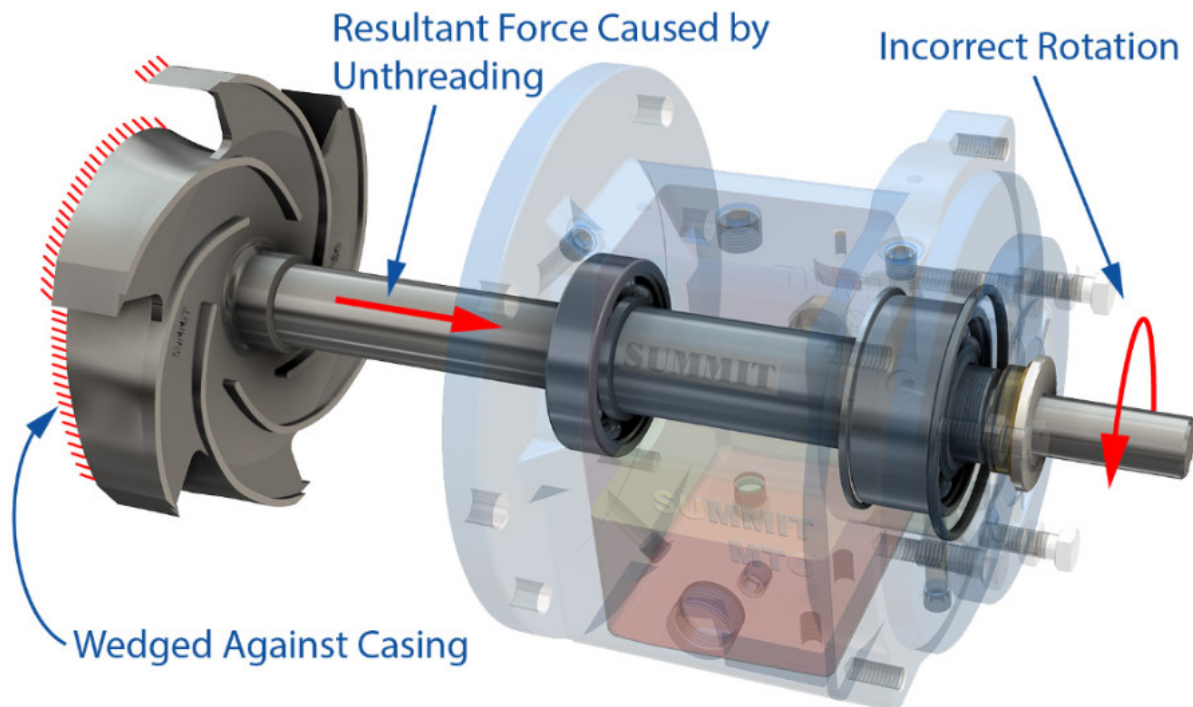


**SUMMIT™****SIXTY SECONDS  
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PUMP : VOL 1-2**

## Threaded Impeller - Reverse Rotation

When an ANSI pump is rotated in the wrong direction, 99% of the time you will know immediately by tripping out the motor on overload. The millisecond the pump starts up, the inertia of the impeller will cause it to unthread and back off on the shaft threads. The rotating parts attempt to become longer, but due to the very tight clearance of the impeller to the casing it only has a few thousandths of an inch to move. The result is the impeller, casing, shaft and bearings are all ruined.



Some folks will simply realize their mistake and try to operate the pump like it never happened. Unfortunately, now the clearance is compromised, the impeller vanes are damaged, it is out of balance and likely the shaft is bent. Don't forget the impeller O-Ring may be damaged. The bearings and seals will

also be shocked or damaged. The reliability and efficiency of the pump is then severely compromised.

The above scenario is why Summit Pump does not assemble couplings on pumps going into the field. The rotation check needs to be completed with the pump uncoupled.

What about a pump where the impeller cannot back off due to a key, nut or pin? Contrary to some beliefs, **THE FLOW DOES NOT REVERSE DIRECTION**. The pump becomes very inefficient. Depending on the pump type and impeller geometry, the results will vary. In general, for mid to low range specific speed pumps, the flow will be approximately 50% and the head will be 50 to 60% of what the pump would accomplish in the correct rotation.

*The Summit Pump Team*

**Learn More!**

**Jim Elsey's Pumps and Systems Articles**

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