

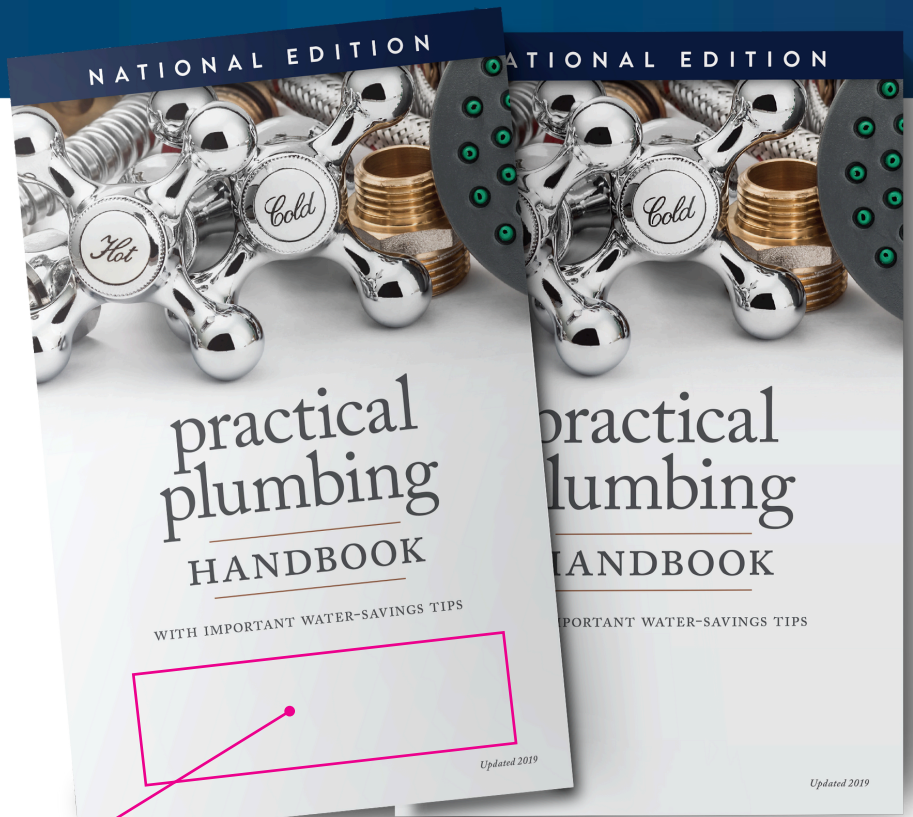


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Example pages

SECTION 1

The ABC's of Plumbing

Funny, It Didn't Look Broken

WATER METERS - HOW TO DETERMINE IF YOU HAVE A LEAK

The Two Common Meter Types

Your water meter keeps track of how much water your household uses. The meter is usually located on your property near the street inside a concrete box labeled "WATER METER." It may be a bit dark inside the meter box, so bring a flashlight along! In some homes the water meter is located in the basement. Note that water meter problems have been replaced with analog meters with digital readouts and some newly constructed homes are equipped with digital meters.

Meters measure water in cubic feet, gallons, cubic meters, or other units. One cubic foot is equal to 7.48 gallons. For example, if your meter says you used 41 cubic feet in a day you would multiply it by 7.48 to find that 306 gallons were used. In the U.S., water may be measured as 100 cubic feet or 2,832 gallons. In Canada, the measure is cubic meters. Digital meters will often alternate between the unit used and the flow rate in gallons or liters per minute.

You can check for leaks on individually-metered residences by using your meter. Simply turn off all water uses on the property. If the flow indicator (triangle or star) is turning, you've got a leak. If not, note the location of the pointer and the last two numbers on the far right windows. Do not use water for 30 minutes. If the pointer has moved and/or the windows have rolled higher, there is a leak. Turn off your home's main shut-off valve. If the pointer is still moving, there is a leak somewhere in the supply line from the meter to the shut-off valve. If the pointer stops moving, then the leak is inside the house.

It is important to note that very small leaks might not be detectable at the meter, depending upon the type and age of meter. Even if there is no movement, you still need to check individual fixtures, fittings and appliances for possible leaks.

Digital meters will indicate leaks in various ways depending upon what type of meter model you have. The easiest way to detect a leak is by observing the flow indicator valve after all water in the property has been shut off. If the flow indicator displays positive flow, you have a leak. Some digital meters also indicate leaks by displaying a leak indicator icon, the term "leak" or "leakage" indicates normal operation, or a left-pointing arrow. Read on to determine the possible cause.

Single Family Water Use

SECTION 2

Repairs & Preventative Maintenance

INDOORS

Leaks

Leaks Waste Water, Cost Money

Leaks through an opening, pressure 60 lb.

Leak size	1/8"	1/4"	3/8"	1/2"	3/4"
Gallons per month/week	100,000	220,000	500,000	20,000	4,000

Leaks: drips

60 drops per minute	10 drops per minute	100 drops per minute
100 gallons per month	200 gallons per month	2,000 gallons per month

Leaks: smooth streams

1/2" stream	1" stream	2" stream
100 gallons per month	400 gallons per month	1,600 gallons per month

SECTION 3

Resources

GUIDES/BOOKS

Compliant Techniques for DPF
Creative Homeowner, January 2007
<http://www.a4we.org/2007/01/01/Compliant-Techniques-for-DPF/>

Black and Decker: The Complete Guide to Plumbing Updated 7th Edition
Café Springs Press, January 2009
<http://www.a4we.org/black-decker-complete-guide-7th-edition/>

Smart You Can Build Plumbing
Smart Publishing Corporation, January 2002
<http://www.a4we.org/smart-you-can-build-plumbing/>

Smart Water's Guide to Water Conservation
Smart Publishing Corporation, January 2002
<http://www.a4we.org/smart-water-s-guide-to-water-conservation/>

Water conservation is not something that should be considered only during a drought. Conservation and water efficiency should be a way of life.

TOP TEN WAYS TO SAVE WATER AT HOME

Check your home's water meter to see if you have a leak.	page 4
Fix toilet flushes.	page 11
Install a "high efficiency" toilet that "low flow" flushes (if you have a pre-1994 model).	page 22
Turn off your toilet!	page 22
Replace pre-1994 water gelling toilets with new high efficiency toilets.	page 23
Run your washing machine only when it's full.	page 46
Run your washing machine and dishwasher only when they're full.	page 47
Check your irrigation system frequently and adjust sprinklers so they water only your lawn, and not your sidewalk or street.	page 53
Adjust your irrigation system controller (timer) to run just the right amount of water to your yard, and set a "water" controller.	page 53
Water gelling early morning hours when temperatures are cooler to maximize evaporation.	page 55

DAILY WATER USE: CONSERVING VS. NON-CONSERVING

The table compares the average activities of a household to more efficient water use for residential installations.

Activity	Conserving	Non-Conserving
Showering	5	10
Brushing teeth	1	2
Handwashing	1	2
Washing dishes	1	2
Washing clothes	1	2
Washing car	1	2
Watering lawn	1	2
Watering garden	1	2
Watering plants	1	2
Watering trees	1	2
Watering shrubs	1	2
Watering flowers	1	2
Watering lawn	1	2
Watering garden	1	2
Watering plants	1	2
Watering trees	1	2
Watering shrubs	1	2
Watering flowers	1	2

Comparison of Washer Type Faucet

Kitchen Ball-Valve Underwater Faucet, Dishes and Pots are Washed in Sink

Shower Ball-Valve Underwater Faucet, Shower pans on kitchen ball valve faucet