

HOUSE DIAGRAM

	Base-ment	First Floor	Mid-Level	Second Floor	Other	Totals
Living Floor (ft ²):						
Ceiling Height (ft):						
Volume (ft ³):						

House Type: _____

Floors Above Grade: _____

Foundation Type: _____
(If mixed, list different types below)

Foundation Types:

Number of Bedrooms: _____

Number of Occupants: _____

BUILDING SHELL

Foundation Walls:

Descriptive Name: _____
 Wall Type: _____
 Masonry Thickness (in): _____
 Wall Length (ft): _____
 Wall Height (ft): _____
 Height Above Grade (ft): _____

Foundation wall Insulation - Interior /Exterior (circle one)

Continuous R-value: _____
 Frame Cavity R-value: _____
 Insulation Coverage
 Ft from Top of Wall: _____
 Ft from Bottom of Wall: _____

Slab Floor Areas:

Descriptive Name: _____
 Perimeter Ins. R-value: _____
 Und-Slab Ins. R-value: _____
 Und-Slab Ins.Width (ft): _____
 Radiant Slab (yes or no): _____
 Area (ft2): _____
 Depth Below Grade: _____
 Full Perimeter (ft): _____
 Exposed Perimeter (ft): _____
 On Grade Perimeter (ft): _____

Frame Floors:

Descriptive Name: _____
 Continuous Ins. R-value: _____
 Cavity Ins. R-value: _____
 Floor Covering: _____
 Total Area (ft2): _____

Rim and Band Joist Areas:

Descriptive Name: _____
 Area (ft2): _____
 Continuous Ins. R-value: _____
 Frame Cavity Ins. R-value: _____
 Joist Spacing (in o.c.): _____

Above -Grade Walls:

Descriptive Name: _____
 Continuous Ins. R-Value: _____
 Frame Cavity Ins. R-Value: _____
 Stud Size (Actual w x d, in): _____
 Stud Spacing (in o.c.): _____
 Area (ft2) _____

Outside Doors:

Descriptive Name: _____
 Type: _____
 R-value: _____
 Storm Door (yes or no): _____
 Door Area (ft2): _____
 Glass Area (ft2): _____
 Opaque Area (ft2): _____
 Wall Assignment: _____

Ceiling Areas:

Type (Attc or Cath): _____
 Continuous Ins. R-value: _____
 Cavity Ins. R-value: _____
 Bottom/Rafter Size (w x h, in): _____
 Bottom/Rafter Space (in o.c.): _____
 Gross Area (ft2): _____

Whole House Infiltration Rate:

Outdoor Temp: _____ °F Indoor Temp: _____ °F
 Flow Ring: _____ Correlation: _____
 Infiltration Rate: _____ cfm@50 Pascals
 (DG 700 – one point test or Tectite multi-point test)

House Pressure	Pre		Post	
	Fan Pressure	CFM or Flow	Fan Pressure	CFM or Flow
1				
2				
3				
4				
5				

Air Leakage Sites (check all that apply):

- Chimneys
- Electrical Penetrations
- Plumbing Penetrations
- Mechanical Chase
- Void Around Stairwell
- Recessed Lights _____#
- Porch Ceiling
- Open Partition Wall at Top Plate
- Tongue & Groove Vaulted Ceilings
- Other: _____
- Soil Stacks
- Pocket Doors
- Band Joist
- Windows
- Sill Plate
- Drop Soffits

MECHANICAL SYSTEMS

Central Heating System: (if home has multiple heating systems, include information on reverse side of this sheet)

System Type: _____ Fuel Type: _____
 Manufacturer / Model #: _____ Load Served: _____ %
 Input (kBtuh): _____ Output (kBtuh): _____ Estimated Age: _____
 Seasonal Efficiency: _____ AFUE Performance Adjustment (%): _____
 Setpoint (F): _____ Automatic Thermostat? Yes No
 Location: Conditioned area Attic Unconditioned basement/enclosed crawl space Garage/open crawl space
 Furnace Filter Condition (check one): Good Fair Dirty Very Dirty

Central Cooling System: (if home has multiple cooling systems, include information on reverse side of this sheet)

System Type: _____ Fuel Type: _____
 Manufacturer / Model #: _____ Output (tons): _____
 Seasonal Efficiency: _____ SEER Load Served: _____ % Estimated Age: _____
 Performance Adjustment (%): _____ Setpoint (F): _____ Automatic Thermostat? Yes No

Domestic Hot Water Heater:

Type: _____ Fuel Type: _____ Fuel Switch Opportunity?: Yes No
 Manufacturer / Model #: _____ Size (gallons): _____ Energy Factor: _____ EF
 Extra Tank Insulation: _____ Estimated Age: _____
 Location: Conditioned area Attic Unconditioned basement/enclosed crawl space Garage/open crawl space
 Chimney Liner Present? Yes No Water Heater Orphaned in Chimney? Yes No

Duct System:

Location:
 Open crawl space Enclosed crawl space Conditioned crawl space Unconditioned Basement
 Conditioned basement Attic, under insulation Attic, exposed Conditioned space
 Number of Return Registers: _____ Insulation R-value: _____
 Percent supply ducts in unconditioned space: _____ Percent return ducts in unconditioned space: _____

Lights and Appliances:

Clothes Dryer Fuel: _____ Oven/Range Fuel: _____ Percent Fluorescent: _____ Refrigerator Age: _____

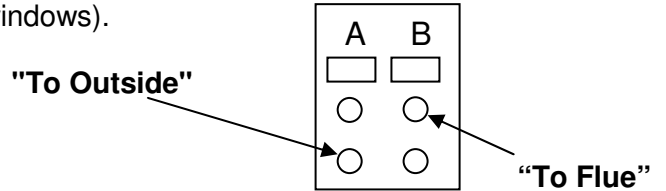
Mechanical Ventilation System:

Fan Location	Flow Rate	Hours-Per-Day	Fan Watts	Vented to Exterior?

Combustion Safety Testing Form

1. Turn combustion appliance(s) to *pilot* (to prevent operation during set-up). Make observation of any supply or return grills in the CAZ.
2. Zero CO detector (follow manufacturers instructions).
3. Record house ambient CO level.
4. Record outdoor temperature.
5. Put house in winter condition (including latching or locking windows).
6. Install hose; CAZ WRT (with respect to) Outside.
7. Check furnace filter, replace if dirty when possible.
8. Close all operable vents (example - fireplace damper).
9. Clean lint filter in dryer.

TEST	Pre test	Post test
Test Date		
Ambient CO		
Outdoor Temperature		



All readings: CHANNEL A: CAZ WRT OUTSIDE

1. **Baseline** test (interior doors open, all exhaust appliances off).
2. Turn on all exhaust appliances in home.
3. Turn on furnace air handler. Check for system integrity, verify all registers are open and unobstructed.
4. Close interior doors. Measure the pressure difference between main body and the room you are testing. (IF NEGATIVE, OPEN door. IF POSITIVE, close door.) Start with furthest door, working back to CAZ.
5. Record **worst case depressurization**.
6. Subtract Initial CAZ Baseline from #5 reading. Record number here: This is **NET Worse Case Depressurization**.
7. Record House Depressurization Limits (HDL) from table below. If readings in line #7 EXCEED the HDL, system FAILS. Inform customer via Disclosure Form.
8. Record dominant force(s) causing depressurization.
9. Maintaining the house under these Worst Case conditions, proceed to test the appliances.

Pre Test	Post Test

Maximum Depressurization for Combustion Appliance Zones by Appliance Type	
Venting condition	Pascals Limit
Orphaned natural draft water heater (including outside chimneys)	-2
Natural draft boiler, furnace or stove commonly vented with water heater	-3
Natural draft boiler, furnace or stove with damper commonly vented with water heater	-5
Individual natural draft boiler, furnace or stove	-5
Induced draft boiler or furnace commonly vented with natural draft water heater	-5
Power vented or induced draft boiler or furnace alone, or fan assisted DHW alone	-15
Chimney-top draft inducer; exhaust type or equivalent; high static pressure flame retention head oil burner; direct vented appliances; sealed combustion appliances	-50

Back-draft and CO Testing Results of Natural and Induced Draft Combustion Appliances

Cycle the combustion appliances for 1 minute. Record findings below. Do not drill holes in B vent or PVC pipe of sealed combustion units. For these units, measure CO at exterior outlet, if accessible.

Appliance	Draft Test Vent Pipe WRT to CAZ Channel B				Carbon Monoxide Measure before diverter				Spillage Y/N				
	Stand Alone Test		Combined Test		Stand Alone Test		Combined Test		Stand Alone Test		Combined Test		
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	
Water Heater													
Heating System													
Other													
Power/Direct Vent Water Heater													
Condensing Furnace													

REMINDER: A combined test of heating system and water heater must be performed if both appliances are tied into the same flue, before the masonry chimney. Induced draft furnaces must be tested for draft, and must be fired for the combined test. Check for back-draft at diverter of water heater when running furnace in combined test.

IF UNIT(S) FAIL WCD TEST: Test unit(s) under natural conditions to determine if failure is a result of chimney or flue connector blockage.

Combustion Safety Test Action Levels

CO Test Results	And / Or	Draft Test Results	Action
0 – 25 ppm	And	Passes	System is okay.
26 – 100 ppm	And	Passes	Recommend clean and tune to fix CO problem.
26 – 100 ppm	And	Fails at worse case only	Recommend C&T to fix CO problem and repairs to home to correct back drafting, or replace unit. A spill alarm may be installed in this situation.
100 - 400 ppm	Or	Fails under natural conditions	1. Stop work: Work may not proceed until system is serviced and problem corrected. 2. Disclosure Form must be signed.
>400 ppm	And	Passes	1. Stop work: Work may not proceed until system is serviced and problem corrected. 2. Disclosure Form must be signed.
>400 ppm	And	Fails under any condition	Emergency: Shut-off fuel to appliance. Instruct homeowner to call for service immediately

Minimum Acceptable Draft Readings in pascals = $(T_{out} F \div 40) - 2.75$

Acceptable Draft Test Readings - Outdoor Temperature										
F	<10	20	30	40	50	60	70	80	>90	F
Pa	-2.5	-2.25	-2	-1.75	-1.5	-1.25	-1	-0.75	-0.5	Pa

Recommend CO detector when gas furnaces/water heaters/ranges, or attached garages are present.