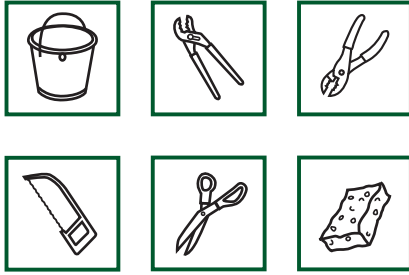


# INSTALLATION INSTRUCTIONS

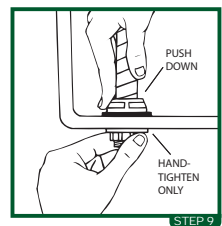
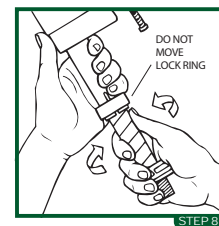
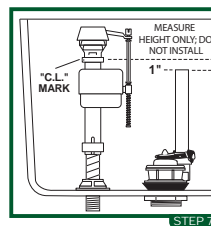
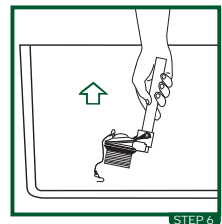
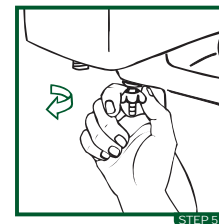
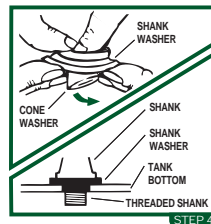
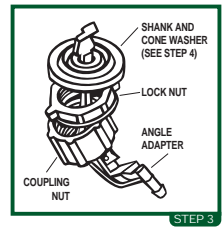
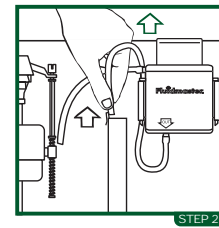
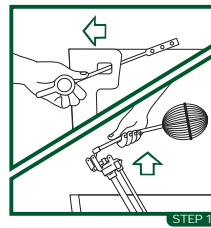
## TOOLS NEEDED:



DO NOT USE:

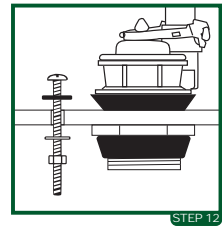
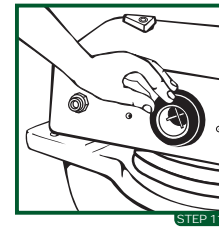
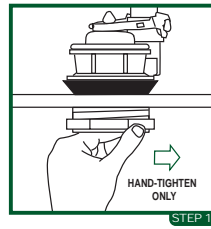


1. Shut off water supply to tank. Flush tank and sponge out remaining water. Remove old fill valve assembly and tank lever, using pliers if necessary.
2. If you have a Fluidmaster bowl cleaning system, this will need to be removed (if you don't have a cleaning system, continue to Step 3). **TAKE CAUTION** when removing bowl cleaning system from the tank, as the cleaning agent may drip from tubes, which can stain hands, clothing and carpets. Carefully disconnect the tubes from the fill valve and the overflow pipe. Do not disconnect tubes from the dispenser. Place dispenser unit in a bucket in an upright position.
3. Disassemble small parts – LOCK NUT, SHANK WASHER and ANGLE ADAPTER for Valve installation (required); CONE WASHER and COUPLING NUT for Water Supply Connection (optional—see Step 14).
4. Carefully remove CONE WASHER from center of SHANK WASHER. Place SHANK WASHER on threaded shank of new VALVE. Place flat surface against valve.
5. Unbolt tank from bowl, then lift off tank. Remove washers and nuts from bottom of tank, then remove old bolts. Remove old gasket.
6. Remove old flush valve, including flapper, using wrench if necessary.
7. When installed, the top of the overflow pipe on the new flush valve should be at least 1" below the hole in the tank where the tank flush lever is mounted. If necessary, cut the overflow pipe to achieve this height. **The critical level mark on the fill valve (identified by a C.L. mark on the Fluidmaster Fill Valve) should be at least 1" above the top of the overflow pipe. This is a plumbing code.**
8. To adjust the height of the fill valve, twist the threaded shank in or out of valve body. The height of the valve adjusts from 9 to 14 inches. On some models, a clicking noise will be heard when adjusting the height. This is normal.
9. Position valve inside tank. Push down on the valve shank (not the top) while tightening lock nut. Hand-tighten only. Make sure float cup does not touch toilet tank walls, trip mechanism or flush valve.

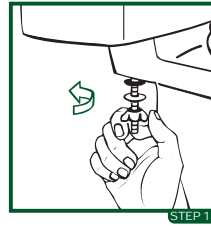


# INSTALLATION INSTRUCTIONS (continued)

- Install new flush valve. Tighten lock nut. Hand-tighten only. **DO NOT OVERTIGHTEN** or tank may crack.
- Slide new rubber gasket (small side down) onto threaded end of flush valve.
- Install 2 or 3 bolts as follows: Slide rubber washer under bolt head and insert bolt through tank. Install brass washer, then thread hex nut onto bolt. Carefully tighten bolt until snug. **DO NOT OVERTIGHTEN** or tank may crack. Place tank back on bowl so that rubber gasket fits evenly.



- Install rubber washer, brass washer, then wing nut onto bolt. Repeat for other side and back side (if required). Tighten nuts evenly. **DO NOT OVERTIGHTEN** or bowl may crack.
- Before continuing, determine the type of water supply connection you have from the chart on the right and use the appropriate assembly parts required to properly reconnect the water supply. **DO NOT** use plumber's putty to seal these fittings.

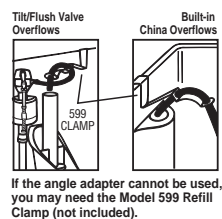
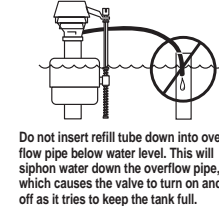
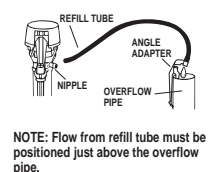
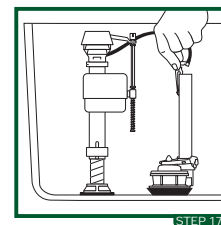
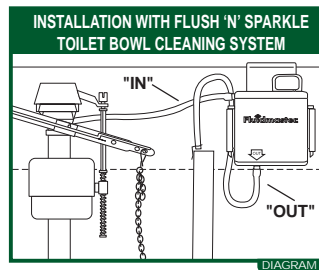
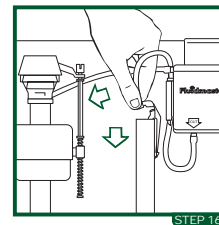
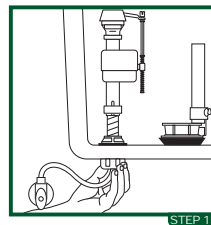


- With correct washers in place (see Step 14), tighten coupling nut. **DO NOT OVERTIGHTEN. CAUTION: DO NOT USE CONE WASHER WITH PLASTIC SUPPLY LINE.**

- If you have a Fluidmaster bowl cleaning system, reinstall as follows (if you don't have a cleaning system, continue to Step 17): Hang dispenser where previously positioned in toilet tank. Be sure toilet tank flushing components move freely. Attach long tube ("OUT") with clip fastener to the overflow pipe. Attach other tube ("IN") to fill valve nipple (see Diagram 1).

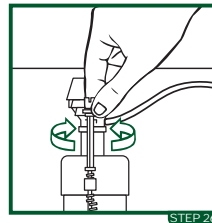
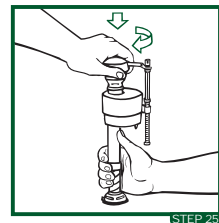
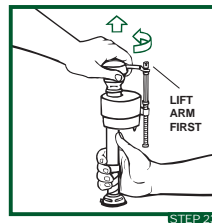
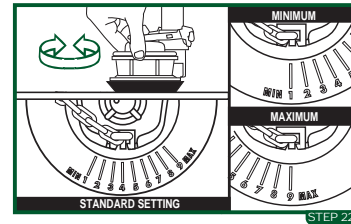
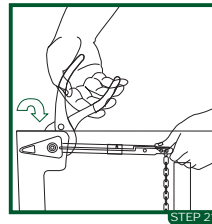
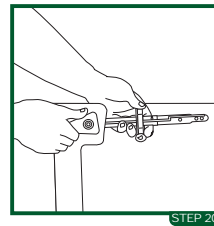
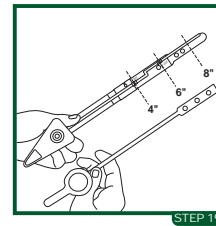
- Attach one end of black refill tube to angle adapter and the other end to nipple located near top of valve. Attach angle adapter to overflow pipe. Trim refill tube as necessary to prevent kinking. **NOTE: Flow from refill tube must be positioned just above the overflow pipe. Do not insert refill tube into overflow pipe. This will siphon water down the overflow pipe, which causes the valve to turn on and off as it tries to keep the tank full.** If the angle adapter cannot be used, you may need the Model 599 Refill Clamp (not included).

DO NOT use plumber's putty to seal these fittings.	METAL/COPPER FLARED TUBING	METAL FLANGED TUBING	METAL SPIRAL TUBING	VINYL/BRAIDED CONNECTOR
These parts must be used as illustrated to insure water-tight connection. Use of existing coupling nut or cone washer may result in water leakage. Water supply tube or pipe must extend at least 1/2" inside threaded shank of valve (does not apply to flanged tubing).	LOCK NUT CONE WASHER COUPLING NUT WATER SHUTOFF	LOCK NUT EXISTING WASHER EXISTING COUPLING NUT WATER SHUTOFF	LOCK NUT EXISTING CONE WASHER COUPLING NUT WATER SHUTOFF	LOCK NUT COUPLING NUT WATER SHUTOFF
	Use existing coupling nut and washer.	Use existing spiral cone washer. Fluidmaster cone washer may not seal completely on spiral type supply line.	Captive cone washers already included. No additional washers needed.	
<b>CAUTION: DO NOT USE CONE WASHER WITH PLASTIC SUPPLY LINE.</b>			<b>CAUTION: Overtightening of LOCK NUT or COUPLING NUT could result in breakage and potential flooding.</b>	



## INSTALLATION INSTRUCTIONS (continued)

18. Continue to Step 19 for standard front-mount tank. FOR SIDE OR ANGLE MOUNT TANK: **slowly** bend new tank lever arm to match old tank lever arm. Or position new tank lever in tank to determine arm angle needed. Remove, then **slowly** bend new tank lever arm to match the angle of the tank. DO NOT BEND ARM TOO QUICKLY OR BACK AND FORTH REPEATEDLY.
19. Measure length of existing tank lever (it should be 4", 6", 8" or 9"). If necessary, trim new tank lever at the cut line that matches the length of the old tank lever (hacksaw recommended for best results).
20. Unthread nut from new handle (reverse thread – turn opposite usual direction) and remove. Slide new tank lever through tank hole until handle shank fits snugly. Slip lock nut over tank lever (flat side facing handle). Start nut on threads (reverse thread), but DO NOT TIGHTEN FULLY.
21. Connect flapper chain/linkage to hole in tank lever arm that provides the best lift. Chain should have slight slack when flapper is in closed position. Replace lid. Check lift action for proper flush. Tighten tank lever nut securely. DO NOT OVERTIGHTEN OR TANK MAY CRACK.
22. To adjust flush, begin where the chain attaches to frame as your center point. Flapper is set at "9" for maximum flush volume. For standard flush volume, rotate flapper to "4." For less (minimum) flush, rotate flapper to "1." Or rotate anywhere in between for the desired flush volume.
23. **IMPORTANT: Always clear sand and rust from system.** Make sure water supply is shut off. Remove valve TOP by lifting arm and rotating top and arm 1/8 turn counterclockwise, pressing down slightly on cap.
24. While holding a container over the uncapped VALVE to prevent splashing, turn water supply on and off a few times. Leave water supply off.
25. Replace TOP by engaging lugs and rotating 1/8 turn clockwise. MAKE CERTAIN TOP IS TURNED TO THE LOCKED POSITION. VALVE MAY NOT TURN ON IF TOP IS NOT FULLY TO THE LOCKED POSITION.
26. Turn on water supply. Submerge the FLOAT CUP under the water for 30 seconds. Adjust the water to desired level by turning WATER LEVEL ADJUSTMENT ROD and moving FLOAT CUP up or down. Water should end up 1/2" to 1" below top of OVERFLOW PIPE.



### TROUBLESHOOTING

#### IF FILL VALVE WON'T TURN OFF,

- There may be debris at seal – repeat Steps 23-25.
- The seal inside the VALVE TOP may be damaged – replace with genuine Fluidmaster 242 seal.

#### IF FILL VALVE TURNS OFF AND ON DURING PERIODS OF NON-USE,

- There may be a leak at the FLAPPER.
- The end of the REFILL TUBE is inserted into OVERFLOW PIPE below water level in tank (See Step 16 or 17).