

Green Maintenance Tips and Tricks

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- GREEN*:
 - Concerned with or supporting environmentalism
- Maintenance*:
 - The upkeep of property or equipment
- GREEN Maintenance:
 - Upkeeping property or equipment in a way that supports the environment

(*Merriam-Webster Dictionary)

- Repair tips and tricks to save:

Power
Water
Chemicals

Green Maintenance to Conserve Power

Did you know?

Commercial and residential buildings use about 40% of the total energy consumed in the US and contribute about 38% of CO₂ emissions.

Compact Fluorescent (CFL)

- **Saves power Directly**

(CFL) = Incandescent
15watts = 60watts

- **Saves power Indirectly**

Incandescent bulbs produce heat that must be removed;
CFL produces much less





- Be aware of hazardous waste from all fluorescent bulbs
- Ensure that mercury is handled properly

- LED
 - Light Emitting Diode
- New “whiter light”
 - Huge energy savings
 - Very long lasting
- Great solutions for fixtures that are:
 - On all the time
 - Hard to maintain
 - Using a lot of electricity



Light Emitting Diode (LED)

- Replace 15 and 20 watt incandescent bulbs with LED's in your exit signs
- Annual Energy Costs with LED: \$1.26

EXIT SIGN RETROFIT KIT BENEFITS			
Light Source	Universal LED T-Bulb	20 Watt Incandescent Bulb	15 Watt Incandescent Bulb
Watts Per Bulb	0.9	20	15
Total Watts Per Sign	1.8	40	30
Rated Bulb Life	25+ Years	3,000 Hrs	3,000 Hrs
Annual Energy Cost ⁽¹⁾	\$1.26	\$28.03	\$21.02
Annual Replacement Cost ⁽²⁾	\$0.00	\$16.06	\$16.06
Annual Labor Cost ⁽³⁾	\$0.00	\$43.80	\$43.80
Total Annual Costs	\$1.26	\$87.89	\$80.88
Annual Savings with T-Bulb		\$86.63	\$79.62

(1) Based on 24 hours a day of operation and an electrical rate cost of \$0.08 per kilowatt-hour.

(2) Based on replacement bulb cost of \$2.75.

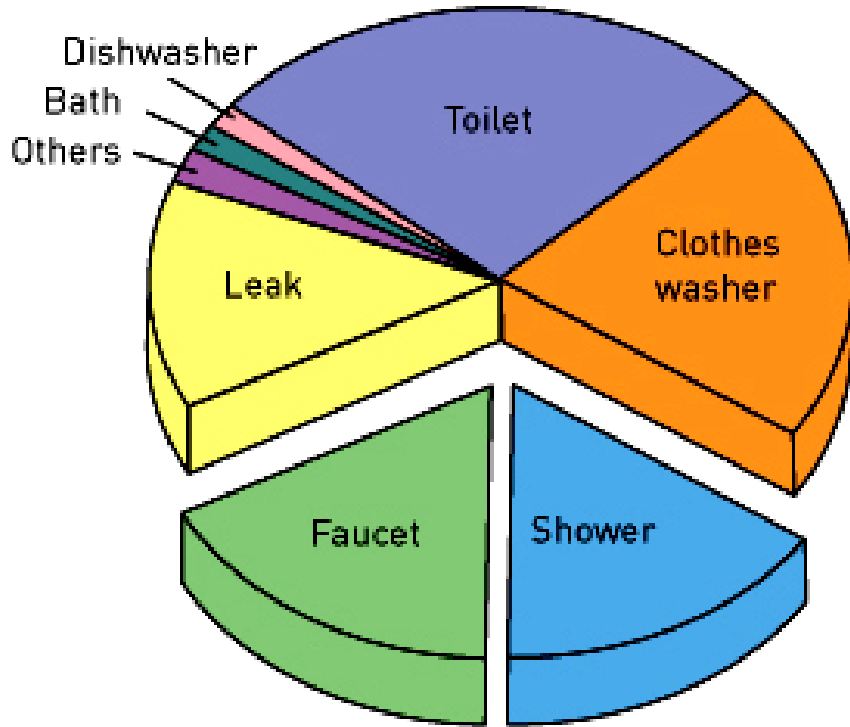
(3) Based on a total of 30 minutes of labor per replacement at \$15.00 per man-hour.

Preventative Maintenance:

- Change filter
- Clean Coils
- Educate Residents



Green Maintenance to Conserve Water



Water use by application

Top 3 targets to address with Green Maintenance:

		Priority
Toilets	26%	#1
Faucets	17%	#2
Showers	16%	#3

- Toilet Maintenance Tips:
 - Select and properly install components:



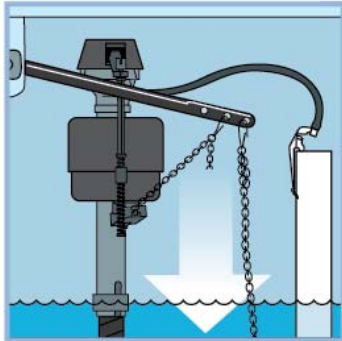
Fluidmaster Leak Sentry:

- Actively enlists resident to help reduce waste

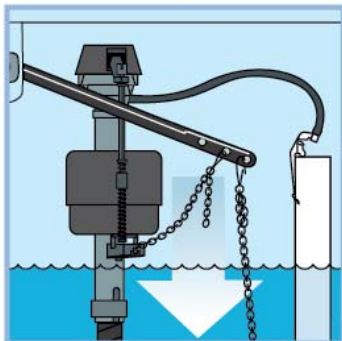


Leak Sentry

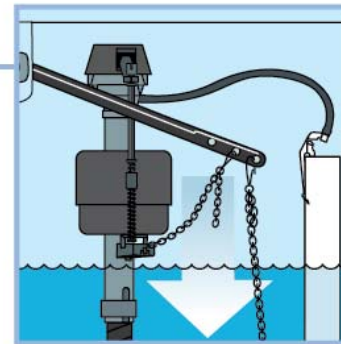
How the Leak Sentry System Works:



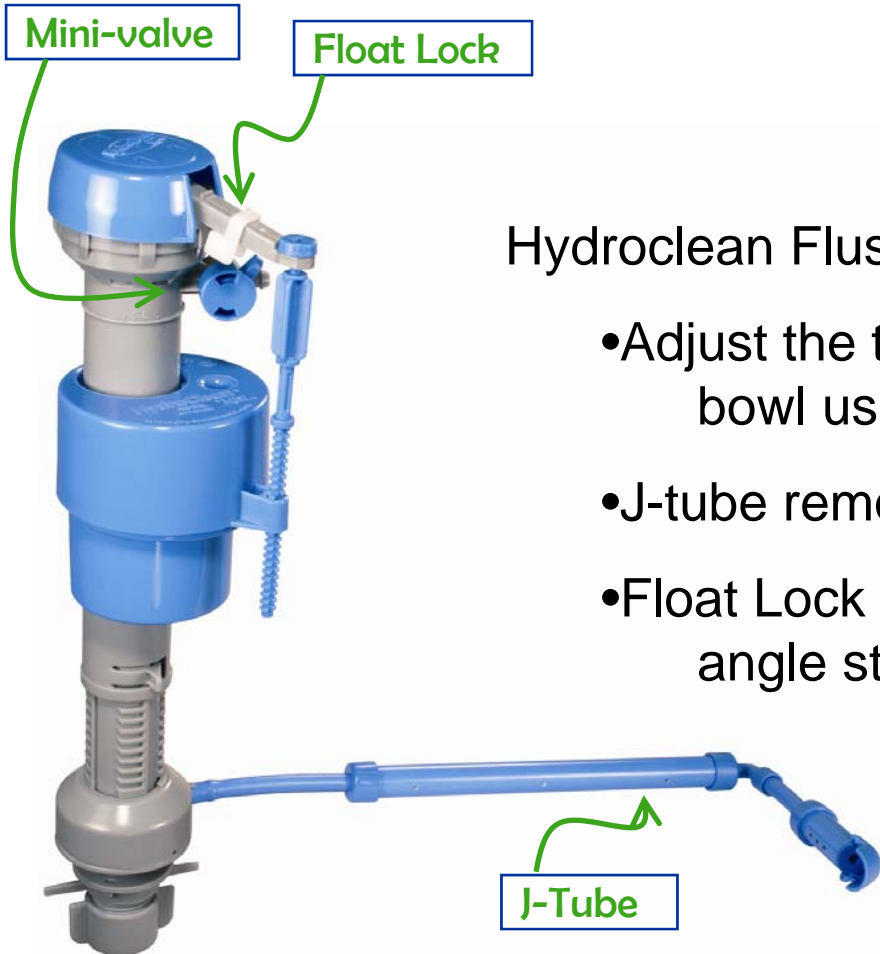
1 When a leak starts to drain the toilet tank, a unique “locking” action prevents the float cup from dropping.



2 This forces the user to press the tank lever twice. The first time unlocks the Leak Sentry System and refills the tank.



3 The second time initiates the flush. Even when the Leak Sentry System “locks” the valve before refill, the toilet remains fully operational.



Hydroclean Flush Valve:

- Adjust the tank to fill at the same time as the bowl using mini-valve
- J-tube removes rust and sediment
- Float Lock allows repairs without touching angle stop

How to Measure the Water Old Valves Are Wasting

1. Place a pencil mark at the water line in the toilet bowl.
2. Flush toilet and watch the water level inside the bowl.
3. Once bowl water hits mark, remove the refill tube from the overflow and direct it into a container outside the tank.
4. The water fills the container instead of rippling in the bowl.
5. After the tank is done filling, measure the water in the container.

The average family flushes each toilet about 10 times per day. Multiplying the amount of water just shown to be wasted yields the following:

OUNCES SAVED PER FLUSH	GALLONS SAVED PER YEAR	WATER SAVED PER FLUSH	GALLONS SAVED PER YEAR
30	855	80	22,281
40	1,141	90	2,566
50	1,426	100	2,852
60	1,711	150	4,277
70	1,996	200	5,703



- **Faucet**
 - Aerator
 - Available .5-1.5 GPM
 - Easy upgrade
 - Reduces largest cause of vanity faucet waste

- Low Flow Showerheads
- Reduce water volume while still providing good pressure
- Available in 2-2.5 GPM



Green Maintenance and Chemical Usage

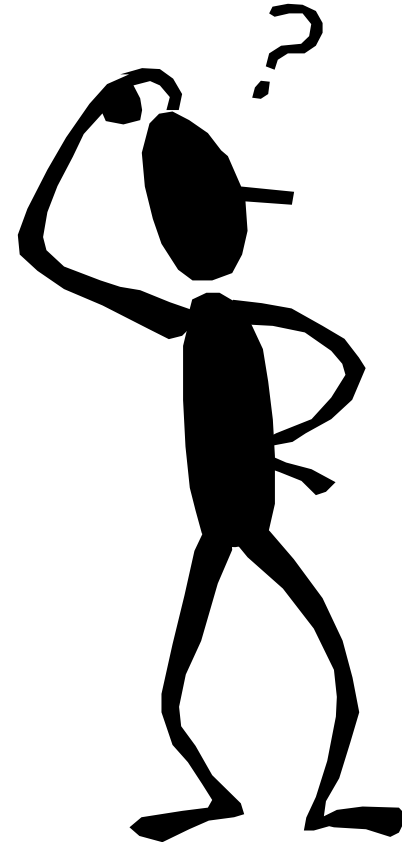
Green Maintenance does not mean that we stop using chemicals; just that we are more responsible with our use.

- Concentrated products
 - Save \$\$\$ and reduce waste packaging
 - Follow dilution instructions
- Be aware of vapors (IAQ)
- Look for low VOC Products
 - (Volatile Organic Compounds)

Reducing chemical
usage requires a
change in procedure:

Examples:

- Refrigerant
- Drain Cleaner





Refrigerant

- Test refrigerant before recovery for acid
 - If positive, you can not reuse it and must reclaim
- Recover clean refrigerant for reuse at same property



Drain Cleaner Alternatives

- Hot water
- Zip it tool
- Plunger
- Hand Auger
- Toilet “snake”



Review:

Power

- CFL
- LED

Water

- Parts
- Calibrate

Chemicals

- Follow labels
- Change habits

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