

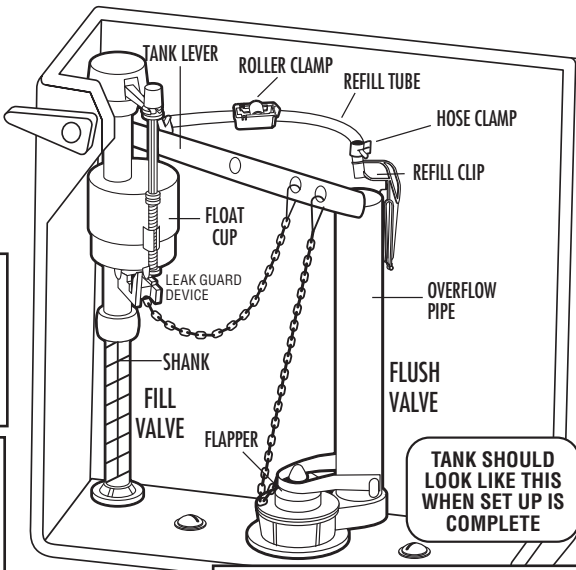
# FLUIDMASTER® 402LGR LEAK GUARD FILL VALVE & FLAPPER INSTALLATION INSTRUCTIONS

**DO NOT USE**



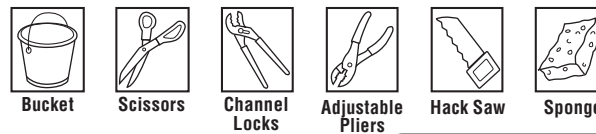
**NEW!** Because drop-in cleaners used in the tank can result in damaged tank parts (see WARNING), Fluidmaster recommends the use of Flush 'n Sparkle® Toilet Bowl Cleaning System (Models 8100, 8200 or 8300). It cleans the bowl without harming tank parts by isolating the cleaner from the tank water, releasing it only to the bowl where it is needed. Cartridges supply more than 1,000 flushes and are a snap to replace.

**402LGR WATER-SAVING FEATURES**  
Prevents wasteful refills in leaky tanks. The Leak Guard device alerts you to a tank leak, typically caused by a faulty flapper. If there is a tank leak, the float cup will not drop to refill the tank until the tank lever is pushed. On the first flush attempt, the valve will simply refill the empty tank; only then will you receive a complete flush. This will continue to occur until the tank leak is fixed. **The Adjustable Refill allows you to adjust the amount of water going into the bowl, eliminating water waste due to the bowl being overfilled.**



**TANK SHOULD LOOK LIKE THIS WHEN SET UP IS COMPLETE**

**TOOLS NEEDED**



30800 Rancho Viejo Road, San Juan Capistrano, CA 92675  
www.Fluidmaster.com • 800-631-2011  
Contact Fluidmaster for troubleshooting help or Ask Bob on www.fluidmaster.com  
M-F 7:30 am - 4:30 pm PST.

## WARNING

**DO NOT USE IN-TANK DROP-IN TOILET BOWL CLEANERS CONTAINING BLEACH OR CHLORINE.** Use of such products will: (1) RESULT IN DAMAGE to tank components and MAY CAUSE FLOODING and PROPERTY DAMAGE and (2) VOID FLUIDMASTER WARRANTY.  
Fluidmaster Flush 'n Sparkle Toilet Bowl Cleaning System is recommended for those choosing to use in-tank bowl cleaners and WILL NOT VOID the FLUIDMASTER WARRANTY because it will not damage the components. **DO NOT** overtighten nuts or tank/bowl may crack. Always use quality Fluidmaster parts when installing or repairing. Fluidmaster will not be responsible or liable for use of non-Fluidmaster parts during installation or repair.

**LIMITED FIVE-YEAR EXPRESS WARRANTY**  
Subject to the "Exclusions" set forth below, Fluidmaster Inc. promises to the consumer to repair, or at the option of Fluidmaster Inc. to replace any part of this plumbing product which proves to be defective in workmanship or materials under normal use for five years from the date of purchase. All costs of removal, transportation and reinstallation to obtain warranty service shall be paid by the consumer. During this "Limited Five Year Express Warranty," Fluidmaster Inc. will provide, subject to the "Exclusions" section set forth below, all replacement parts free of charge, necessary to correct such defects. This "Limited Five Year Warranty" is null and void if this plumbing product has not been installed and maintained in accordance with all written instructions accompanying the product, and if non-Fluidmaster Inc. parts are used in installation.  
**EXCLUSIONS:** FLUIDMASTER INC. SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING COSTS OF INSTALLATION, WATER DAMAGE, PERSONAL INJURY OR FOR ANY DAMAGES RESULTING FROM ABUSE OR MISUSE OF THE PRODUCT, FROM OVERTIGHTENING OR FROM FAILURE TO INSTALL OR MAINTAIN THIS PLUMBING PRODUCT IN ACCORDANCE WITH THE WRITTEN INSTRUCTIONS, INCLUDING USE OF NON-FLUIDMASTER PARTS. **DO NOT USE IN-TANK DROP-IN TOILET BOWL CLEANERS CONTAINING BLEACH OR CHLORINE.** USE OF SUCH PRODUCTS WILL RESULT IN DAMAGE TO TANK COMPONENTS AND MAY CAUSE FLOODING AND PROPERTY DAMAGE. USE OF SUCH PRODUCTS WILL VOID THIS WARRANTY.

## PARTS IN THIS KIT:

- (1) Fill valve with Leak Guard
- (1) 501 flapper
- (1) Shank washer
- (1) Locknut
- (1) Refill tube
- (1) Refill clip
- (1) Roller clamp
- (2) Hose clamps

## PREPARATION

## 2 Preparing The Fill Valve For Installation

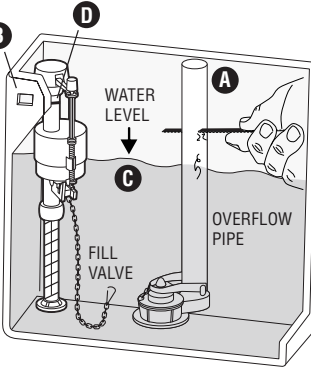
Before you install the flush valve, make sure the overflow pipe and water level of tank are correctly set.

**A. THE TOP OF OVERFLOW PIPE** should be cut a minimum of 1" below tank lever hole. **NOTE: You can either measure the overflow pipe and cut outside of tank or cut pipe after installation.**

**B. Tank Lever Hole.** Measure 1 inch down from bottom edge of tank lever hole.

**C. WATER LEVEL** is usually set 1/2" below top of Overflow Pipe.

**D. The CRITICAL LEVEL** mark identified by C.L. on fill valve must be positioned a minimum of 1 inch above the top of the overflow pipe. This is a requirement of the **Universal Plumbing Code.**

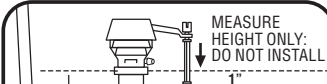
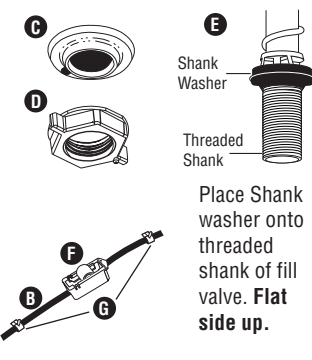


## 3 Preparing Fill Valve

**Assembly Parts**

- A) Refill Clip
- B) Refill Hose
- C) Shank Washer
- D) Locknut
- E) Threaded Shank
- F) Roller Clamp
- G) Hose Clamps

Place Shank washer onto threaded shank of fill valve. **Flat side up.**



Place fill valve in tank, do not install. Top of fill valve **MUST** be set 3 inches above the top of the overflow pipe. This will automatically place the C.L.

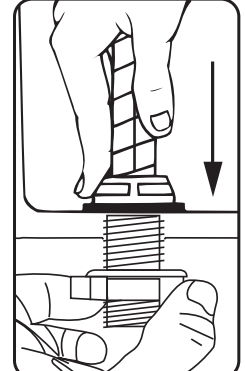
Mark 1 inch above the top of overflow pipe. Remove fill valve from tank to adjust height.

Adjust height of fill valve by holding lower shank with right hand and top of valve with left hand. Turn lower shank hard in or out of the valve body. You should hear several "clicks". Place valve in tank and check height again. The Critical Level mark identified by C.L. on valve-MUST be positioned 1 inch above the top of the overflow pipe. This is a requirement of the **Universal Plumbing Code.**

Do not move lock ring. It holds the valve body and shank together under pressure. Do not interchange body with old shank as leaking can occur.

## 4 Installing The New Fill Valve

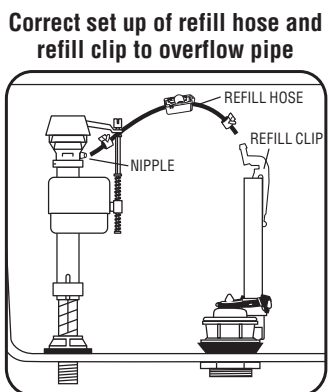
Place fill valve in tank. Make sure lid will sit on top of tank without sitting on valve. Align fill valve nipple to face center of tank. Press down on shank from inside of tank while tightening locknut. **Hand-tighten only. DO NOT OVER TIGHTEN.** Over tightening may crack the fill valve, or tank, causing flooding. Make sure the float cup does not touch the tank walls, trip mechanism or flush valve.



## Installing The New Fill Valve (continued)

Attach one end of REFILL HOSE to REFILL CLIP. Place clip on right side of overflow pipe. Attach other end of hose to nipple on fill valve with a slight arching of hose. (See drawing). Cut tube as necessary. Do not shove refill tube down overflow pipe. This can cause major water waste.

Squeeze hose clamp. Slide end of hose and release.



## 5 Installing The New Flapper

Put flapper on to seat and push down on clips at the horizontal posts of the overflow pipe.



Attach the clip of the chain to the tank flush lever directly above the flapper. Leave 1/2" of slack in the chain.



## 6 Water Supply Line

Inspect water supply line. Replace it if it is worn or over 5 years old, as part is under pressure.

1. Attach the Supply line coupling nut to the fill valve. **Turn the coupling nut clockwise by hand until tight. Do not over tighten the nut as it could damage the fill valve or coupling nut itself, resulting in flooding and property damage.**
2. Turn on water supply and check for leaks. **If you find leaking at bottom of tank,**

## 7 Adjusting Water Level

**IMPORTANT:** Pull Leak Guard chain, then release to unlock float cup, so tank will fill. **With water supply on, submerge the float cup under the water for 30 seconds.** Set the float cup to desired level, by turning the water level adjustment screw. When adjusting float cup, flush the tank first. Then make adjustment while tank is filling. Turn screw clockwise to raise water level or counter clockwise to lower water level. Set water to the pencil mark you made in tank. Valve will shut off at setting.

**HINT:** When you twist adjustment screw 8 times - float moves 1/2".

## 8 Water-Saving Feature: Hooking Up the Leak Guard Chain

**Flapper Chain Hook-up**  
Turn off water. Lift tank lever all the way up inside tank and hold it there. Pull flapper chain tight so the flapper is lifted as high as it can go and attach chain to hole in lever directly above flapper. Make sure flapper chain is straight.

Make sure flapper is closed on seat. If not, you may need to lengthen the flapper chain by a link or two to allow flapper to close and seal tank.

**Leak Guard Chain Hook-up**  
Lift tank lever all the way up inside tank. Pull Leak Guard chain until it lifts the float cup all the way up the fill valve shaft. Then connect chain & clip with no slack in chain to the tank lever.

**NOTE:** Do not cross Leak Guard chain and flapper chain. If lever has only one hole, then attach to same hole.

**Testing Leak Guard**  
Simulate a leak by slightly lifting flapper chain to allow 3 or 4 inches of water to slowly drain from tank. **Fill valve should not turn on,** but remain locked and stay off.

If test fails go to **Troubleshooting** section. Make sure chain is free, not tangled or caught.

## 9 Water-Saving Feature: Roller Clamp

Check bowl water level by flushing toilet. If bowl appears to be full but continues to fill, the valve may be overflowing the bowl causing excess water to siphon down the trapway. Adjust amount of water going down into the bowl as follows: Fill the bowl with a gallon of water. Wait 1 minute until the bowl water level recedes down and stops. With a pencil, draw a line at the top of the water level in bowl. Now flush the toilet. If the valve is still filling and the water is up to the line in the bowl, then the amount of water going into the bowl is too high and needs to be adjusted. Adjust the refill by turning the roller clamp with thumb to the next lower number. Flush the toilet; adjust until water level in bowl is at the pencil mark when the fill valve shuts off. If valve shuts off and bowl is not full, adjust by turning the roller clamp to a higher number. Repeat until water in bowl is up to line. "0" on roller clamp equals no refill to bowl.



## TROUBLESHOOTING

- IF FILL VALVE TURNS ON AND OFF BY ITSELF**
- The tank is leaking water and the Leak Guard chain is not set properly. (See Instruction #8) Try stopping the leak by resetting both flapper and Leak Guard chain.
- IF FILL VALVE WILL NOT TURN OFF**
- Dirt may have gotten into the fill valve when you turned on the water. (See step "Removing The Valve Cap Assembly, Flushing Out Debris & Replacing Seal" in the Troubleshooting box).
- IF FILL VALVE WILL NOT TURN ON**
- Pull Leak Guard chain, then release to unlock float cup, so tank will fill. (See Instruction #8)
- IF THE VALVE WILL NOT REFILL THE TANK AFTER A FLUSH:**
- If fill valve is new: Remove top cap and check for debris. If you find debris, or flow is weak: Inspect lower section of fill valve for partial blockage. Partial blockage may be at shut off or in water supply line.
  - Tighten the Leak Guard chain (See Instruction #8) a few chain loops at a time until valve refills tank after flush.
- IF Water level in bowl is too low**
- Make sure the refill hose is supplying water down the overflow pipe.
  - Water level in tank may be too low. Raise water level to 1/2" below top of overflow pipe.
  - Flapper may be closing too soon. Give flapper chain approximately 1/2" of slack.

## Removing The Valve Cap Assembly, Flushing Out Debris & Replacing Seal

**Removing Valve Cap Assembly**  
Turn off water supply & flush out tank. Push float up with right hand (see picture). Grip and hold shaft under float with right hand. With left hand, twist cap and lever counter clockwise 1/8" of a turn to unlock the top cap. Pressing down on top may be helpful with older valves. Let cap assembly hang on float cup.

**Flushing Out Debris**  
Hold a cup over the uncapped valve to prevent splashing. Turn water supply full on and off a few times. Leave water supply off.

**If Replacing Seal**  
SEAL LOCATION

**Replacing Valve Cap**

**A.** Place cap assembly on top of gray valve body by aligning cap arm and adjustment rod next to refill hose.

**B.** Press down on top cap while rotating top & arm clockwise to locked position.