

TechTip #7

Emergency Stroke Procedure for 30" Top Unheading Valve

DeltaValve's top unheading valve is not equipped with an auxiliary actuator option. In the event of a hydraulic seal failure on the main actuator, follow the procedure below to stroke the valve from the closed to the open position. It is recommended that the customer contact DeltaValve for assistance in performing this procedure. Prior to returning the valve to service, the main actuator failure must be resolved. Contact DeltaValve field services for repair and parts assistance.

Symptoms of main actuator seal failure include deteriorating stroke speed and hydraulic fluid in the cooling box. When inspecting the cooling box for hydraulic fluid, make sure the main actuator is de-energized prior to removing the cooling box flanges.

Stroking Procedure

1. Cool the drum to unheading temperature. Verify that the permissives have been met to unhead the drum. Open the overhead vent line on the drum prior to working on the top unheading valve.
2. Turn off and lock out the steam to the valve. Vent the body to atmosphere and allow the body to cool.
3. Turn off water to the cooling box. Drain the cooling box and disconnect cooling box piping.
4. Lockout and remove hydraulic lines from the main actuator.
5. Disconnect all actuator and lockout tower proximity switch connections.
6. Loosen the retainer flange nuts to remove the clamping load on the gate. Incrementally loosening each nut in a star pattern will prevent binding of the retainer flange fasteners.
7. Support the weight of the main actuator, lockout tower, and top flange while removing the 1 inch-8UN bolting at the stuffing box end cover to body connection. The lockout tower, main actuator, and stuffing box end cover assembly weighs around 1600 lbs.
8. Use pry bars to create a gap between the stuffing box end cover and the body big enough to place a strap through the opening and around the stuffing box end cover. Center the strap on the stuffing box end cover to avoid binding the gate as the gate is repositioned to the open position.
9. Use a chain-fall secured in the same horizontal plane as the gate and connected to the strap to pull the gate into the open position. Position the orifice in the gate so that it is concentric with the seat orifices. Approximately 65 inches of clearance beyond the end of the Main Actuator will be required to reposition the gate.
10. Tighten the nuts on the retainer flange to restore the clamping load on the gate. Torque the retainer flange nuts to in three increments using a star pattern to the 490 ft.-lb.
11. The main hydraulic cylinder will need to be repaired or replaced prior to returning the valve to regular service. Contact DeltaValve field service for repair and parts assistance.

