schedule

373-0143 – Apr.'08 383-0136 – Jul.'08 393-0173 – Jul. '09 373-0123 – Oct. '09

Contamination Resistance

With the new design, the contamination entrance is moved from the ID of the seal to the OD. Centrifugal force is now used to positively impact the seal by throwing contamination outbound of the seal area. This works to keep debris out of the seal and extending life.

The contact point between the two primary seal components has been moved outward (still within the seal), and is now closer to the bore. This change provides several improvements:

- *Moves any potential for rubber debris away from the main sealing lip area*
- *Generates less friction, less heat, and allows the seal to run cooler – extending life*

Installation

The improved Voyager seal is still a fully unitized hub installed seal that utilizes the same installation tools and procedures. There are two differences that might be observed during installation as described below:

- *The top portion of the seal (as shown in the Figure 1) will rotate after the seal has been installed in the hub. Once the hub is installed over the spindle the seal ID will grab onto the spindle to correctly position the seal and allow the seal to work properly.*

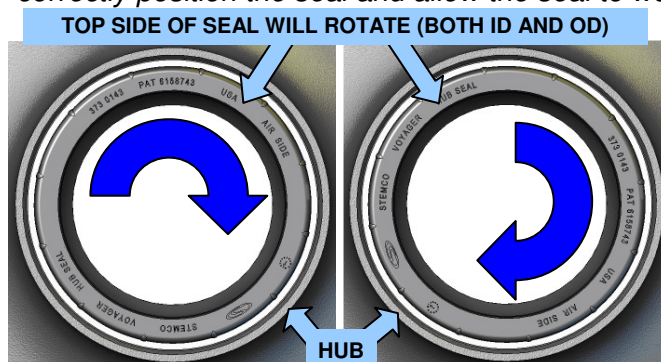


Figure 1

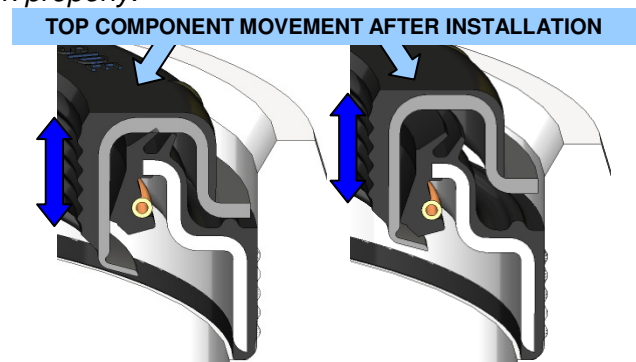


Figure 2

- *It's normal to have movement or slack between the top and bottom seal components. When the wheel end is assembled, the components will be compressed together to ensure optimum seal performance.*