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# Installation Operation Maintenance (IOM) 900 Series Electric On-Off Valve

## Description

The Toro's new 900 series valves have a cutting-edge, patent-pending hydrodynamic valve seat design that creates an easier path for the water through the valve, reducing pressure loss and allowing the irrigation system to reach operational flow rates. The valve opens and closes drip-tight in response to an electrical signal from the solenoid switch



## Installation

- 1) The valve can be installed both horizontally or vertically.
- 2) Ensure enough space nearby for installation and adjustment.
- 3) Flush the pipeline before installing the valve to ensure clean water flow.
- 4) The line flow direction should match the arrow on the valve.
- 5) Inspect the valve post installation for any loose or damaged fittings.
- 6) Install a pressure gauge upstream or use a pressure checkpoint on the valve to set the desired pressure.
- 7) Installing isolation valves upstream and downstream is recommended for maintenance.
- 8) Cross-check solenoid specifications with design requirements and solenoid/coil labels.

## Initial Startup and Adjustment

- 1) Fully open the upstream isolation valve (if installed).
- 2) Allow the valve to open by using the solenoid manual override or by giving the electric command to the solenoid.
- 3) Slowly open the downstream isolation valve (if installed) and allow the line downstream of the valve to fill up.
- 4) Once the system is pressurized, check the valve solenoid control feature by de-energizing or energizing the solenoid to close or open the valve (AC supply for 3W-24VAC solenoid or pulse signal for latching solenoid, 3W: 9-24 VDC Latch).

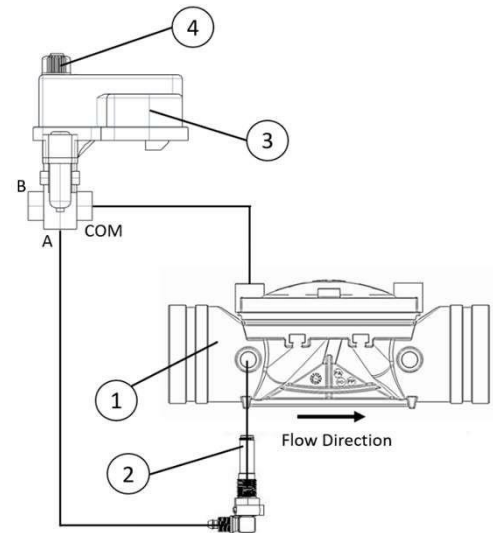
## Maintenance

- 1) Regular periodic valve inspection should be done to check for any damage or leakage through valve connection and fittings.
- 2) Inspect and clean the in-line finger filter as water quality dictates. This should be done once every few months.
- 3) Check valve performance by periodically checking the upstream pressure gauge and adjusting it if required.
- 4) In case the valve requires the replacement of internal worn parts or elastomers, follow the steps below:
  - a) Disassemble necessary control tubing.
  - b) Open the screws and remove the cover unit from the valve body.
  - c) Replace the worn parts and assemble them as before. Ensure to lubricate nuts and bolts with anti-seize grease.

# 900 Series Electric On-Off Valve

## Control Loop

Number	Description
1	Main Valve
2	Inline Finger Filter
3	3-Way Solenoid Valve with Base
4	Solenoid Actuator Manual Override



## Troubleshooting

Problem	Cause	Check	Solution
Valve does not open.	Inlet pressure is too low.	Check the inlet pressure.	Increase inlet pressure.
	Insufficient flow.	Flow demand.	Create flow/demand downstream of the flow.
	No current.	Damaged wires.	Repair or replace the wires.
	Faulty Solenoid	Voltage ok, but no click.	Change solenoid.
	Blocked Solenoid.	Check port blockage.	Dismantle and clean. Replace solenoid if problem not solved.
Valve does not close.	Solenoid base "Manual Override" not pointing towards port 'AUTO.'	Check the "Manual Override" position.	Turn the "Manual Override" of the solenoid base towards port 'AUTO'.
	Power is still "ON."	Check the power source.	Make sure the power is "OFF" when the valve is commanded to close.
	No pulse (Latch Solenoid)	Damaged wires or bad batteries.	Repair or replace the wires (or replace batteries).
	Blocked Solenoid.	Check port blockage.	Dismantle and clean. Replace solenoid if problem not solved.
	Faulty Solenoid	Voltage ok, but no click.	Change solenoid.
	Blocked inline finger filter (2).	Disconnect the upstream tube. No firm water stream.	Clean or replace the filter.
	Debris on the sealing seat.	The valve is constantly discharging a small amount of water.	Open the valve manually for a few minutes and then close. If the problem persists, dismantle, clean, and check that parts are not damaged.
	Damaged diaphragm.	Continuous water discharge.	Replace the diaphragm.
	Damaged diaphragm.	Continuous water discharge.	Replace the diaphragm.

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