

General Hot-Shot™
Operating Instructions
Model 400

Introduction

A frozen water pipe can be thawed very quickly by passing low voltage high current electricity through the frozen pipe. **Plastic pipe will not conduct electricity so this method will not work on plastic pipe.** There must be unfrozen water under standard water pressure on one side of the frozen part of the pipe and an open faucet on the other side.

When thawing a frozen section of water pipe, heat the pipe only enough to melt a thin film of ice in the inside of the pipe. **A faucet must be opened** in the unfrozen part of the line down stream from the frozen section. The warmer water above the ice will seep through the melted film and very quickly melt the rest of the ice. The water will start to flow in about 10 minutes if the connections are properly made. Since copper pipe will not heat as fast as steel pipe, allow about 30% longer thawing time.

Warnings

- The Hot-Shot 400 requires either a 15 amp 115 volt AC outlet when on the "Low" setting, and a 20 amp outlet when on the "High" setting.
- Be sure the unit is plugged into a **properly grounded** receptacle. If in doubt, check receptacle before plugging in unit.
- If the power cord supplied with the unit is not long enough, be sure to use a grounded heavy duty extension cord that is in good condition. Using lighter cords can result in severe power loss and overheating.
- There is a possibility that the output current of the unit may be transferred into the electrical service, either at the house being thawing, or at a remote location. Therefore, all grounds (i.e. electrical service, telephone, and cable TV grounds) must be disconnected, both at the house being thawed and all houses on the same distribution transformer.
- Do not leave unit unattended while thawing. Do not leave unit operating overnight.

Operating Instructions

1. Isolate the frozen section of pipe. Inside a house, this is done by opening faucets and back tracking the pipes. The frozen section will usually be in the outside walls, near doors, windows and in crawl spaces under floors. If all the water outlets in the house fail to operate, the line from the curb valve to the house is frozen.
2. House service pipes usually have to be thawed by connecting one cable to the exposed pipe in the kitchen or basement and other cable to the curb service. At the curb, make the connection to the valve at the bottom of the service riser, using the curb key. Do not connect the cable to the adjustable ground level cover as it is a poor connection to the valve.
3. Connect the cables on either side of the frozen section so that they complete an electric circuit. The cable clamps must be at least 10 feet apart.
Caution: The cables get hot!! Keep them clear of rugs and finished floors that can be damaged by heat.
4. Good connections are required. Clean all pipes **before** connecting the cables. Make both pipe connections before plugging unit into receptacle. Make sure

all connections are tight to prevent arcing at the clamps. Loose connections also get hot and reduce current flow. **Caution: Uncoil the cables!!** Do not leave any cable coiled up or placed on steel objects as the heating in the pipe will be reduced.

5. If a good connection is made, the pipe and cables will vibrate with a 60 cycle hum that you can feel with your hand. After all connections are made and the unit is plugged in, switch the circuit breaker on.

Some Common Problems

1. Cables stay cold. Pipe does not thaw
 - Do you have power? Check fuses.
 - Is the circuit breaker switched on?
 - Do you have a good connection?
 - Are the pipes clean at the connection?
 - Are both clamps on the same pipe?
 - Has the thermal protector tripped?
 - Is there a rubber coupling in the line?
 - Is there plastic pipe in the line?
 - Has the ice pushed the joints apart?
2. Cables get warm. Pipe does not thaw.
 - Are clamps on pipe, not on curb cover?
 - Are the pipes clean under the clamps?
 - Are cables sized properly? (Larger cables must use larger wire size.)
3. Cables get hot. Pipe does not thaw.
 - Is there water pressure in pipe?
 - Is the source of water pressure frozen?
 - Is source water pump operating?
 - Do the clamps cover all of frozen area?
 - Can the current go more than one way from clamp to clamp?

Thawing Times

The times in the below chart are approximate and under ideal conditions. Actual times will vary depending upon type of pipe, diameter, gauge, and length of cable, etc.

Note: Since copper pipe will not heat up as fast as iron pipe, allow about a 30% longer thawing time.

Note: Longer cables must also be a larger gauge. If smaller diameter cables are used, current will be reduced.

400 AMP Output Thawing Time

Pipe Length	Iron Pipe	Copper Pipe
20 ft	8 min	11 min
40 ft	10 min	13 min
50 ft	12 min	17 min
60 ft	15 min	20 min
80 ft	20 min	27 min
100 ft	25 min	33 min

