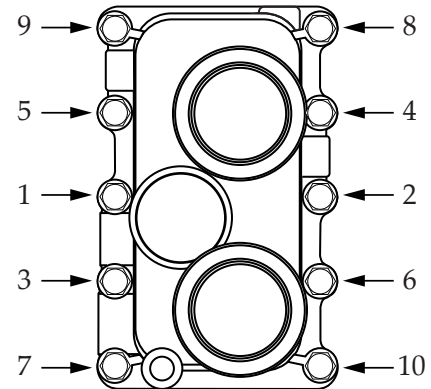
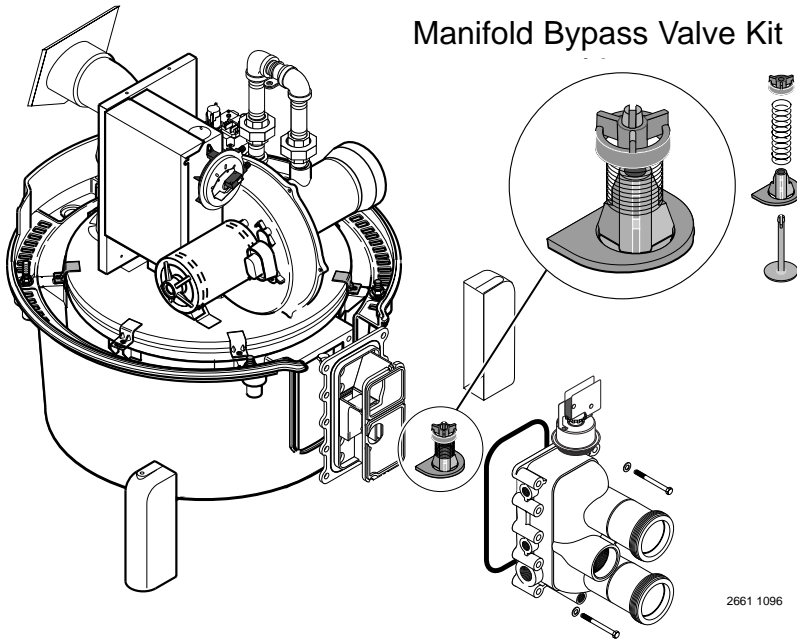


Manifold Bypass Valve

Procedure for Plastic Manifold. See other side of sheet for Cast Iron Manifold with Adapter Procedure.



75-115 in.-lbs. / 8.4-12.9 nm

Torque the Manifold bolts in sequence as shown, then go once around the Manifold and re-tighten the bolts to specified torque.

⚠ WARNING Risk of fire, explosion, and electrical shock.

Heater service and repair must be performed by a qualified installer, service agency, or the gas supplier.

Location

The Manifold Bypass Valve is located inside the Inlet/Outlet Manifold.

NOTICE: The Inlet/Outlet Manifold must be removed to service or replace the Manifold Bypass Valve.

Function

The Manifold Bypass Valve maintains a constant flow to the Heat Exchanger by opening to allow excess flow to bypass the Heat Exchanger.

Servicing Procedure

1. Turn off the filter pump and all electrical power to the heater. Close the external Manual Gas Valve.
2. If the heater is below the water level of the pool, close isolation valves to avoid draining the pool.
3. Disconnect the gas pipe back to the external Manual Gas Valve to allow the heater to move enough to provide working clearance.
4. Remove Drain Plug under the Inlet/Outlet Manifold to drain the heater.
5. Loosen the inlet/outlet piping unions.
6. Unscrew the Thermal Regulator Plug.

⚠ CAUTION The Thermal Regulator Spring is behind the plug and will cause the plug to fly if not restrained.

7. Remove the Thermal Regulator along with the spring attached to it.
8. Remove the Inlet/Outlet Manifold by removing the 10 bolts holding the Manifold to the tube sheet.
9. Carefully pry the bottom plate off of the Manifold. The Manifold O-ring and insert will come off with the bottom plate.
10. Remove the baffle plate to gain access to the Internal Bypass Valve chamber.
11. Remove the Bypass Valve Assembly and replace it with a new one.
12. To Replace the valve, reverse Steps 1 through 10 above.

12. To Replace the valve, reverse Steps 1 through 10 above.
NOTE: Carefully tap parts together to allow Manifold bolts to start. When tightening the Inlet/Outlet Manifold bolts, tighten to 75-115 in-lb. Make sure that O-Rings and sealing surfaces are clean and that the O-Rings are correctly positioned. O-ring replacement is recommended.

Safety Precautions:

⚠ WARNING **Fire or explosion hazard.** Disconnect all power to the heater and close the External Manual Gas Valve before starting this procedure.

⚠ CAUTION **Projectile hazard.** The Thermal Regulator plug has a spring behind it. Restrain it when removing it from the Manifold to prevent it from flying and possibly injuring persons nearby.

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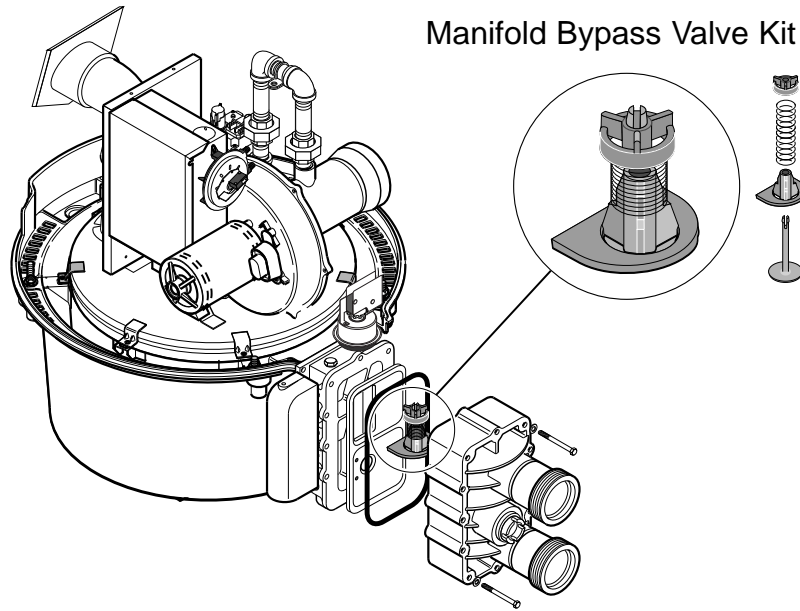
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Manifold Bypass Valve

Procedure for Cast Iron Manifold with Adapter. See other side of sheet for Plastic Manifold Procedure.



⚠ WARNING Risk of fire, explosion, and electrical shock.

Heater service and repair must be performed by a qualified installer, service agency, or the gas supplier.

Location

The Manifold Bypass Valve is located inside the Inlet/Outlet Manifold.

NOTICE: The Inlet/Outlet Manifold must be removed to service or replace the Manifold Bypass Valve.

Function

The Manifold Bypass Valve maintains a constant flow to the Heat Exchanger by opening to allow excess flow to bypass the Heat Exchanger.

Servicing Procedure

1. Turn off the filter pump and all electrical power to the heater. Close the external Manual Gas Valve.
2. If the heater is below the water level of the pool, close isolation valves to avoid draining the pool.
3. Disconnect the gas pipe back to the external Manual Gas Valve to allow the heater to move enough to provide working clearance.
4. Open the Drain Cock under the Inlet/Outlet Manifold to drain the heater.
5. Loosen the inlet/outlet piping unions.
6. Unscrew the Thermal Regulator Plug.

⚠ CAUTION The Thermal Regulator Spring is behind the plug and will cause the plug to fly if not restrained.

7. Remove the Thermal Regulator along with the spring attached to it.

8. Remove the Inlet/Outlet Manifold by removing the 8 bolts holding the Manifold to the Manifold Adapter.
 9. Remove the baffle plate and O-ring to gain access to the Internal Bypass Valve chamber.
 10. Remove the Bypass Valve Assembly and replace it with a new one.
 11. To Replace the valve, reverse Steps 1 through 10 above.
- NOTE:** When tightening the Inlet/Outlet Manifold bolts, tighten to 125-150 in-lb. Make sure that O-Ring and sealing surfaces are clean and that the O-Ring is correctly positioned.

Safety Precautions:

⚠ WARNING Fire or explosion hazard. Disconnect all power to the heater and close the External Manual Gas Valve before starting this procedure.

⚠ CAUTION Projectile hazard. The Thermal Regulator plug has a spring behind it. Restrain it when removing it from the Manifold to prevent it from flying and possibly injuring persons nearby.

REPAIR PARTS LIST

Part Description	Qty.	Part No.
Internal Bypass Valve Kit		77707-0001
Spring Retainer	1	42001-0088
Spring	1	37607-0012
Separator Plate	1	42001-0011
Bypass Valve Poppet	1	42001-0014