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by Geberit

PRODUCT REFERENCE MANUAL

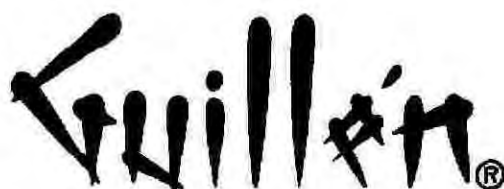
PF/2 Energizer®

Models 140 & 150

Chicago Faucets Company,

A Geberit Company

Original PF/2 replacement parts
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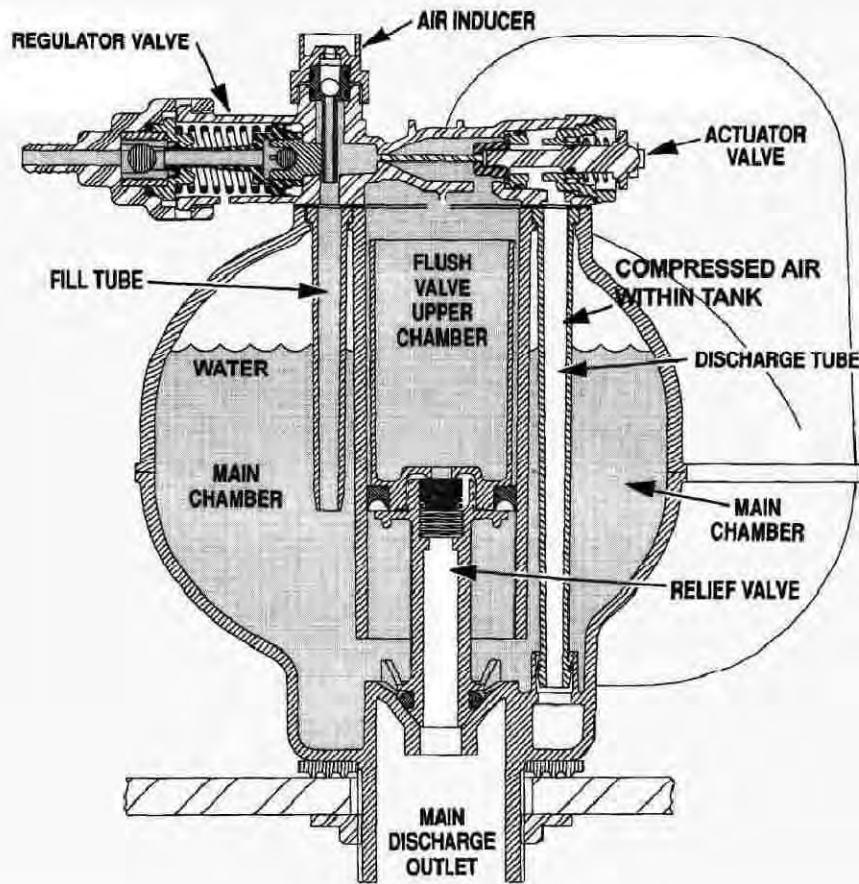


Figure 1

Major Components of the PF/2 Unit (Figure 1)

REGULATOR VALVE: The regulator valve controls the flow of water into the tank. When pressure inside the tank reaches 28psi it overcomes the force of the regulator spring, forcing the regulator ball against the water inlet to shut off the water supply.

AIR INDUCER: The air inducer ball drops when the toilet is flushed, allowing air into the tank. When the flush valve seats and the tank begins to fill, the ball floats up against the o-ring in the air inducer cap, sealing off the pressure tank.

ACTUATOR VALVE: When the plunger of the actuator valve is pushed in it relieves pressure on the top of the flush valve, causing the flush valve to rise and the toilet to flush. The water in the upper flush valve chamber exits past the actuator valve, through the discharge tube into the bowl, adding to the flush.

FLUSH VALVE: The flush valve acts as a flapper. It rises to let water out of the pressurized tank for the flush, and falls back down to start the tank refill.

How the PF/2 Energized Flush System Works

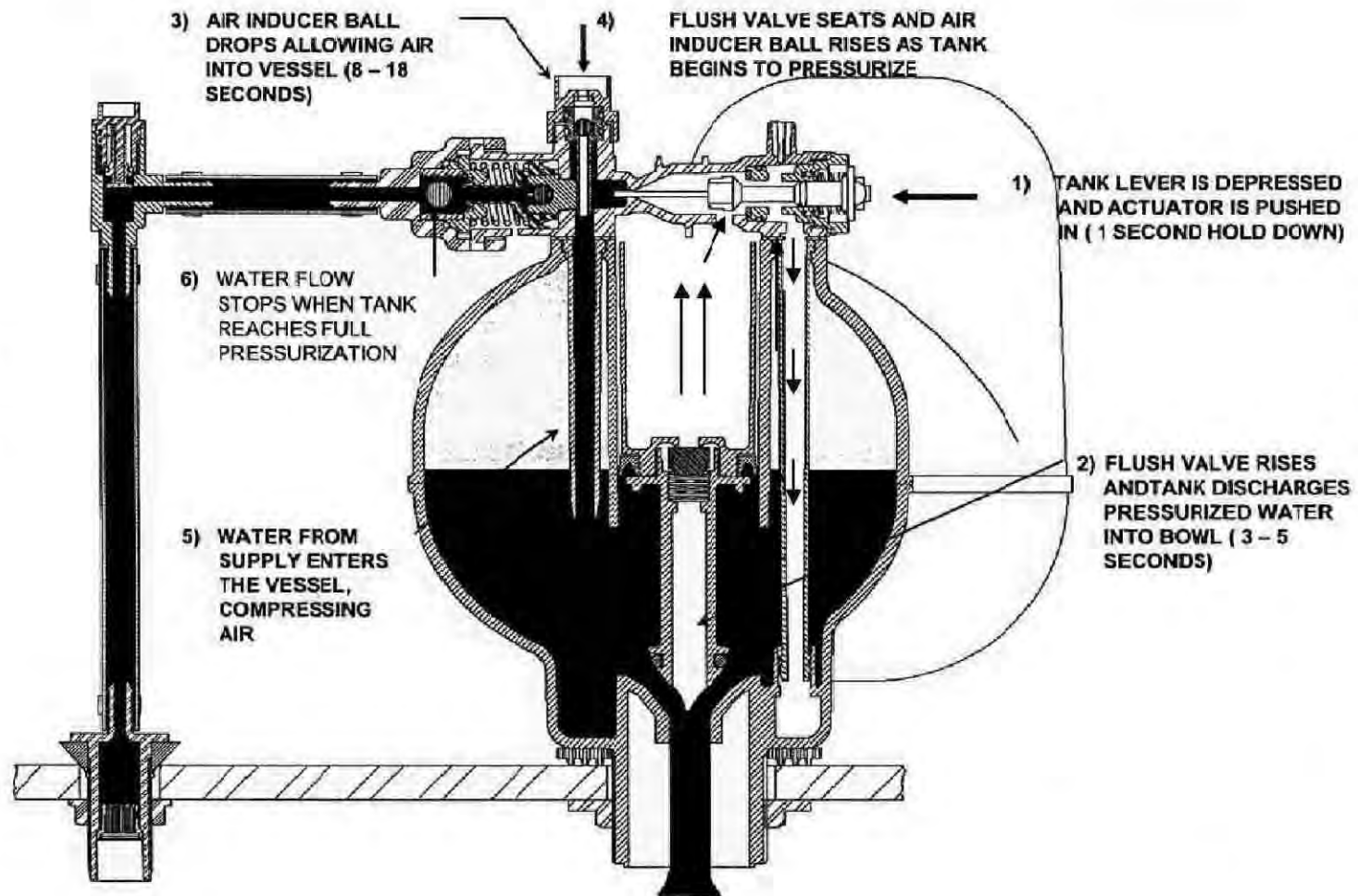


Figure 2



How the PF/2 Energized Flush System Works (Figure 2)

The PF/2 system works by using inlet water pressure to compress the air inside the pressure tank. When the toilet is flushed, this air acts like a spring to propel the water around the rim and into the tank.

When the flush lever is held down the plunger of the actuator valve is depressed, relieving the pressure on the top side of the flush valve by providing a path for the water to exit through the discharge tube and add to the flush. The higher pressure below the valve lifts it up, allowing the pressurized water in the vessel to exit the main discharge outlet. The main force of the water is directed through the jet at the front of the bowl, while a smaller amount is diverted around the rim.

As the tank depressurizes the air inducer ball drops. Water enters the tank through the regulator valve and passes the fill tube, causing a venturi effect. Air is drawn into the tank through the air inducer cap.

The flush valve returns to its lowered position through a combination of gravity and water flowing past the actuator valve pin to the top side of the valve. When the o-ring on the end of the valve is seated, the flush stops and the pressure tank begins to fill quietly.

As the tank nears full the air inducer ball is floated up against the o-ring in the air inducer cap, to seal off the tank. A small amount of water will leak by the ball into the cap until the vessel is fully pressurized.

When pressure within the tank reaches 28psi the force of the regulator spring is overcome, and the regulator piston drives the regulator ball against the water inlet shutting off the water supply. At this time the pressure above and below the flush valve seal is the same.

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Replacement Parts Directory

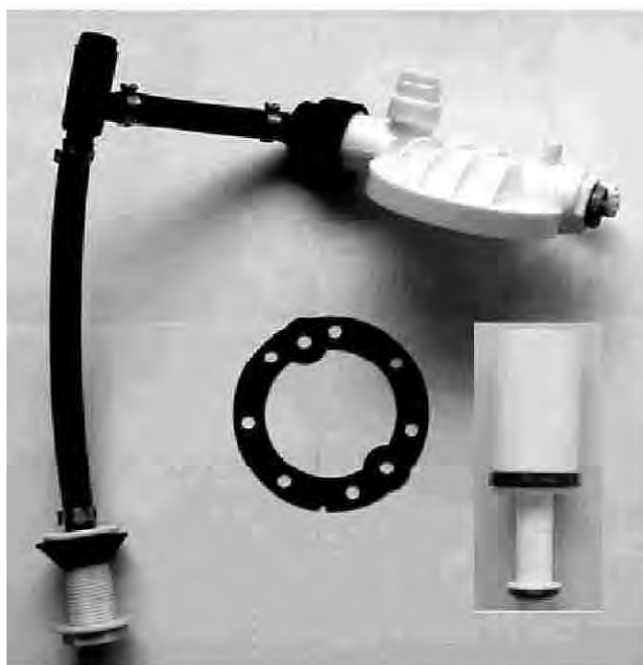
RK150	Rebuild Kit (Model 150)
279K	Oversized Screws Kit (with cap gasket)
289K	Linkage Arm Kit
302AG	Actuator Valve
330K	Shank Filter Kit
350	Flush Valve Kit
353	Air Inducer Kit
359	Cap Gasket Kit (with screws)
361	Chain and Hooks Kit
503	PF/2 Energizer (Model 150-403)
707	Standard LH Tank Lever (Eljer/Crane)
727	Standard LH Tank Lever Kit (Eljer)
708	Standard RH Tank Lever (Eljer/Crane)
728	Standard RH Tank Lever Kit (Eljer)
731C	LH Crane Rod
732C	RH Crane Rod

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RK150 Rebuild Kit (Model 150) Replacement Parts



279K Oversized Screws Kit



289K Linkage Arm Kit

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302AG Actuator Valve



330 Shank Filter Kit



350 Flush Valve Kit



353 Air Inducer Kit



359 Cap Gasket Kit (with screws)



361 Chain and Hooks Kit



503 PF/2 Energizer (Model 150-403)

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707 Standard LH Tank Lever



727 Standard LH Tank Lever Kit



708 Standard RH Tank Lever



728 Standard RH Tank Lever Kit



731C LH Crane Rod



732C RH Crane Rod

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Troubleshooting

Unit Runs Continually

1. Linkage is too tight

- Disconnect chain or rod from the linkage arm. If the unit shuts off correctly with linkage disconnected then loosen chain or adjust rod to inner hole.
- If the handle is loose and not coming up correctly, call tech support for a replacement.

2. Actuator Valve is Broken

- Disconnect chain or rod from the linkage arm. If Actuator valve is popping out or broken, replace actuator valve.
- Remove Actuator valve and clean as described in cleaning procedures. (Page 10)

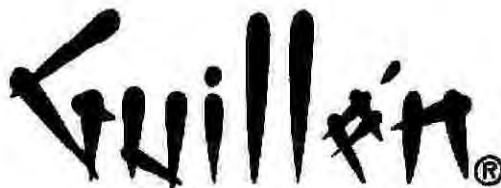
3. Flush Valve is stuck in the up position

- Clean the actuator valve and flush valve areas as described in cleaning procedure. (Page 10)
- If cleaning doesn't work or operation only lasts for a short while before condition returns, call tech support to replace the flush valve.

4. Inlet Filter is clogged

- Disconnect the supply line and remove the inlet filter located in the supply shank of the PF/2 supply line. Use a paper clip as a hook to pull the filter from its seat. Clean and reinstall.

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Unit fills and shuts off but has no flushing power

1. Unit is waterlogged

- Turn off the water to the unit. Flush the toilet and hold the handle down. Let all the water drain out of the vessel, then let the handle up and turn the water back on.

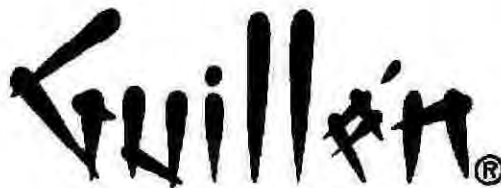
2. Air inducer is dirty or clogged

- Clean the air inducer as described in cleaning procedures. (Page 10)

3. Bowl may require higher rate regulator spring

- On new installations, some bowls may require a higher rate regulator spring (35 psi) to provide a clean flush. Contact technical support for information.

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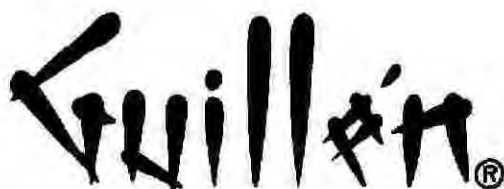


Storage/Winterizing Procedure

If the PF/2 unit is not to be used for a long period of time, turn off the water supply and flush the toilet to depressurize the unit. To return the unit to service, turn on the water supply and allow to fill.

If the PF/2 unit is left in an unheated building during winter months with possibility of freezing temperatures, turn off the water supply and flush the toilet to depressurize the unit. Disconnect the supply line from the PF/2 and allow the water to drain from the line. Fill the bowl trap with a biodegradable anti-freeze to maintain the gas trap.

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Cleaning Procedures

Listed below are the cleaning procedures for the actuator valve, air inducer and flush valve, the main components of the PF/2 Energizer. These maintenance procedures will help ensure proper water and air flow into the unit. Performing these procedures may correct certain problems with the unit, or reveal the source of the problem.

Actuator Valve

1. Turn off the water supply to the toilet, then flush the toilet. This will depressurize the PF2 unit.
2. Disconnect the chain (Eljer toilet) or rod (Crane toilet) from the white linkage arm in the tank. The arm is located in front of the actuator valve.
3. Surrounding the plunger button of the actuator valve is a six-sided nut. Loosen and remove the nut to bring out the actuator valve. It should all come out in one piece.
4. On the end of the valve is a floppy metal pin. Ensure the pin is free of any calcium, lime or rust.
5. Cover the hole that the valve was removed from with your hand or a rag, to deflect water down into the tank. Turn on the water supply **fully** for 10-15 seconds to flush out the port.
6. Turn off the water supply, then reinstall the actuator valve to the unit and tighten snugly. Reconnect the chain or rod to the linkage arm.

Air Inducer

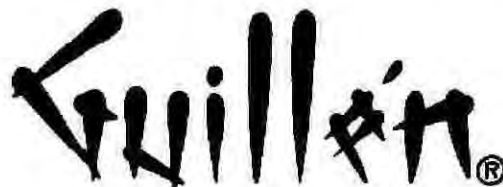
1. Turn off the water supply to the toilet and flush the toilet. This will depressurize the PF2 unit.
2. Between the two domes of the tank is a small round cap with a hole in the center. Loosen and remove the air inducer cap from the body.
3. Inside the cap is a small o-ring. Ensure that the o-ring is present and free of any water scale.
4. Underneath the cap is a ball sitting in the cup end of a spool. **Do not lose the ball.** Grab the spool and pop it out of the body.
5. Roll the ball between your fingers to clean it and remove any water scale or debris.
6. Ensure that the cup of the spool is clean. Blow through the bore of the spool to ensure it is clear.
7. Turn on the water supply and bubble some water through the port to flush it out.
8. Reinstall the spool to the body. Push it down until it seats. One o-ring will be showing.
9. Place the ball into the cup of the spool, then reinstall the cap to the body and snug it down.



Flush Valve

1. Turn off the water supply to the toilet and flush the toilet. This will depressurize the PF2 unit.
2. Remove the seven screws securing the cap and supply to the tank body and set the cap aside.
3. In the tank bore under the cap is the flush valve. Pull the valve straight up and out. It looks like a piston with a cup on the end of it.
4. There is a seal around the middle of the valve, and an o-ring on the pointed end. Ensure that the seal and o-ring are free of any debris or mineral scale.
5. Inspect the walls and bottom sealing surface of the tank bore for any debris or mineral scale. Clean the bore as necessary.
6. Apply a film of dishwashing liquid to the center seal of the flush valve, then reinstall the flush valve in the tank bore. Push the valve fully down until it seats in the tank.
7. Fill the cup on the end of the valve with water. This will help the unit recharge faster.
8. Replace the seal on the tank flange. The notch in the seal faces you, at the six-o'clock position. All nine holes in the tank flange must be showing through the gasket.
9. Reinstall the cap to the tank body and secure with the seven screws. Tighten the screws in a crossing pattern to ensure the seal seats evenly.

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