

BAND TECHNICAL PUBLICATIONS



FREEZE PROTECTION FOR HOUSES

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FREEZE PROTECTION

for houses

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FREEZE PROTECTION FOR HOUSES

1.0 INTRODUCTION

This publication is for band councils (for awareness and distribution) and describes how to protect the plumbing system of a house that is to be left unheated in winter.

Certain minimum precautions must be taken. These are not difficult but do require attention to detail.

Most modern plumbing systems have been constructed for easy drainage of both the waste disposal and pressurized water piping. The valves, taps and accessories have been designed with this in mind.

If you are to do a good job of preparing for freezing conditions you must **know your plumbing system**.

Learn where all the shut-off and drain valves are located and how they turn "off" and "on". Be aware of the type of water and sewage disposal system that your plumbing is connected to. Are you supplied with municipal water and sewer service or do you have your own well, pump and septic tank?

A familiarization course, "Residential Plumbing Systems", has been prepared by the Department and is available through IANCDistrict or regional office. Consult your band council for details. People attending this course may also receive a copy of this publication as a handout.

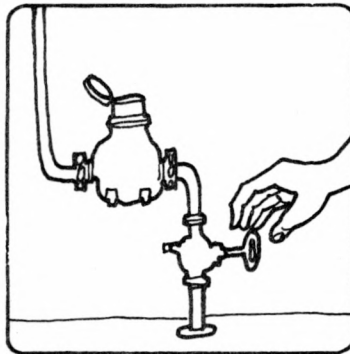
2.0 SHUTTING DOWN THE PLUMBING SYSTEM

The following is a step by step procedure for completely shutting down the plumbing system and winterizing the equipment, plumbing fixtures and accessories.



Step 1 – SAVE WATER FOR PERSONAL USE

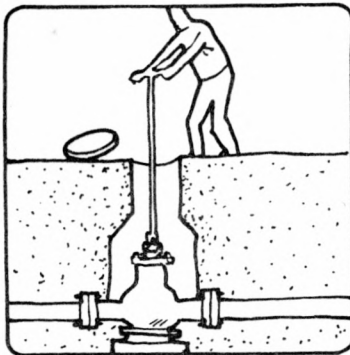
Drain off into a container enough water for personal use on the day of the shutdown.



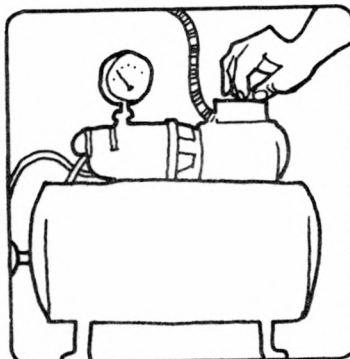
Step 2 – SHUT OFF INCOMING WATER SUPPLY

For municipal water systems

If your water supply is from a municipal system there will be a main shut-off valve. It is located inside the house just after the incoming water line passes through the wall of the foundation or basement.

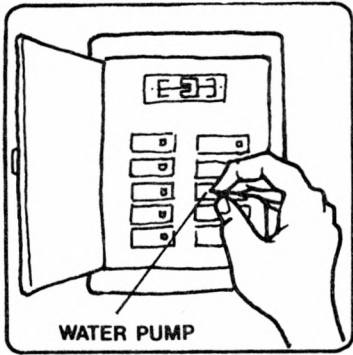


If the underground branch water line to your house also has a municipal shut-off valve, request the water supply authorities to shut it off if your absence is of long duration.

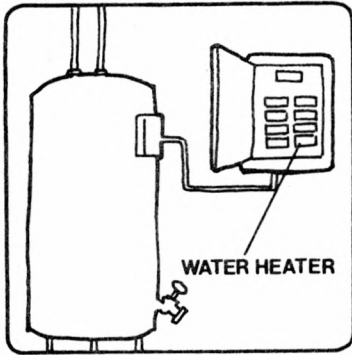


For private wells

If your water is from a private well there will be a pressure pump and tank. Turn off the water pump motor switch.



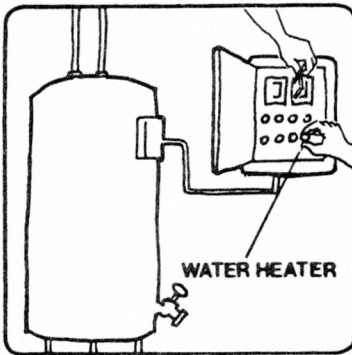
In addition turn off the pump breaker switch at the main electrical panel.



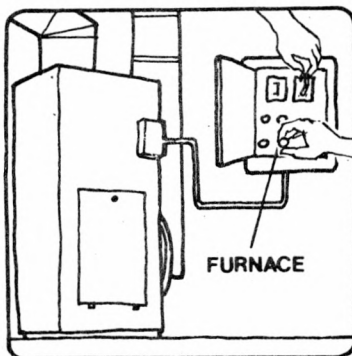
Step 3 – TURN OFF ELECTRICITY

To water heater

If the water heater is electric, turn it off at the breaker, or

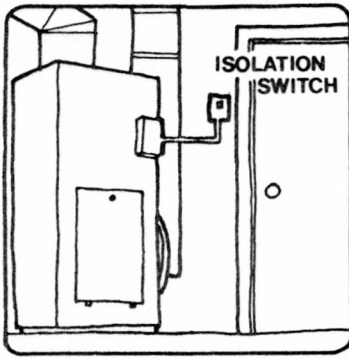


if the circuit is fused, first switch off the main electrical service entrance switch and then remove the fuse serving the water heater.



To furnace

Turn off the electrical power to the furnace in the same manner as described above for the water heater.

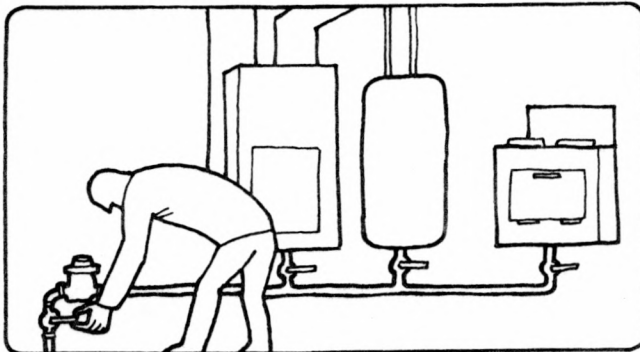


If the furnace has a wall mounted isolation switch, turn this off as well.



Note:

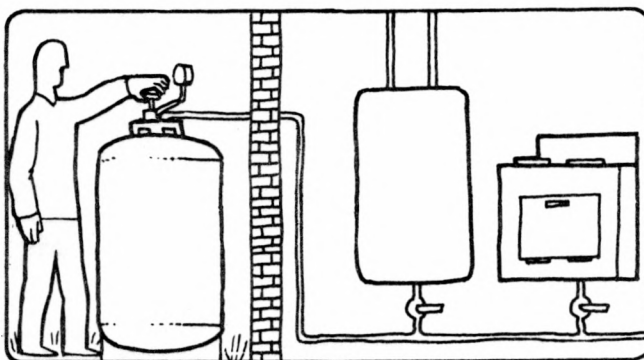
If electrical power is not required in the house during the entire shut-down period, turn off the main electrical service entrance switch as well.



Step 4 – TURN OFF GAS AND OIL

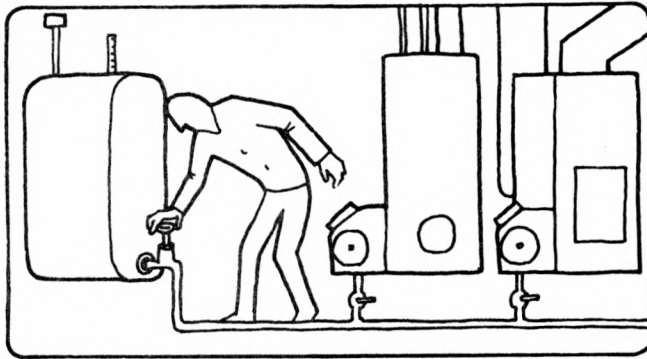
Natural Gas

Turn off the main gas valve entering the house, and all branch valves to appliances such as water heater, stove and furnace.



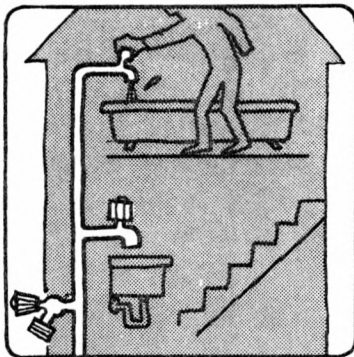
Propane Gas

Turn off the main gas valve on the propane tank header and all branch valves to appliances such as water heater, stove, laundry drier and furnace.



Oil

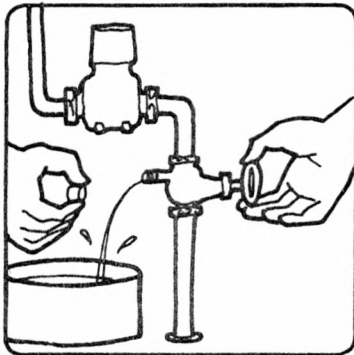
Turn off the oil storage tank valve and all branch valves to appliances such as water heater and furnace.



Step 5 – OPEN ALL WATER FAUCETS, VALVES AND STOPS

Working floor by floor and starting at the highest point on the water piping system, open all faucets, valves and stops on all plumbing fixtures and appliances. Leave them open until water is turned back on.

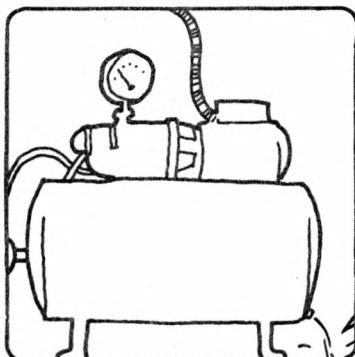
Note: Be sure that all outside wall hydrants or hose bibs have been opened.



Step 6 – OPEN ALL DRAIN VALVES

Open all drain valves or drain plugs as follows:

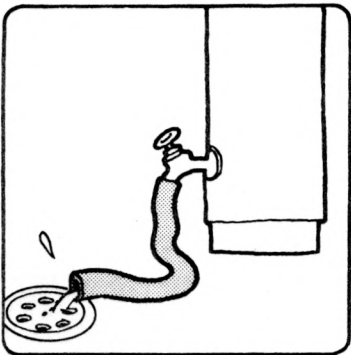
a. if on a municipal system – on the main incoming water valve;



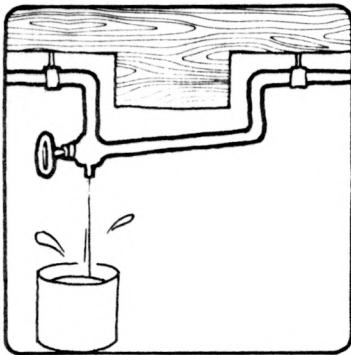
b. if on a well system – on the pump pressure tank; (for further information on winterizing the pressure pump and tank see 3.1);



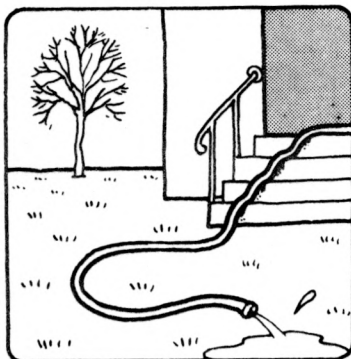
c. on the water heater tank;



d. on any water treatment equipment installed;



e. and at low points of water piping sections.



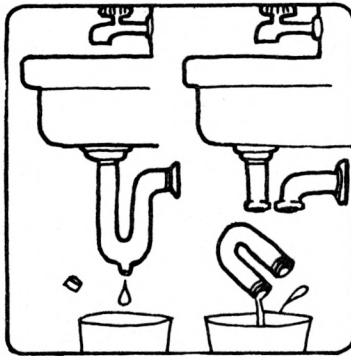
Note:

To avoid water damage to floors during the draining process, make sure that all drain valves are connected to a floor drain or run outside the building using a garden hose.



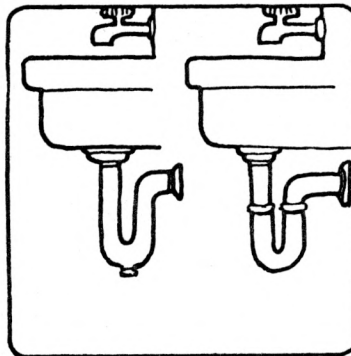
Step 7 – WALK THROUGH THE HOUSE

Examine all the faucets, drain valves and plugs to ensure that they are fully open and that you are satisfied that the complete water piping system has been drained.



Step 8 – OPEN AND DRAIN ALL TRAPS ON THE DRAINAGE SYSTEM

Go through the building again and remove the drain plugs from all fixture traps. Drain the water into a bucket. If the trap is of the screw type without a plug, disassemble very carefully using two wrenches.



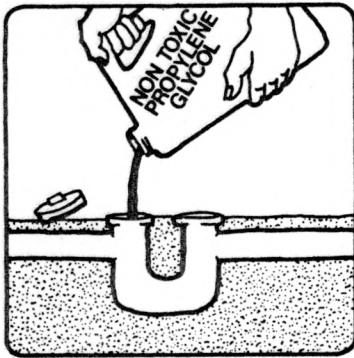
Step 9 – REINSTALL TRAP PLUGS

After you have drained all the traps, reinstall the plugs and reassemble the traps which do not have plugs.



Step 10 – FREEZE PROOF ALL TRAPS

Fill the following with antifreeze solution:
a. all drained traps;



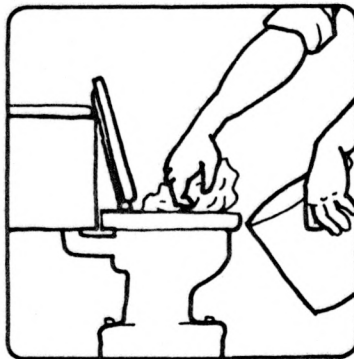
b. the main house trap in the basement (if used).

This is necessary to keep the traps from freezing and bursting and to stop sewer gases from entering the house.

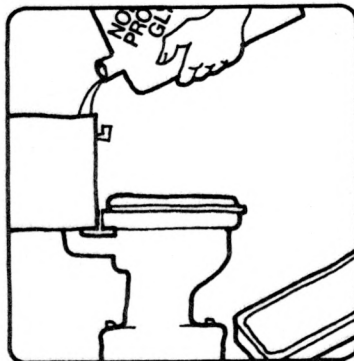


Do not use automobile antifreeze as it is toxic and poisonous. It should not be brought into the house.

Buy the nontoxic propylene glycol used in recreational vehicles. Mix as directed and fill each trap.



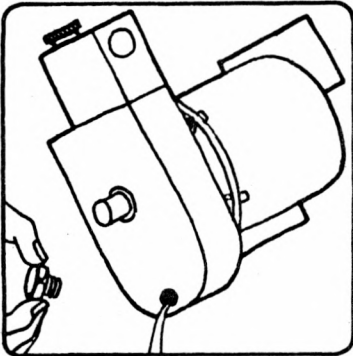
To freeze proof the toilet, empty both the toilet tank and bowl of water and dry with rags or newspaper.



Pour at least 5 L (1 gallon) of the propylene glycol solution into the toilet tank.



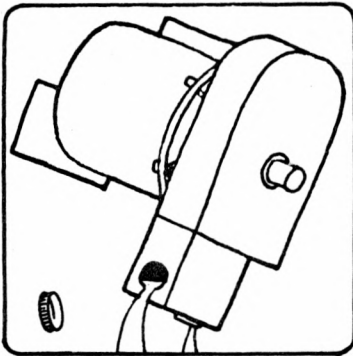
Flush the tank once to dislodge water from the flushing channels of the toilet bowl. The antifreeze will collect in the trap.



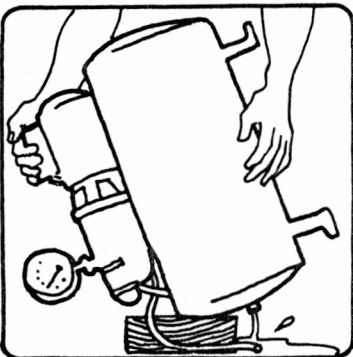
3.0 SPECIAL CONSIDERATIONS

3.1 Water Pumps and Pressure Tanks

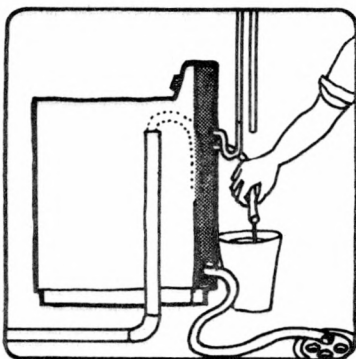
If the house has a well pump, you must remove all water from the pump casing to prevent damage.



On some pumps a housing drain plug may be provided, but for most you will have to disconnect the pump from its base and turn it upside down.

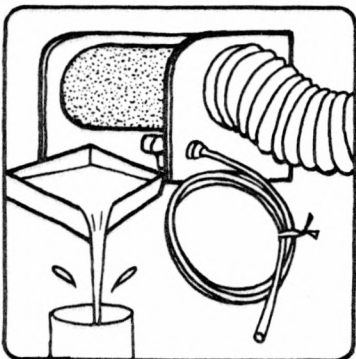


If the pressure tank is on the same base as the pump, and does not have a drain plug either, it may be possible to turn the whole unit upside down and drain both the pump and the tank at the same time. If not, each item should be disconnected and drained separately.



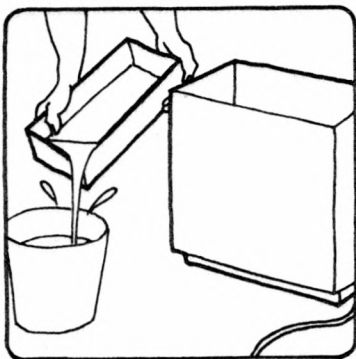
3.2 Household Appliances

All home appliances which use water must be completely drained to avoid costly repairs from freezing. In most cases, you will have to syphon out the water from the appliance. The most common items requiring special attention are automatic dishwashers and laundry washers. Drain the hoses and piping to and from the appliance on both portable and permanently installed models. Where check valves are used on the supply, remove the water in the vertical riser above the check valve as well. Consult the manufacturer's instructions for additional information.



3.3 Furnace Humidifiers

If the house has a warm air furnace with either a pan or drum-type humidifier, disconnect and drain the humidifier water supply tubing. Empty and dry out the water pan.



3.4 Portable humidifier

Empty and dry out the water pans of all portable humidifiers.



4.0 REACTIVATING THE PLUMBING SYSTEM

When the house is to be reoccupied, reverse the procedure described in 2.0.

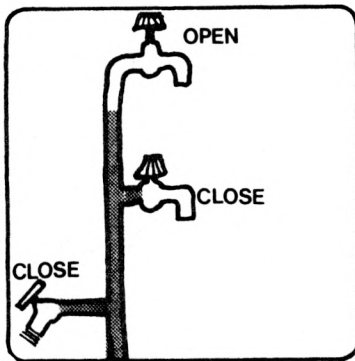
Step 1:

Turn on the house electrical power supply (if it has been turned off) but do not turn on the water heater until the tank is full of water (Step 7).



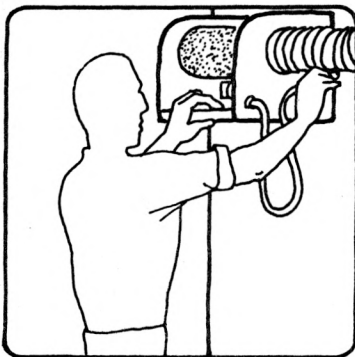
Step 2:

Walk through the house and make sure that there has not been any damage to the plumbing system (piping, fixtures and appliances).



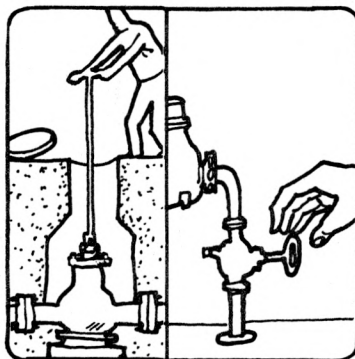
Step 3:

Close all drain valves and all faucets, except one hot and cold water faucet at the highest point, to let all the air out of the piping.



Step 4:

Reassemble and reconnect all equipment.



Step 5:

Open the municipal or private water supply.



Step 6:

Allow the system to fill and air to escape until sputtering ceases through the two faucets which remain open, then close these faucets.



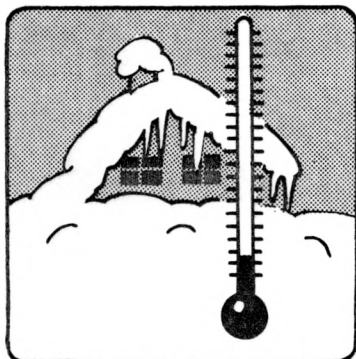
Step 7:

Make sure that the water heater is full of water (by opening one hot water faucet until water runs freely) before turning on the power and the heat source; electricity, oil or gas (pilot light).



Step 8:

It is not necessary to remove the antifreeze from any of the fixture traps. Normal use of the plumbing will clear it away automatically.



5.0 CONCLUSION

If you follow the steps outlined above, you can feel safe leaving your home unheated in cold weather.