Exercise normal safety precautions for commodity involved.
Before disassembly, cycle valve several times to relieve any residual pressure.
Disassemble valve completely.
Discard soft parts
Use OEM provided replacement parts only

<table>
<thead>
<tr>
<th>Valve Type</th>
<th>Repair Kit</th>
<th>Soft Parts to Discard</th>
</tr>
</thead>
<tbody>
<tr>
<td>2” Angle Ball Valve</td>
<td>501731</td>
<td>O-ring, (2) seats, stem seal, retainer seal and packing.</td>
</tr>
<tr>
<td>2” or 3” Flanged:</td>
<td>501732 / 501733</td>
<td>O-ring, (2) seats, stem seal, retainer seal and packing.</td>
</tr>
<tr>
<td>4” Low Profile Reg. Port &amp; 4” Internal Ball Valve Reg. Port w/o O-Ring</td>
<td>503406 / 504083</td>
<td>(2) stem seals, (2) seats, retainer seal and packing.</td>
</tr>
<tr>
<td>4” Low Profile Full Port (current model)</td>
<td>505446 / 505447</td>
<td>(2) stem seals, (2) seats, retainer seal and packing.</td>
</tr>
</tbody>
</table>

Inspect for galled threads, bent parts, and wear and corrosion damage. Inspect valve body for scratches in sealing surfaces and carefully remove any excess scale or debris.
Pre-Assemble
2” or 3” Flanged:
Pre-assemble body and retainer with no seats or seals in place. Hand tighten to metal-to-metal fit. Apply mark across retainer and valve flange to note point of metal fit. Disassemble.
All Other Valves:
No Pre-Assembly Required
Reassemble
4” Low Profile Ball Valve / 4” Internal Ball Valve without O-Rings:
Install Garlock 3500 (tan) stem seal first, (closest to the ball) then Grafoil® GHL (silver) on the stem then place stem in body. Install packing from the top of the stem. Apply light coat of suitable silicone-base lubricant to Teflon seats and seals to facilitate assembly and initial operation. Wipe excess clean.
All Other Valves:
Reassemble valve using new soft parts contained in kit. Apply light coat of suitable silicone-base lubricant to Teflon seats and seals to facilitate assembly and initial operation. Wipe excess clean.
Ensure ball is lined up in fully open position before installation and tightening of retainer.
2” Angle Ball Valve
Apply light coat of anti-seize lubricant to threads of retainer. Wipe excess clean.
Tighten retainer until 270-300 in-lb. of torque required to rotate valve stem. NOTE: Metal-to-metal is not achieved between retainer and valve body.
Tighten stem nut to 50 ft-lb.
2” or 3” Flanged:
Apply light coat of anti-seize lubricant to threads of retainer. Wipe excess clean.
Tighten retainer until metal-to-metal achieved between retainer and valve body by matching up previous marks. NOTE: No torque value specified.
For 2” valve, tighten stem nut to 50 ft-lb. For 3”, tighten stem nut to 75 ft-lb.
4” Low Profile Full Port / 4” Low Profile Regular Port (with or without O-Ring)
Tighten retainer socket head cap screws evenly using criss-cross pattern until metal-to-metal fit achieved between retainer and valve body. Torque retainer cap screws to 100 ft-lb. Tighten stem nut to 125 ft-lb.
4” Internal Ball Valve
Tighten retainer socket head cap screws evenly using criss-cross pattern until metal-to-metal fit achieved between retainer and valve body. Torque retainer cap screws to 480 in-lb. Tighten stem nut to 125 ft-lb
Open and close valve slowly to confirm it operates freely.
Store valve overnight in fully open position, then re-tighten valve retainer. Re-tighten valve stem nut. Do not store valve in partially open position.
Test valve in closed position, and in open position with plug applied, at pressure to which it will be subjected in service.
Repair kit 501734 / 507399 for 4” Internal Ball Valve / Reg. Port with O-Ring have been discontinued. Use repair kit 503406 / 504083.