

TECHNICAL BULLETIN

BULLETIN 35

NOT ENOUGH HOT WATER - GAS

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.
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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). $\text{Gallon per minute (gpm)} = 60 \text{ seconds} / \text{seconds to fill a 1 gallon bucket}$ <i>If the bucket fills in:</i> 10 sec = 6 gpm 12 sec = 5 gpm 15 sec = 4 gpm 20 sec = 3 gpm 24 sec = 2.5 gpm												
<i>STEP 2</i>	Turn thermostat dial on the water heater so the arrow points to "A" position.												
<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 20-35 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;">30 gallons</td> <td style="text-align: center;">18 gallons</td> </tr> <tr> <td style="text-align: center;">40 gallons</td> <td style="text-align: center;">24 gallons</td> </tr> <tr> <td style="text-align: center;">50 gallons</td> <td style="text-align: center;">30 gallons</td> </tr> <tr> <td style="text-align: center;">75 gallons</td> <td style="text-align: center;">45 gallons</td> </tr> <tr> <td style="text-align: center;">100 gallons</td> <td style="text-align: center;">60 gallons</td> </tr> </tbody> </table>	CAPACITY	DEPLETE	30 gallons	18 gallons	40 gallons	24 gallons	50 gallons	30 gallons	75 gallons	45 gallons	100 gallons	60 gallons
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<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 thermostat. Step 9 - if more than 30 °F was lost, check the dip tube.
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