



Swing Check Valve Counter Balance Installation Instructions

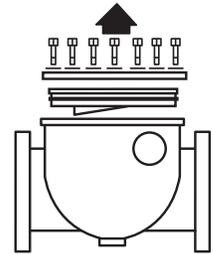
CBK-3-0501

Spears® Swing Check Valve Counter Balance Kit is designed for field installation of counter balance mechanism in Spears® Swing Check Valves. This kit can be installed through the bonnet assembly and removal of valve from line is not required. Kit includes Extended Shaft (1), Shaft Cup Seals (2), Shaft Nut (1), and Counter Balance (1) with Retaining Bolt (1), Flat Washer (1), extra Weight Plates (1-small & 1-large) and Plate Mounting Bolts (2-long & 2 short).

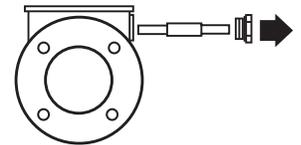
Swing Check Valves operate in response to a fluid stream flow opening a swinging disc. As the fluid stream slows and reverses, the disc responds by swinging to the closed position. Sudden reversal of flow direction can result in “slamming” condition as the disc closes. The function of the Counter Balance mechanism is to start the disc closing earlier as the fluid stream begins to slow so that it is almost closed when flow reversal takes place, thereby eliminating slamming of the disc.

CAUTION: SYSTEM MUST BE DEPRESSURIZED AND DRAINED PRIOR TO INSTALLATION

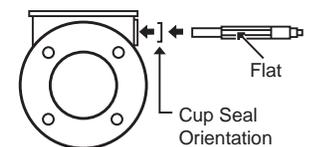
Step 1: Remove valve bonnet bolts, nuts and washers and lift bonnet from valve. Using a screwdriver, gently lift seal carrier from body. Angled slots on inside lip of body are provided for this. Note: smaller sizes have one-piece Bonnet and Seal carriers that thread on.



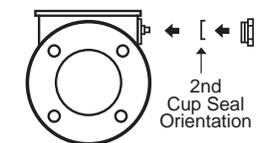
Step 2: Remove Stem Cap Nut from shaft end on side of valve and pull shaft from disc and valve.



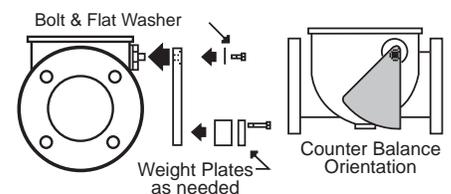
Step 3: Insert one (1) Shaft Cup Seal with flat side OUT into recess of valve body until seated. Insert Extended Shaft through Cup Seal into valve and disc with stem flat aligned with flat on disc.



Step 4: Install one (1) Shaft Cup Seal with flat side IN over shaft end until seated. Note: both Cup Seals must be oriented with flat side facing each other. Install new Stem Nut. Tighten Stem Nut snug, but do not over tighten. Note: O-ring is NOT TO BE USED on new Shaft Nut.



Step 5: With valve in closed position, install Counter Balance onto Shaft end. Properly installed Counter Balance should approximately align with disc on the downstream side, holding the disc closed. Install retaining Bolt and Flat Washer onto shaft end. Fasten extra Weight Plates onto Counter Balance as needed (note: long bolts are for use with double weight blocks, short for single weight blocks).



Step 6: Check for free movement operation, align and reinstall Seal Carrier. Install Bonnet and bolts with nuts and washers. Secure all bolts and nuts.