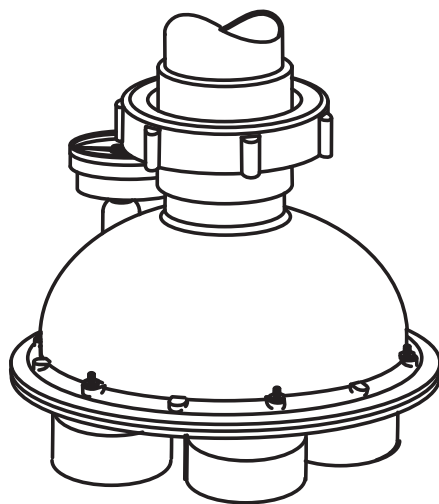


5-PORT VALVE INSTALLATION AND MAINTENANCE GUIDE



Caretaker™

IMPORTANT INFORMATION

SERIAL NUMBER

Important Information

READ AND FOLLOW ALL INSTALLATION INSTRUCTIONS.

- **To guarantee complete cleaning and qualify the warranty, a Zodiac Pool Systems, Inc. ("Zodiac") Certified Pool Plan must be used for installation.** The builder should fax or email a Design Fact Sheet along with a scaled pool plan for FREE In-Floor Design Service.

Email: design@zmp-zodiac.com

Fax: (760) 597-1246

If the pool design or dimensions change during excavation, a new design plan must be drawn.

- Install the valve above ground and finished pool water level.
- Do not bury valve after installation.
- Install cleaning heads and nozzles according to the Zodiac Design Plan.
- If the pool includes an elevated spa, install a check valve on the line feeding the cleaning heads to avoid spa draining. Install other check valves (as normal) to avoid spa return jets and suction lines from draining.
- **WARNING:** To reduce the risk of injury, do not allow children to handle this equipment unless they are closely supervised.

SAVE THESE INSTRUCTIONS.

For customer service or support:

- For on-line support: www.jandy.com
- To contact Zodiac Pool Systems, Inc.:
 - U.S. and Canada**
 - Technical Support
 - 2620 Commerce Way
 - Vista, CA 92081-8438
 - 1-800-822-7933

Components

Caretaker™ 5-Port Valve Part # 5-9-2200

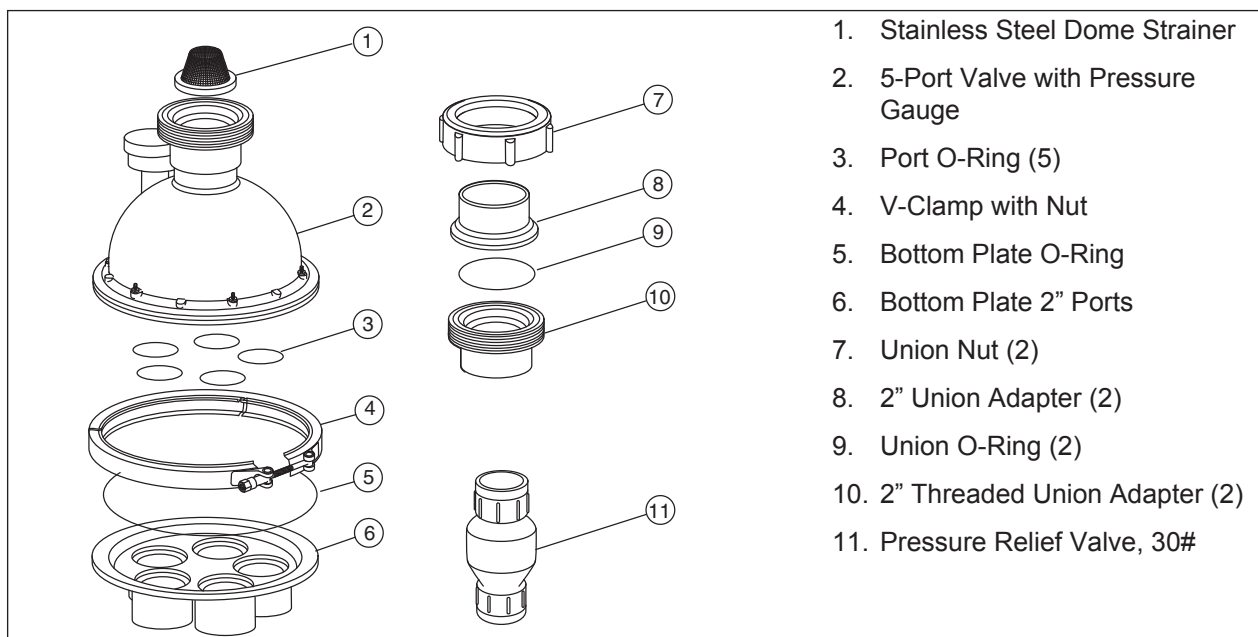


Figure 1. 5-Port Caretaker Valve (Part # 5-9-2200) Exploded View with Parts List

Caretaker 5-Port Valve Part # 5-9-2030

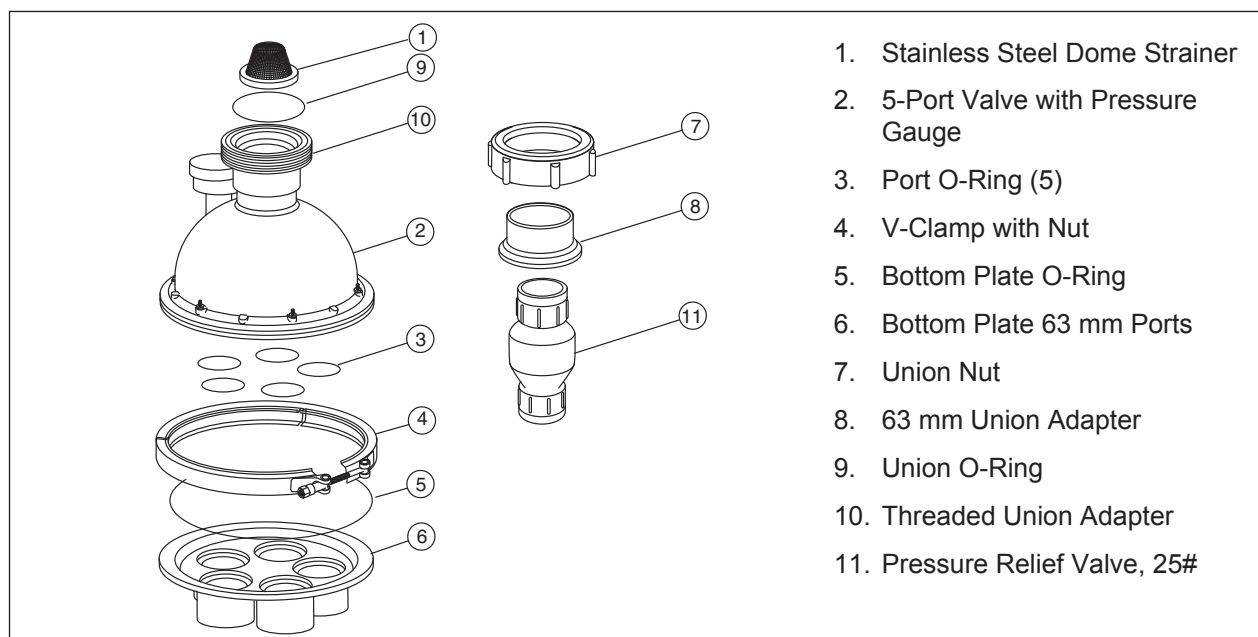


Figure 2. 5-Port Caretaker Valve (Part # 5-9-2030) Exploded View with Parts List

Installation

1

Site Planning

Check the break, width, depth and designated step/bench locations on the excavated pool to make sure it matches the Zodiac Certified Pool Plan. Zodiac design dimensions are from **finished** pool, not excavation. **If any dimensions have changed, a new plan must be drawn to ensure cleaning and warranty.**

Position the valve as close as possible to the swimming pool or water feature to reduce piping and improve performance. Valve must be at least 5 feet (1.5 m) away from the water's edge.

Install the valve so that the bottom housing and outlet ports are above ground and the finished pool water level. If a below water level installation is necessary, install check valves or manual valves on the inlet and outlet ports to prevent flooding of the valve.

Layout system so feed pipes enter the pool in the center of the wall closest to the pool equipment and valve. Use a check valve on the feed line in elevated spas to prevent draining.

Follow the design plan to position and stake the cleaning head locations. Each head has a designated nozzle that has a precise cleaning radius. Perimeter heads have a 1 foot overlap. Mark the cleaning radius around each stake to verify cleaning coverage.

Flare steps and benches to ensure debris does not get cornered.

Heads should be positioned 2 inches (5.1 cm) from the outer edge on steps and benches.

2

Plumbing the System

Feed Lines for Cleaning Heads

The Zodiac Certified Pool Plan indicates which cleaning heads will be plumbed together to form a bank. Run all feed lines to the top of the bond beam for easy valve hookup. Number the lines according to the design plan. Refer to Figure 2.

- Excavate a niche in pool wall, 6" x 24" (15.2 cm x 61.0 cm) down to the pool floor.
- Make line trench depth sufficient to cover all pipes.
- Do not cross lines in floor.
- Use 2" Schedule 40 (63 mm PN 10 for part # 5-9-2030) PVC pipe.
- Position feed line stub-ups perpendicular (90°) to the slope of the finished pool floor.

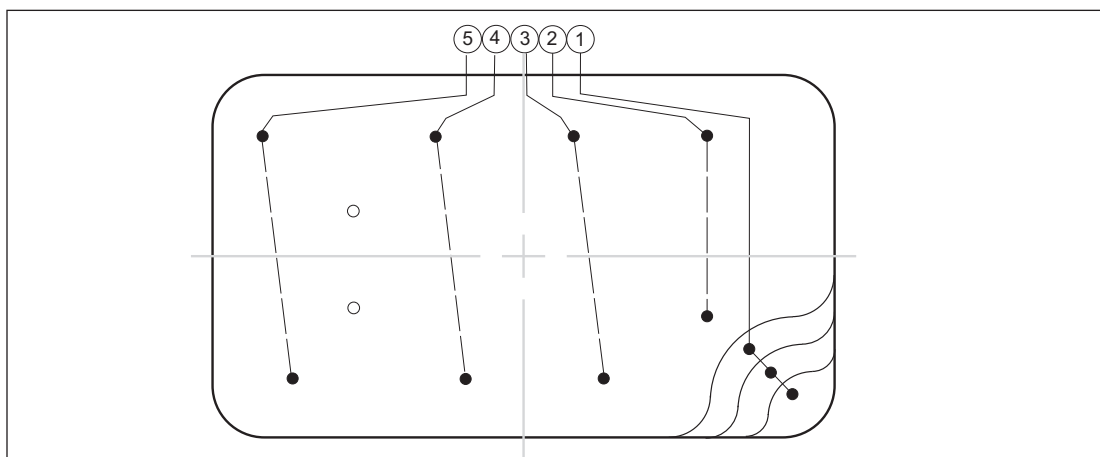


Figure 2. Example of a Typical Floor Layout

For Vinyl Liner Pools:

- Stake but do not plumb lines until walls are set, plumbing lines are fed under walls.
- Vinyl collars are not adjustable, stub-ups **must be** perpendicular to finished pool floor.
- Dig trenches 8" (20.3 cm) below excavation grade to accommodate setting of fittings.

Cleaning Head Risers

The cleaning head collars require 2-1/2" Schedule 40 PVC risers. Use the Jandy Prefab Riser (part number 5-9-150), a preassembled, capped reducer/riser that glues directly into the 2" tee, 90-degree elbow or coupling on the feed lines. (Use part # 5-9-155 for a 63 mm tee.) Refer to Figure 3.

- Position so stub-ups are perpendicular (at 90° angle) to the slope of the finished pool floor.
- Risers must be 6" (15.2 cm) above finished elevation.
- During gunite application, leave 1" (2.5 cm) well (1" (2.5 cm) deep x 1" (2.5 cm) wide) around each stub-up.

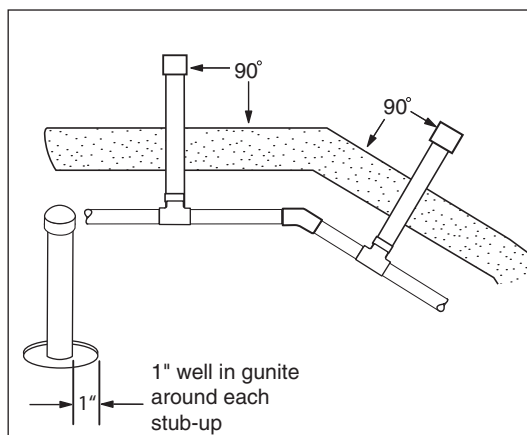


Figure 3. Cleaning Head Risers

5-Port Valve

The valve is sealed at the factory, ready for installation at startup without adjustment. For setup and pressure testing during the construction phase, install the non-functioning test housing (5-Port Test Housing, part number 4-9-2002 purchased separately). Refer to Figure 4.

Plumb the pressure relief valve in a bypass line off the pool return line. Use two (2) 2-way valves (one (1) on return line, one (1) on valve feed line) to control flow.

Use the second union to install a removable section of pipe immediately before the valve to provide service access to the valve dome stainer. Refer to Figure 4.

The bottom plate of the valve must be primed heavily before gluing. NOTE: Do not get glue inside of the housing. Connect the water source from the pool pump to the valve inlet.

Position the large o-ring in the bottom plate, align the guide pin and use the V-clamp to attach the plate to the test housing. Tighten the V-clamp until ends are about 3/4" (1.9 cm) apart.

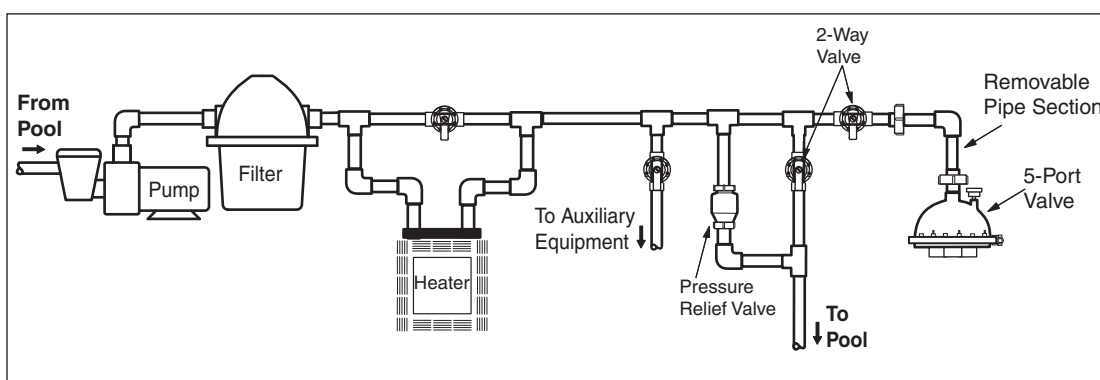


Figure 4. Example of a Plumbing Setup

Discharge Lines

The distribution system is designed to rotate from shallow to deep. Port 1 will always be the step or bench port, followed by the shallow bank, etc. Looking down on the valve, it rotates clockwise. If a spa is included, it will require a dedicated line from the valve. Follow the design plan to install the lines in the correct order. Refer to Figure 5.

- Use heavy bodied PVC glue to connect the PVC pipe to the valve housing.
CAUTION: Do not get glue inside the housing as this will void the warranty.
- Use a 3" (7.6 cm) stagger when cutting pipes to provide enough clearance for the elbows.
- Install the discharge lines from the valve in a stacked or flat configuration.
- Install all lines with a minimum of 6" (15.2 cm) cover or in accordance with local codes.

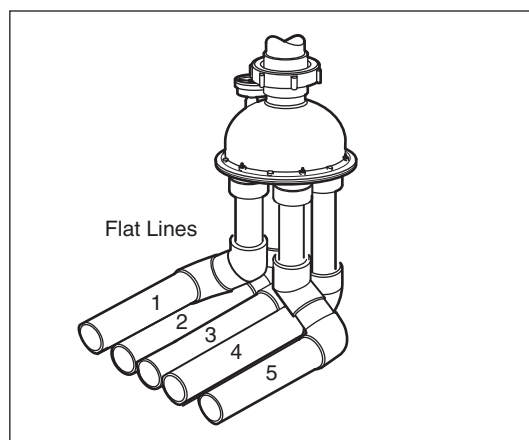


Figure 5. Flat Configuration of Valve Discharge Lines

- If all outlet ports on the valve are not needed, tie the unused port into an active port or **double port** the line. Customarily, double port lines to the hardest-to-clean area.

NOTE: When plumbing the valve, skip a port (ie. tie port #2 to port #4, not #3) when double porting, as shown in Figure 6.

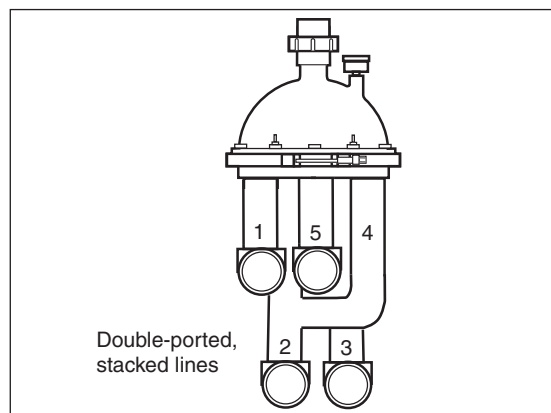


Figure 6. Double-Ported Stacked Lines

Auxiliary Equipment

Heaters

To compensate for heater system pressure drops, plumb heaters in a bypass line before the water valve. Perform a temperature rise test to determine where to set the bypass valve. Refer to Figure 7.

Chlorinators

In-floor systems can be used with erosion feeders, ozone generators and in-line salt-chlorine generators. Consult manufactures instructions for proper installation to protect water valve and other pool equipment.

Automatic Pool Cleaners

When using an automatic pool cleaner with the in-floor system, plumb the dedicated cleaner line (booster pump if applicable) before the valve.

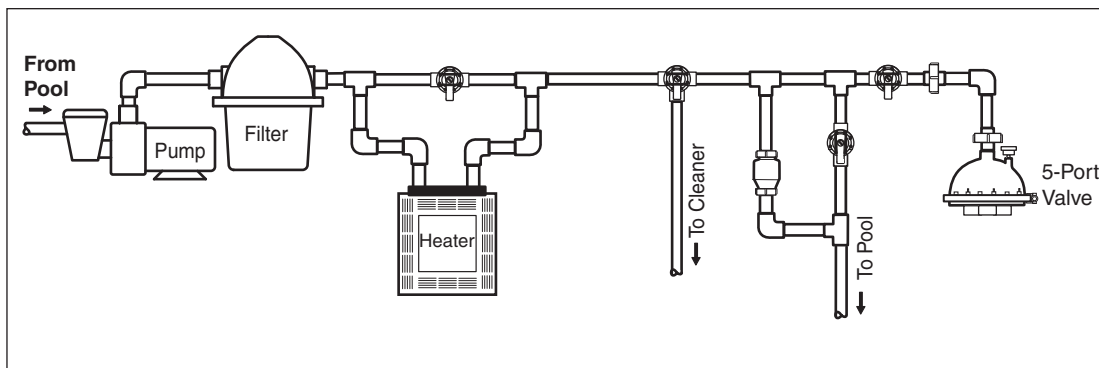


Figure 7. Example of a Plumbing Setup with Auxiliary Equipment

Pressure Testing

Pressure-test the system at a minimum of 35 psi or local code requirements. Keep the water valve secure and under pressure throughout the construction process. When all connections are complete and it is clear that the system is holding pressure, backfill, tamp and level all trenches.

3

Preparing the System

Cut Cleaning Head Stub-ups and Clear Debris from System

After inspection, clear the system lines of debris using a combination of air and water.

1. Verify that the system is holding pressure (minimum of 35 psi), then relieve system pressure.
2. Use the UltraFlex® Collar Template (part Number 1-17-7) to cut each stub-up ensuring collars sit at a height to accommodate approximately 1/2" (1.3 cm) of final finish material. See Figure 8.
3. **Use a sander/grinder to sand each stub-up smooth and level** with the shell finish to ensure proper glue adhesion with collar setting. Insert test plug in each stub-up.
4. Attach a blower assembly unit (blower, check valve, air/water supply and connectors) directly to the union at the top of the 5-Port valve. For technical assistance, contact Zodiac for assembly instructions. Turn on blower and water supply to fill the lines.
5. Starting at the cleaning head farthest from the valve, remove test plug and flush the pipe, blocking and releasing pressure several times to ensure a clear line. Replace test plug and repeat for each stub-up.

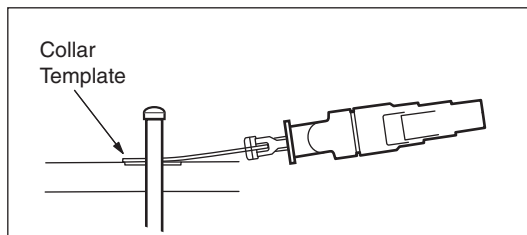


Figure 8. Riser Installation

For Vinyl Liner Pools:

Set collar fittings before clearing lines.

1. Cut pipe stub-up flush with the pool floor. Then use an inside pipe cutter to cut it again 1-7/8" (4.8 cm) lower than the floor level.
2. **Use ABS to PVC glue to secure the collar fitting. (Primer can be used on the pipe but not the fitting. Use glue on both.)** Insert collar to a full stop to ensure proper height.
3. Excavate an area (12" (30.5 cm) around head and 8" (20.3 cm) below excavated floor) and fill with concrete to form a "thrust block" to eliminate movement of the cleaning head.
4. Clear lines and insert test plugs limiting water use as there is no solid pool bottom.

Install Cleaning Heads and Collars

When the pool interior is completely clean and ready for the final finish application, remove the test plugs to install the collars and cleaning heads. Refer to design plan to verify nozzle size. Refer to Figure 9.

1. Use heavy bodied PVC glue to secure the cleaning collars. (Primer can be used on the stub-ups but not the collars. Use glue on both.)
2. Push collar firmly into pipe.
3. Insert cleaning heads into collars.
4. Put blue protective caps on heads.

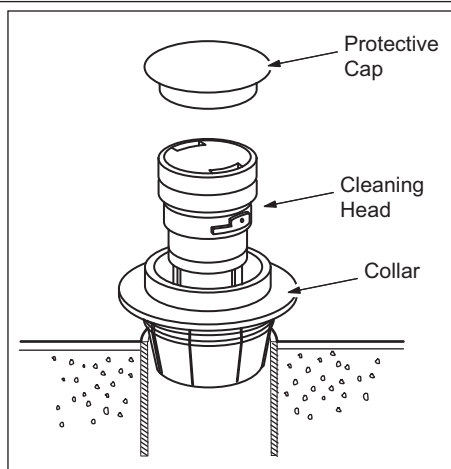


Figure 9. Install Cleaning Head and Collar

For Vinyl Liner Pools:

Pool liner must be in final position before installing collars and cleaning heads. Refer to Figure 10.

1. Press locking ring firmly into place in groove on collar fitting. **Installation Tip:** Turn collar upside down and use as a tool to press ring into place.
2. Use a razor knife to cut liner inside the locking ring, leaving at least a 1/4" (0.6 cm) edge around the ring perimeter.
3. Tighten the collar into the collar fitting, turning clockwise until the collar lip fits snugly against locking ring.
4. Insert Metal Combination Tool (part #3-17-7) into collar and rotate clockwise until collar is firmly seated.
5. Install cleaning head in collar.

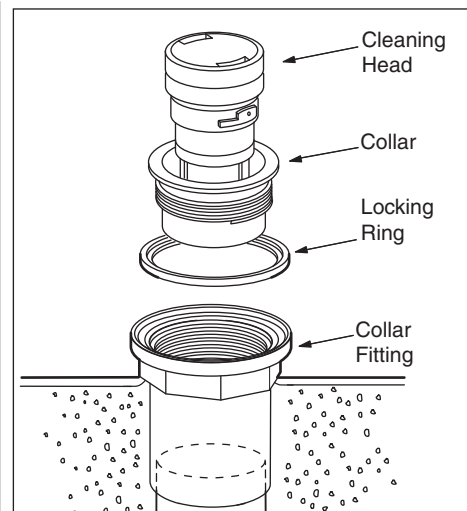


Figure 10. Cleaning Head and Collar Installation in a Vinyl Liner Pool

Install Functional Valve

Remove the builder test housing and install the functional 5-Port valve. Refer to Figure 11.

1. Loosen V-clamp and union. Remove the test housing.
2. Install the five (5) small o-rings, wet them if necessary to help them stick but do not lubricate. Check positioning of large o-ring in groove of bottom plate.
3. Align guide pin and re-install V-clamp, tightening until band ends are about 3/4" (1.9 cm) apart.
4. Position dome strainer (cone-up) and reconnect valve at union.

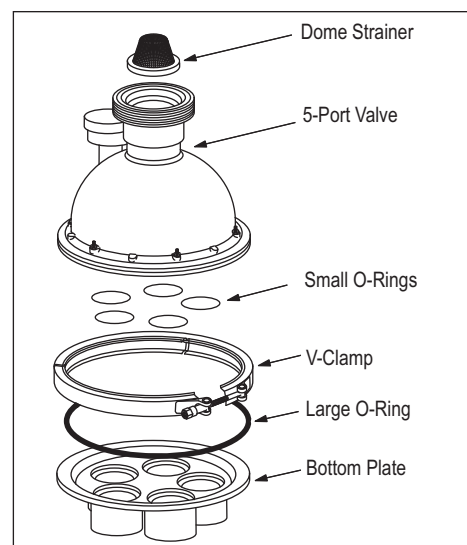


Figure 11. Installing the Functional Valve

Replacing the 5-Port Water Valve

1. Unscrew the two (2) union nuts and remove the pipe section located in front of the water valve. Refer to Figure 4.
2. Use a 7/16" deep socket with a ratchet or a 7/16" wrench to loosen and remove the V-clamp. Refer to Figure 11.
3. Lift the water valve straight up and remove.
4. Remove the five (5) small o-rings, the large o-ring, and the dome strainer. If the system is over one (1) year old, replace the o-rings (O-Ring Kit, part number 5-13-1).
5. Place the five small o-rings on the bottom of the replacement valve. Wet them to help them stick; do not use lubricants.
6. Place the large o-ring in the groove provided in the bottom plate.
7. Locate the alignment pin and align it with the hole on the bottom plate.
8. Place the V-clamp around the valve and tighten (tap perimeter periodically to ensure equal tension) until the band ends are about 3/4" (1.9 cm) apart.
9. Reinstall the dome stainer, dome up. Replace connecting pipe sections and tighten unions securely.
10. Turn on the system and check for leaks.

4

Starting the System

Before initiating the system, open a discharge line before the valve and flush the pool pump and filtration system for 2 minutes.

- Clear debris from all filters and screens.
- Verify at valve service gauge proper water pressure to the valve, optimum level is 15-22 psi.
- Confirm that all cleaning banks operate and that each head advances during pop-up and retraction.

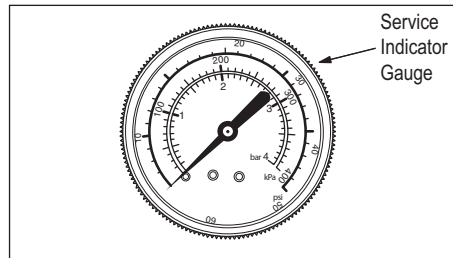


Figure 12. Service Indicator Gauge

Operation and Routine Maintenance

The Jandy Caretaker™ cleaning heads are designed to operate at a specific gallonage and pressure. To maintain flow through the heads, run the system whenever the pump is on.

Cleaning times will vary according to application and environment. To determine the optimum cleaning time, run the system 24 hours a day to start. Reduce run times by 2 hours every two (2) days until minimum cleaning time is determined. Six hours a day is recommended.

Cleaning the Filtration System

For optimum cleaning efficiency, routinely clean the pool pump basket, skimmer and filter screens. The dome strainer should be checked for debris and cleaned periodically. Always reinstall the dome strainer in the cone-up position. Backwash the pool filter whenever pressure increases 3 psi above normal clean-filter operating pressure.

Changing Cleaning Heads

The cleaning head must be in the full down position before removal. See Figure 13.

1. Attach the Head Removal Tool (part number 3-17-8) to the pool pole.
2. Snap tool into the head.
3. Turn counter-clockwise to release head from collar.
4. Pull and lift head out of collar.

To reinstall, simply insert head into collar and turn clockwise to lock it into position.

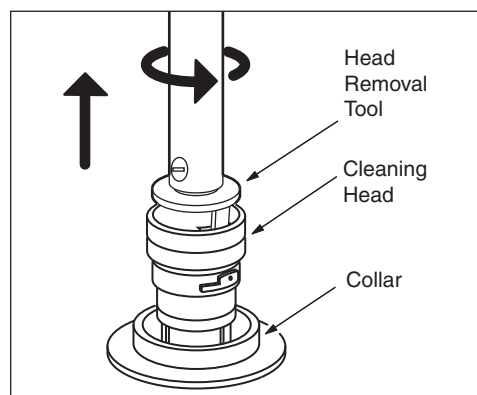


Figure 13. Removing Cleaning Heads

Winterizing

To prevent freeze damage in cooler climates, remove water from the outlet discharge lines above the freeze line and seal the system.

1. Remove the 5-port valve. Refer to instructions on Page 8.
2. Remove any cleaning heads located above the freeze line (step or bench heads).
3. Use compressor or blower to blow water from discharge lines.
4. Place winterizing plugs into collars.
5. Insert winterizing plugs into ports on the valve bottom plate.

Troubleshooting

If the Jandy Caretaker™ cleaning system displays the following actions, adjustments may be necessary to restore performance. Refer to exploded parts diagram for part references.

Action: Dirty spots appear.

- Solution:**
1. Clean the pool filter, pump basket, skimmer baskets and valve dome strainer.
 2. Make sure all auxiliary valves (surface returns, waterfall, spa overflow, etc.) are closed.

Action: Dirt is trapped between heads.

- Solution:**
1. Verify that the heads on each side of dirt are pointed in the same direction. Advance a head, if necessary, using the head removal tool to ratchet the head up and down until nozzle points in the correct direction.
 2. Increase the cleaning time.

Action: Cleaning head advances, but is not cleaning.

- Solution:**
1. Check for debris lodged in the nozzle.

Remove the head from the collar. Run the pump for two (2) full cycles on problem bank. Recheck for particles in the cleaning head nozzle and re-insert the cleaning head.

Action: Cleaning head will not pop up or does not go down.

- Solution:**
1. Remove the head. Inspect the cleaning head and collar for plaster remnants or debris.
 2. With system running on the problem bank, lightly depress the problem head using a telescoping pool pole.

Action: Pressure is lower than normal.

- Solution:**
1. Clean the pool filter, pump basket, skimmer baskets and valve dome strainer. Backwash the pool filter.
 2. Make sure all auxiliary valves (surface returns, waterfall, spa overflow, etc.) are closed.
 3. Confirm that the pool pump is operating normally.
 4. Check for leaking or worn o-rings. Replace, if necessary, with part number 5-9-2001.

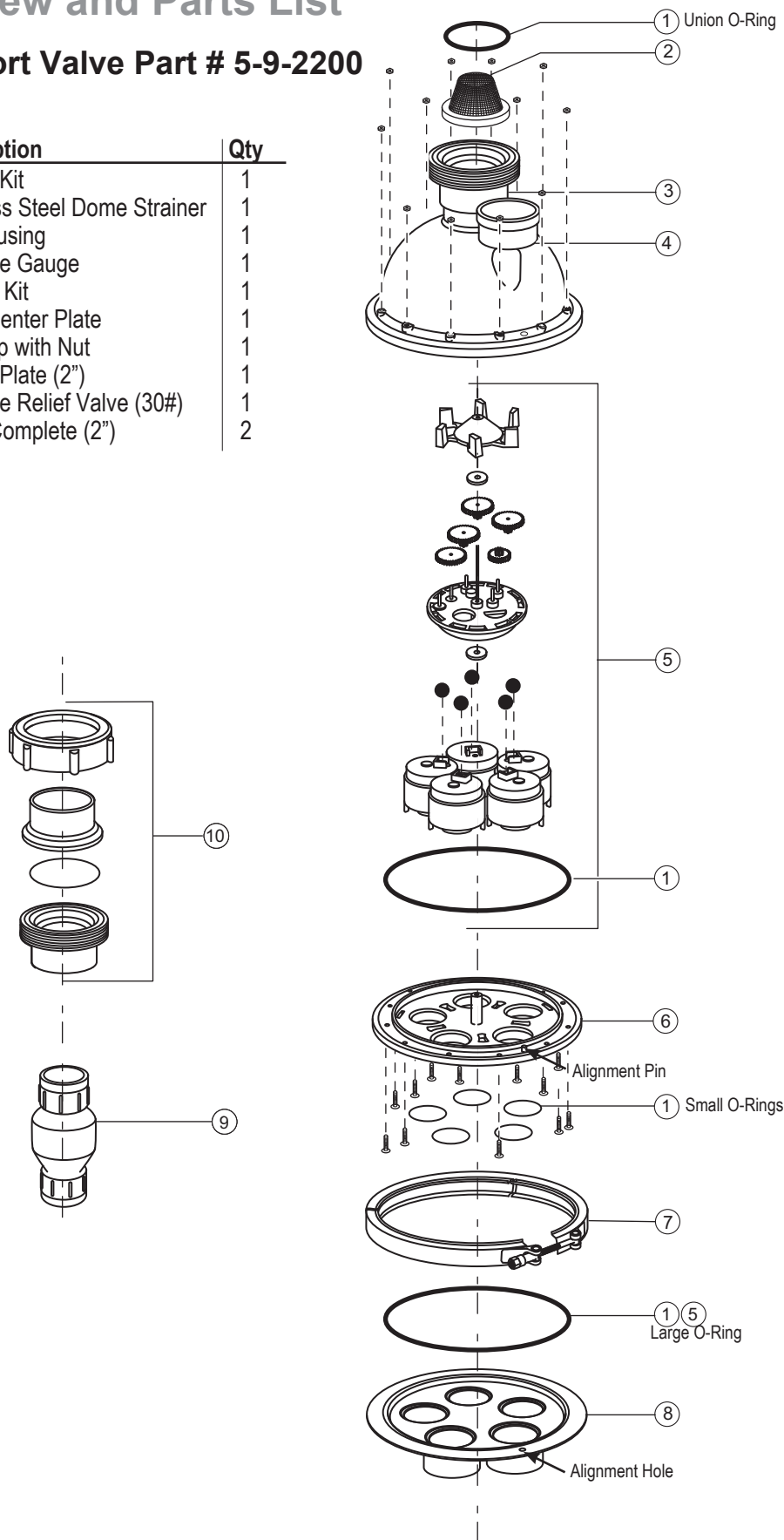
Action: The 5-Port valve does not cycle.

- Solution:**
1. Clean the pool filter, pump basket, skimmer baskets and valve dome strainer. Backwash pool filter if necessary.
 2. Make sure all auxiliary valves (surface returns, waterfall, spa overflow, etc.) are closed.
 3. Turn pump on and off several times to clear system.
 4. Remove valve, turn upside down, and spray pressurized water up into the valve.
 5. If necessary, use part number 5-9-2001 to replace the gear assembly, ball bearings, pistons, and o-rings.

Exploded View and Parts List

Caretaker™ 5-Port Valve Part # 5-9-2200

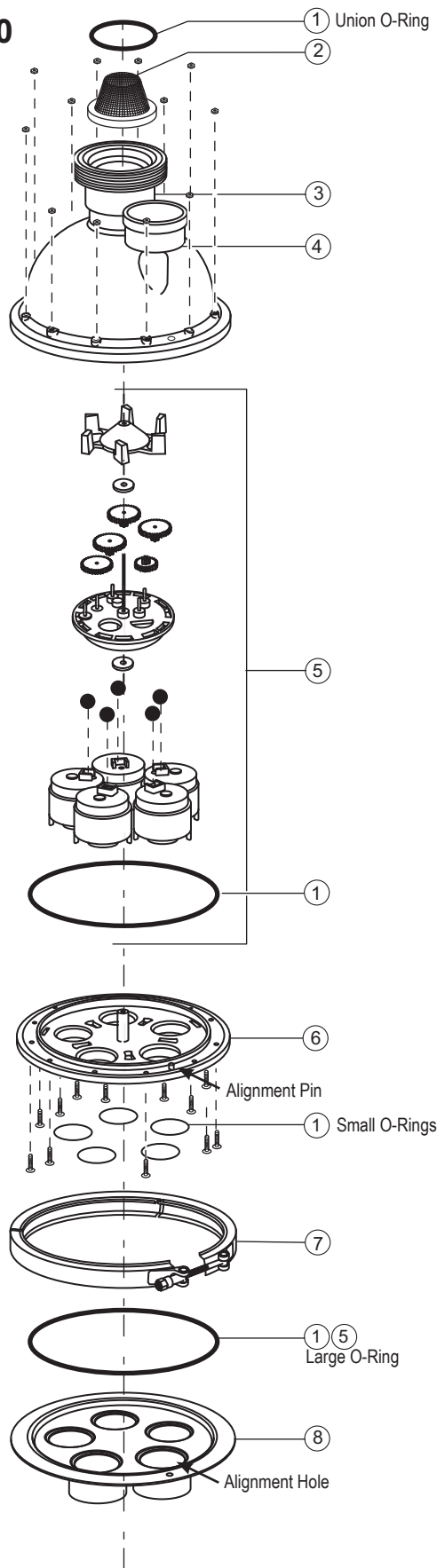
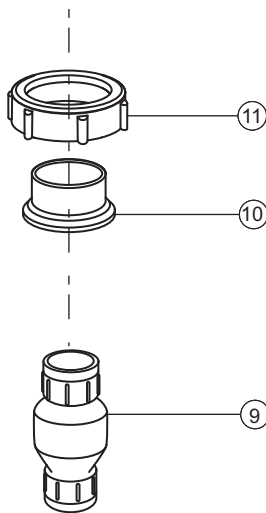
No.	Part #	Description	Qty
1	5-13-1	O-Ring Kit	1
2	1-1-216	Stainless Steel Dome Strainer	1
3	3-9-201	Top Housing	1
4	1-3-1	Pressure Gauge	1
5	5-9-2001	Rebuild Kit	1
6	1-9-214	Valve Center Plate	1
7	3-9-216	V-Clamp with Nut	1
8	1-9-215	Bottom Plate (2")	1
9	1-1-220	Pressure Relief Valve (30#)	1
10	4-1-2004	Union Complete (2")	2



Exploded View and Parts List

Caretaker™ 5-Port Valve Part # 5-9-2030

No.	Part #	Description	Qty
1	5-13-1	O-Ring Kit	1
2	1-1-216	Stainless Steel Dome Strainer	1
3	3-9-201	Top Housing	1
4	1-3-1	Pressure Gauge	1
5	5-9-2001	Rebuild Kit	1
6	1-9-214	Valve Center Plate	1
7	3-9-216	V-Clamp with Nut	1
8	1-9-215	Bottom Plate (63 mm)	1
9	1-1-250	Pressure Relief Valve (25#)	1
10	1-1-228	Union Tail Piece (63 mm)	1
11	A0578901	Union Nut	1



Notes

Notes

