

# FLUIDMASTER® 404LGR COMPLETE REPAIR KIT WITH LEAK GUARD TECHNOLOGY 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**

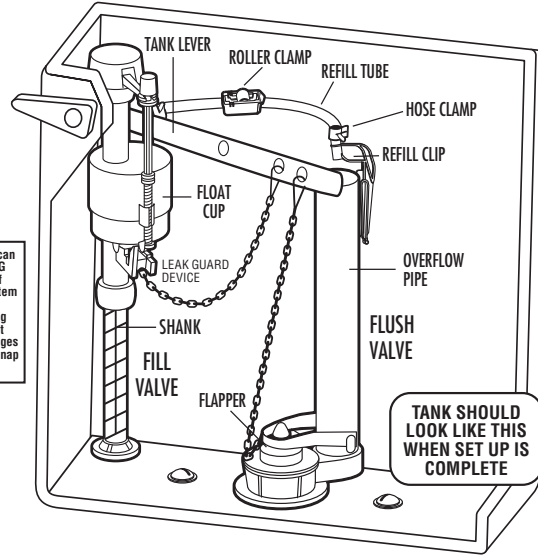
Subject to the "Exclusions" set forth below, Fluidmaster Inc. promises to the consumer to repair, or at the option of Fluidmaster Inc. to replace any part of this plumbing product which proves to be defective in workmanship or materials under normal use for five years from the date of purchase. All costs 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.**

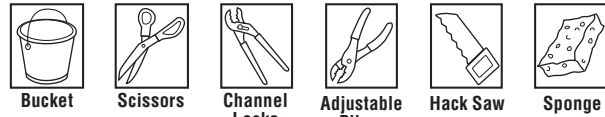
## DO NOT USE



Because drop-in cleaners used in the tank can result in damaged tank parts (see WARNING above), 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.



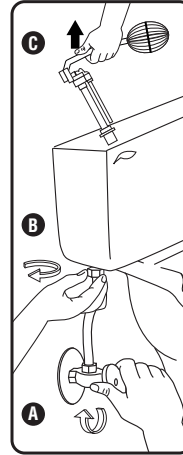
## TOOLS NEEDED



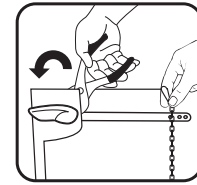
## PARTS IN THIS KIT:

- (1) Fill valve with Leak Guard
- (1) Refill hose
- (1) Locknut
- (1) Refill clip
- (1) Shank washer
- (1) Flush valve with flapper
- (1) Flush valve washer
- (1) Tank to bowl gasket
- (1) Large flush valve locknut
- (2) Brass bolts
- (4) Stainless steel hex nuts (two thick & two thin)
- (6) Rubber washers
- (4) Stainless steel washers
- (1) Tank lever
- (1) Tank lever locknut
- (1) Roller clamp
- (2) Hose clamps

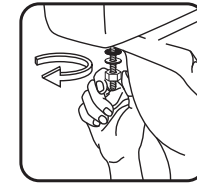
## PREPARATION



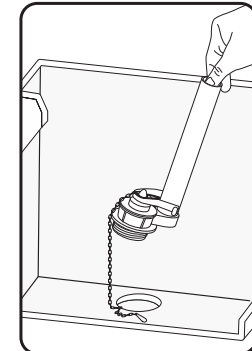
- 1** Remove tank lid. Use a pencil to mark the water level of the tank. Then follow steps A, B and C.
- A.** Turn off water supply (Clockwise). Flush out tank and sponge dry.
- B.** Remove water supply coupling nut and inspect line. If worn - replace it. Remove lock nut from under tank.
- C.** Remove ball cock from tank.



This is a reverse threaded nut. Unhook flapper chain from tank lever. Remove tank lever by loosening locknut inside tank. Turn nut in direction shown. Slide out off lever arm. Pull lever from tank.



Unbolt tank from bowl. Lift tank off of bowl. Lay tank on its side on a safe secure surface. Remove washers, nuts and bolts. **NOTE:** If you have a three bolt tank, save bolt, washer and nut that is in the best condition for use later. Clean bolt & nut with wire brush and WD-40.



Remove tank to bowl gasket from under tank. Loosen and remove flush valve lock nut. Lift flush valve up out of tank.

## 2 Preparing The Flush Valve For Installation

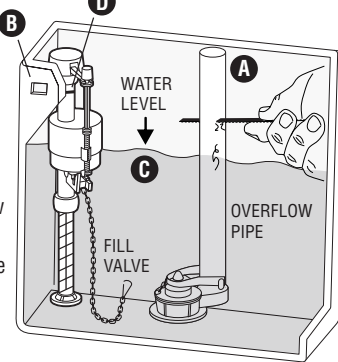
Before you install the flush valve, make sure the overflow pipe and water level of tank are correctly set.

**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 Installing Flush Valve

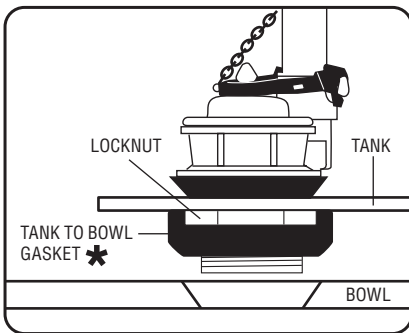
Before installing Flush Valve remove tank to bowl gasket and locknut on bottom of Flush valve in kit. Set flush valve with flush valve seal into opening inside of tank. Measure the overflow pipe, mark where it should be cut, then remove flush valve and cut the overflow pipe. Place back in tank & position overflow pipe toward back of tank - Do not cover the bolt holes of tank.

Under tank, thread the large plastic locknut onto the threads of the flush valve. Tighten locknut **HAND TIGHT** then use a tool to go 1/2 turn beyond hand tight.

Place tank to bowl gasket on the bottom of flush valve locknut. Gasket should cover locknut. **SEE NOTE: \***

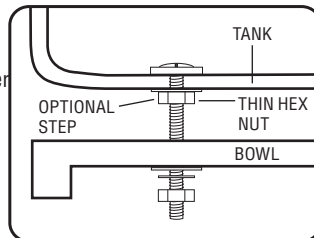
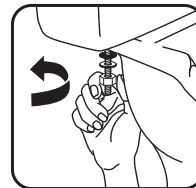
## Installing Toilet Bolts

Place a rubber washer on the tank bolts. Place tank bolt through hole in tank.



**OPTIONAL STEP:** Under tank, place a metal washer and thin hex nut. Snug hex nut.

**Caution:** The thin hex nut should not touch the porcelain of the bowl when you tighten tank down. If they touch, stop and remove nut & washer before continuing. Set tank onto bowl. Place a rubber washer, metal washer & hex nut on each bolt under bowl. Tighten hex nuts evenly until tank is snug and tank does not rock.



## For 3 Bolt Toilets

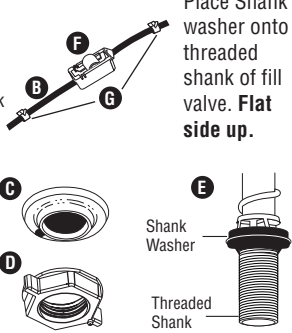
This kit contains two extra rubber washers for toilets that have 3 bolts. If you need a 3rd bolt, washer & nut, reuse one of your existing bolt set along with the new rubber washers supplied.

**\* NOTE:** If you have a Gerber or Kohler 2 piece toilet, we recommend you use a different Tank To Bowl Gasket. For Gerber, use an extra thick Gerber gasket. (not included in this kit). For Kohler use a Triangular Kohler gasket. (not included in this kit).

## 4 Preparing Fill Valve

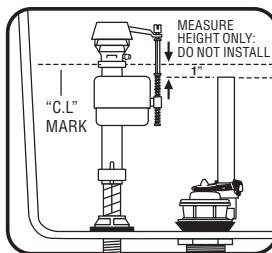
### Assembly Parts

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



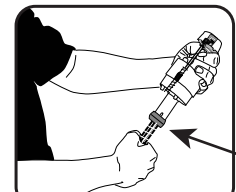
Place Shank washer onto threaded shank of fill valve. **Flat side up.**

## Preparing Fill Valve (continued)



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.



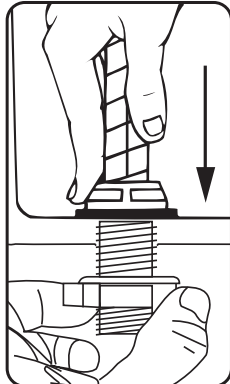
Adjust height of fill valve by holding lower shank with right hand and top of

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.**

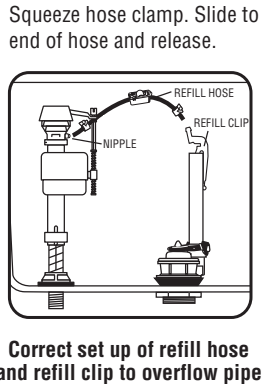
Do not move lock ring. It holds the valve body and shank together under pressure. Do not interchange body with old shank as leaking can occur.

## 5 Installing The New Fill Valve

Place fill valve in tank. Make sure lid will sit on top of tank without sitting on top of overflow pipe. 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.**



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.



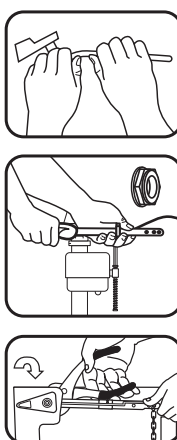
Correct set up of refill hose and refill clip to overflow pipe

## 6 Installing Lever

If your tank lever has any bends in it, follow next steps. If your lever does not have any bends in it proceed to step 6B.

**6A.** To bend lever, start bend 2 inches out from point lever makes 90 degree bend entering tank. Bend to match old lever. Do not bend arm quickly or back and forth repeatedly.

**6B.** Push lever through tank hole. Slide tank lever locknut onto lever arm. Place round flange of locknut on lever arm first. Turn locknut in direction shown. Thread locknut until snug. Do not overtighten. Locknut is a reverse thread.



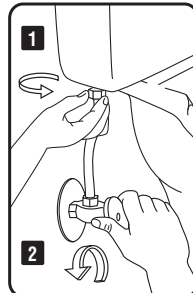
## 7 Water Supply Line

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,**

turn nut just enough to stop leaking. Then flush toilet to check.

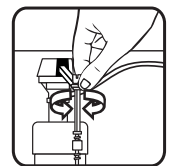


## 8 Adjusting Water Level

**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 - 1/2" float moves 1/2".



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

### Flapper Chain Hook-up

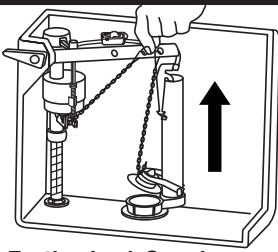
Turn off water. Lift tank lever all the way up inside tank and hold it there. Pull Leak Guard chain until it lifts the float cup all the way up the fill valve shaft. Then connect chain & clip with no slack in chain to the tank lever.

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 and hold it there. 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.

## 10 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 into 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 Installation #9) Try stopping the leak by resetting both flapper and Leak Guard chain.
- If resetting both flapper and Leak Guard chain does not resolve the leak (See Installation #3) Try resetting the flush valve and flush valve locknut.

### 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 step 9)
- If fill valve has been in use for some time, and float cup does not drop when flushing the tank: Replace seal with genuine Fluidmaster 242 replacement seal.

### 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 Installation #9) a few chain loops at a time until valve refills tank after flush.

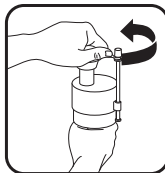
### IF Water level in bowl is too low

- 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. Adjust flapper to higher setting.
- If your toilet is 3.5 gallons per flush or larger, the flapper in this kit may not be the correct flapper. Pick up the Universal Long Life flapper #501 or Sure Fit all rubber flapper #504 by Fluidmaster.

## 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



If Replacing Seal: Use only 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 hose.

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

