



# MER Authorized Insulation Contractor Program Fans Off Combustion Safety Test Procedure

A Fans Off combustion safety test is always performed before any work is done when the home has a Natural Draft **and/or** an Induced Draft furnace, boiler, water heater or space heater.

## Step 1 – Perform Fans Off combustion safety Test

- a. House is set up for blower door test: all appliances off and all interior doors open.
- b. Fire-up the water heater and test spillage at the draft diverter with chemical smoke:
  - Pass = Spillage stops in five minutes or less.
  - Keep the water heater firing for the furnace or boiler spillage test.
- c. Fire-up the heating system and test spillage at the draft diverter w/ chemical smoke:
  - Pass = Spillage stops in five minutes or less, and still no spillage at water heater.
  - **If there is an Induced Draft furnace or boiler:**
    - Test spillage at the water heater diverter when the heating system fires.
      - Start the test time at fire-up, after the purge cycle is completed.
    - Pass = Spillage stops at the water heater in five minutes or less.
- d. Prepare the heating systems for the blower door test.

## Step 2 – Perform CFM50 Blower Door Test

## Step 3 – Record results on MER rebate application

- a. Record blower door test CFM50 under “pre air sealing blower door test results” on rebate form.
- b. Record before work combustion safety test results.
  - If all combustion appliances Pass Fans Off combustion safety test, **Contractor work can begin.**
  - **If any combustion appliance Fails the Fans Off combustion safety test This is an immediate safety hazard, and service is required.**
    - 1) Contractor to give homeowner the Combustion Appliance Safety Notice.
    - 2) Contractor to proceed with insulation and air seal work only after repairs made.
  - 3) **At job re-start: Contractor to re-do Fans Off combustion safety test to verify the house is ready for air seal and insulation work.**



# MER Authorized Insulation Contractor Program Fans On Combustion Safety Test Procedure

A Fans On combustion safety test is always performed after work is completed when the home has a Natural Draft **and/or** an Induced Draft furnace, boiler, water heater or space heater.

## Step 1 – Perform CFM50 blower door test

## Step 2 – Perform Fans On combustion safety test as follows:

- a. House is still closed up for blower door test: all appliances off, all interior doors open.
- b. Turn on the dryer, kitchen exhaust fan, and all exhaust fans that flow 150cfm or more.
  - Standard bath exhaust fans can be left off for this test.
- c. Turn on the furnace air handler fan.
- d. Set position of last door into water heater/furnace room by checking with chemical smoke.
  - Open door if smoke goes away from combustion appliance zone.
  - Close door if smoke goes into combustion appliance zone or doesn't move.
- e. Fire-up water heater and test spillage at the draft diverter with chemical smoke:
  - Pass = Spillage stops in five minutes or less, and still no spillage at water heater.
  - Keep the water heater firing for the furnace or boiler safety test.
- f. Fire-up heating system and test spillage at the draft diverter with chemical smoke:
  - Pass = Spillage stops in five minutes or less.
  - **If there is an Induced Draft furnace or boiler:**
    - Test spillage at the water heater diverter when the heating system fires.
      - Start the test time at fire-up, after the purge cycle is completed.
    - Pass = Spillage stops at the water heater in five minutes or less.

Any Fans On test failure: set appliances to pilot and retest with Fans Off to confirm safety.

## Step 3 – Record results on MER rebate application

- a. Record blower door test CFM50 under “post air sealing blower door test results” on rebate form.
- b. Record after work combustion safety test results (if required to be performed).
  - If any appliance Fails the Fans On combustion safety test:**
    - 1) Contractor gives homeowner the Combustion Appliance Safety Notice.
    - 2) Contractor may recommend next steps for home owner:
      - Get appliance repaired or replaced.