

TECHNICAL BULLETIN

BULLETIN 36

NOT ENOUGH HOT WATER - ELECTRIC

CAUSE	Not enough hot water complaints are becoming more frequent in the water heater industry. This increase was triggered when changes required by our regulatory agencies were implemented. For example, heaters are now factory preset at a lower temperature and inlet tubes have been shortened. While lower temperatures settings reduces the burn rate, and shorter dip tubes guard against stacking, both affect the amount of hot water a water heater can supply. The following test will help determine if a water heater is supplying the intended amount of hot water and will help pinpoint any problems that exist.
--------------	--

TEST	Please read all the steps of the test prior to beginning. If you feel uncomfortable performing any of these steps, contact a service person to conduct this test for you.														
<i>STEP 1</i>	At the faucet nearest to the water heater, time (in seconds) how long it takes to fill a 1 gallon bucket (flow rate). Gallon per minute (gpm) = 60 seconds / seconds to fill a 1 gallon bucket <i>If the bucket fills in: 10 sec = 6 gpm</i> <i>12 sec = 5 gpm</i> <i>15 sec = 4 gpm</i> <i>20 sec = 3 gpm</i> <i>24 sec = 2.5 gpm</i>														
<i>STEP 2</i>	Turn both upper and lower thermostat dials on the water heater to 130° F.														
<i>STEP 3</i>	Run about 15 gallons of hot water from the nearest faucet. Shut water off.														
<i>STEP 4</i>	Water heater should complete heating 15 gallons in approximately 45 minutes														
<i>STEP 5</i>	At a nearby faucet using a candy thermometer, measure the hot water temperature.														
<i>STEP 6</i>	The temperature should fall between 120°F to 140°F.														
<i>STEP 7</i>	Continue running the hot water until 60% of the tank capacity is depleted: <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">CAPACITY</th> <th style="text-align: center;">DEPLETE</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><i>30 gallons</i></td> <td style="text-align: center;"><i>18 gallons</i></td> </tr> <tr> <td style="text-align: center;"><i>40 gallons</i></td> <td style="text-align: center;"><i>24 gallons</i></td> </tr> <tr> <td style="text-align: center;"><i>50 gallons</i></td> <td style="text-align: center;"><i>30 gallons</i></td> </tr> <tr> <td style="text-align: center;"><i>66 gallons</i></td> <td style="text-align: center;"><i>39 gallons</i></td> </tr> <tr> <td style="text-align: center;"><i>80 gallons</i></td> <td style="text-align: center;"><i>48 gallons</i></td> </tr> <tr> <td style="text-align: center;"><i>120 gallons</i></td> <td style="text-align: center;"><i>72 gallons</i></td> </tr> </tbody> </table>	CAPACITY	DEPLETE	<i>30 gallons</i>	<i>18 gallons</i>	<i>40 gallons</i>	<i>24 gallons</i>	<i>50 gallons</i>	<i>30 gallons</i>	<i>66 gallons</i>	<i>39 gallons</i>	<i>80 gallons</i>	<i>48 gallons</i>	<i>120 gallons</i>	<i>72 gallons</i>
CAPACITY	DEPLETE														
<i>30 gallons</i>	<i>18 gallons</i>														
<i>40 gallons</i>	<i>24 gallons</i>														
<i>50 gallons</i>	<i>30 gallons</i>														
<i>66 gallons</i>	<i>39 gallons</i>														
<i>80 gallons</i>	<i>48 gallons</i>														
<i>120 gallons</i>	<i>72 gallons</i>														
<i>STEP 8</i>	At the same faucet using a candy thermometer, measure the water temperature.														
<i>STEP 9</i>	The temperature should be about 30°F below the temperature in step 6.														

THE FIX	Step 6 - if the temperature was not within range, check the thermostats. Step 9 - if more than 30 °F was lost, check the lower element for continuity and the dip tube.
----------------	--