



***Field Service Bulletin***  
**Insufficient Hot Water**  
**Model(s) Affected: All Units**

A water heater should deliver 70% of its rated capacity, with less than 30 degrees drop in water temperature.

There is only one way to determine whether or not a water heater is efficiently supplying its maximum production of hot water.

Immediately after the water heater has completed its heating cycle, all of the hot water should be drawn from the heater, and the temperature measured in the process. This can be done with the use of a standard mercury thermometer and a standard 3 or 5 gallon bucket.

Note the number of buckets of water drawn off to reach a point 30 degrees lower than the highest temperature. Multiply the number of buckets drawn off by 3 (or 5) (the number of gallons per bucket.) This figure should then equal, or exceed, 70% of the rated capacity of the heater.

**GAS HEATERS:**

If the test was conducted on a 30 gallon water heater, then the water drawn off should exceed 70% of 30 gallons. Therefore, 21 gallons of water should have been drawn from the heater with less than a 30 degree drop in temperature.

The gas burner will then operate for approximately 1 hour and 15 minutes to recover the water which had been drawn.

**ELECTRIC HEATERS:**

If the test was conducted on an electric water heater, then the maximum wattage input should be multiplied by .004, and that number divided into the rated gallon capacity of the heater. This will determine the number of hours necessary to recover the water drawn off.

For example, on a 50 gallon electric water heater, if the maximum wattage input is 4500 watts, you would multiply 4500 by .004: result, 18 gallons per hour recovery. Then divide 18 into the rated gallon capacity (50 gallons.) Result would be 2.8 – or approximately three hours operating recovery time.

**RESULTS:**

If 70% of your volume capacity is efficiently drawn off and operating recovery time is normal, then it can only be concluded that your demands are greater than the water heater's delivery ability.

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