

FLUIDMASTER® 400LS LEAK SENTRY FILL VALVE INSTALLATION INSTRUCTIONS

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.

400LS WATER-SAVING FEATURES

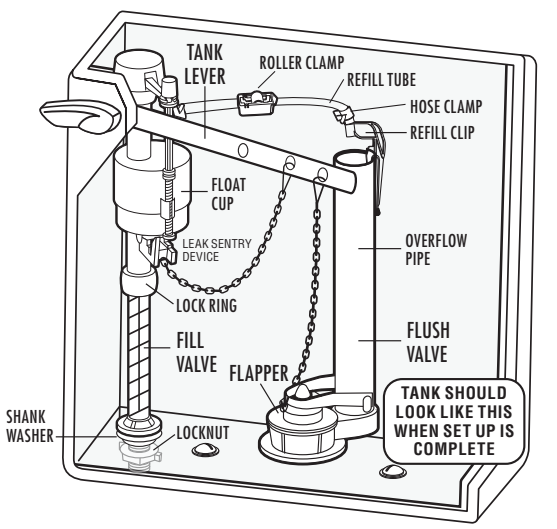
Prevents wasteful refills in leaky tanks.

The Leak Sentry 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.

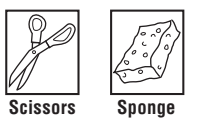
The Adjustable Refill allows you to adjust the amount of water going into the bowl, eliminating water waste due to the bowl being overfilled.

IMPORTANT: A flapper with a plastic or metal chain is recommended for the Leak Sentry to maintain its settings. Flappers with nylon or vinyl straps will stretch and cause Leak Sentry to work improperly. (Replace with a flapper like the Fluidmaster 501 or 502).

DO NOT USE

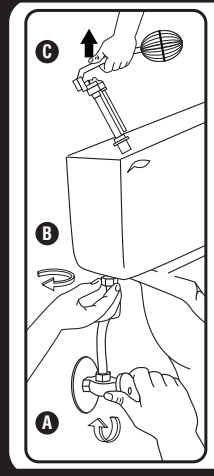



TOOLS NEEDED



- PARTS IN THIS KIT:**
- (1) Fill Valve with Leak Sentry
 - (1) Shank Washer
 - (1) Locknut
 - (1) Refill Tube
 - (1) Refill Clip
 - (1) Roller Clamp
 - (2) Hose Clamps

PREPARATION



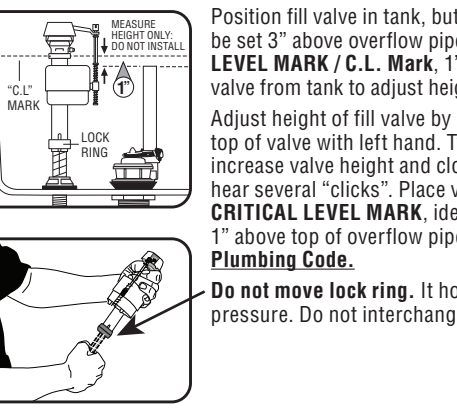
- 1 Remove Old Fill Valve**
- Remove tank lid. Use pencil to mark water level of tank. Then follow steps A-C.
- A.** Turn off water supply (Clockwise). Flush toilet and remove excess water from tank with sponge.
- B.** Remove water supply coupling nut. Remove locknut from under tank.
- C.** Remove fill valve from tank.

2 Preparing the Fill Valve for Installation

Fill Valve Assembly Parts

- A) Refill Clip
- B) Refill Tube
- 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.**



Position fill valve in tank, but do not fully install yet. Top of fill valve **MUST** be set 3" above overflow pipe. This will automatically place **CRITICAL LEVEL MARK / C.L. Mark**, 1" 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. Twist the lower shank counter clockwise to increase valve height and clockwise to decrease valve height. 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" above top of 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.

INSTALLATION

3 Installing New Fill Valve

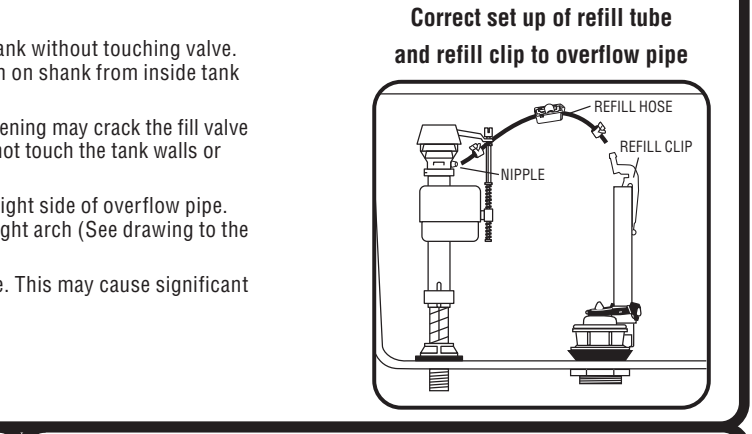
Place fill valve in tank. Make sure lid will sit on top of tank without touching valve. Align fill valve nipple to face center of tank. Press down on shank from inside tank while tightening locknut.

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 or tank lever and flush valve.

Attach one end of refill tube to refill clip. Place clip on right side of overflow pipe. Attach other end of tube to nipple on fill valve with a slight arch (See drawing to the right). Cut tube as necessary.

WARNING: Do not shove refill tube down overflow pipe. This may cause significant water waste.

Squeeze hose clamp. Slide to end of hose and release.



4 Attach Water Supply Connector

Inspect water supply connector. Replace it if it is worn or over 5 years old to prevent flooding and property damage.

A. Attach water supply coupling nut to fill valve. Turn coupling nut clockwise by hand until tight.

WARNING: Do not over tighten the nut as it could damage fill valve or coupling nut, resulting in flooding and property damage. Fluidmaster Click Seal® connector is recommended: A perfect seal every time without over tightening.

B. Turn on water supply and check for leaks. If you find leaking at bottom of tank, turn nut just enough to stop leaking. Then flush toilet to check.

5 Adjusting Tank Water Level

IMPORTANT: Pull Leak Sentry chain, this will release and unlock float cup so tank will fill. With water supply on, submerge the float cup under the water for 30 seconds.

With water turned on, set float cup to desired level, by turning water level adjustment screw. When adjusting float cup, flush tank first. Then make adjustment while tank is filling.

To adjust tank water, turn adjustment screw clockwise to raise water level or counter clockwise to lower water level. Once adjusted, flush toilet and check new level. Repeat if necessary.

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

6 Water-Saving Feature: Hooking Up the Leak Sentry Chain

Leak Sentry Chain Hook-up

Turn off water and ensure flapper chain is set correctly: lift tank lever all the way up inside tank and hold it there. Pull Leak Sentry 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 Sentry chain and flapper chain. If lever has only one hole, then attach to same hole.

Testing Leak Sentry

Turn on water. Let tank fill up and stop. Simulate a leak by slightly lifting flapper chain only to allow 3" or 4" 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.

7 Water-Saving Feature: Roller Clamp

Check bowl water level by flushing toilet. If bowl appears to be full but continues to fill, valve may be overflowing bowl causing excess water to siphon down 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.

8 Code Compliance

Once fill valve is installed, ensure overflow pipe and water level of tank are correctly set.

- 1. THE TOP OF OVERFLOW PIPE (A)** must be minimum of 1" below **TANK LEVER HOLE (B).**
- 2. WATER LEVEL (C)** is set below top of Overflow Pipe (Fluidmaster recommends 1/2").
- 3. THE CRITICAL LEVEL MARK / C.L. Mark (D)** identified by C.L. on fill valve must be positioned 1" above top of overflow pipe. This is a requirement of the **Universal Plumbing Code.**

Code Compliance helps protect your home & drinking water supply.

TROUBLESHOOTING

IF FILL VALVE DOES NOT TURN ON, WILL NOT TURN OFF, OR WILL NOT REFILL THE TANK AFTER THE FLUSH

- Pull Leak Sentry chain, then release to unlock float cup, so tank will fill (See "WATER-SAVING FEATURE: HOOKING UP THE LEAK SENTRY CHAIN").
- Tighten the Leak Sentry chain (See "WATER-SAVING FEATURE: HOOKING UP THE LEAK SENTRY CHAIN") a few chain loops at a time until valve refills tank after flush.
- 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 valve or in water supply line (See "REMOVING THE VALVE CAP ASSEMBLY & FLUSHING OUT DEBRIS").
- If fill valve has been in use for some time and/or float cup does not drop when flushing tank, replace seal with a genuine Fluidmaster 242 seal (See "IF REPLACING SEAL").

IF FILL VALVE TURNS ON AND OFF BY ITSELF

- The tank is leaking water and the Leak Sentry chain is not set properly (See "WATER-SAVING FEATURE: HOOKING UP THE LEAK SENTRY CHAIN"). Try stopping the leak by resetting both flapper and Leak Sentry chain.

IF WATER LEVEL IN BOWL IS TOO LOW

- Make sure the refill tube is supplying water down overflow pipe.
- Water level in tank may be too low. Raise water level to 1/2" below top of overflow pipe (See "ADJUSTING TANK WATER LEVEL"). You may have to lengthen the fill valve in order to increase the water level in tank (See "PREPARING THE FILL VALVE FOR INSTALLATION").
- Flapper may be closing too soon. Give flapper chain approximately 1/2" of slack.

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

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 1/8th 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 cup upside down over uncapped valve to prevent splashing. Turn water supply on and off a few times. Turn water supply off when putting cap back on valve.

If Replacing Seal

242 SEAL

SEAL LOCATION

If Replacing Seal: Use only a genuine Fluidmaster 242 seal.

Replacing Valve Cap

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

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

