



Home Performance with ENERGY STAR[®] ASSESSMENT FIELD DATA COLLECTION FORM

Date: _____ **Name:** _____ **Phone:** _____

Address: _____

Building Data	<input type="checkbox"/> Single <input type="checkbox"/> Tri-Plex <input type="checkbox"/> Duplex <input type="checkbox"/> Mobile Home
Building Age: _____	# of Occupants _____

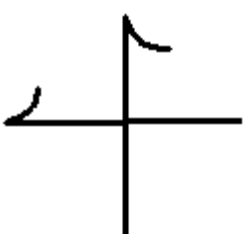
Customer Top Concerns:

1) _____

2) _____

– Foot Print –

Note Cardinal Directions



Air Leakage Data

Conditioned Floor Area: _____ ft ²	# Stories: _____	Ceiling Height: _____
Pre CFMs Reading: _____	Total Heated Volume: _____	
Post CFMs Reading: _____	Pre ACH 50: _____	(CFM 50*60/vol.)
	Post ACH 50 Reading: _____	(CFM 50*60/vol.)

Leakage Sites:

<input type="checkbox"/> Chimney SC Flues	<input type="checkbox"/> Dropped Soffit	<input type="checkbox"/> Attached Garage Wall
<input type="checkbox"/> Soil Stacks	<input type="checkbox"/> Recessed Lights	<input type="checkbox"/> Rim Joist, Sill
<input type="checkbox"/> Plumbing Chase	<input type="checkbox"/> Tongue & Groove Ceiling	<input type="checkbox"/> Doors, Windows
<input type="checkbox"/> Partition Walls	<input type="checkbox"/> Band Joist	<input type="checkbox"/> Porch Ceiling

Other: _____

Other: _____



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Insulation Area	Total Sq. Ft.	Pre R-Value	Post R-Value	Insulation Area	Total Sq. Ft.	Pre R-Value	Post R-Value
Attic 1				Sidewall cavities			
Attic 2				Foam Sidewall			
Attic 3				Sill Box			
Slopes/ Cathedral				Floor			
Gable End Walls				Interior Foundation			
Knee Walls				Exterior Foundation			
Other				Other			

HEATING EQUIPMENT INFORMATION				WATER HEATING EQUIPMENT INFORMATION			
Fuel Type		System Type		Fuel Type		Existing Gallons	
Natural Gas	<input type="checkbox"/>	Forced Air	<input type="checkbox"/>	Natural Gas	<input type="checkbox"/>	Replace?	<input type="checkbox"/>
Propane (LP)	<input type="checkbox"/>	Boiler steam	<input type="checkbox"/>	Propane (LP)	<input type="checkbox"/>	Fuel Switch?	<input type="checkbox"/>
Oil	<input type="checkbox"/>	Boiler water	<input type="checkbox"/>	Oil	<input type="checkbox"/>	Notes:	
Electricity	<input type="checkbox"/>	Heat Pump	<input type="checkbox"/>	Electricity	<input type="checkbox"/>		
Other: _____	<input type="checkbox"/>	Wall furnace	<input type="checkbox"/>	Other: _____	<input type="checkbox"/>		
		Space Heater	<input type="checkbox"/>				
System Vent				System Vent			
Atmospheric	<input type="checkbox"/>	Electric Baseboard	<input type="checkbox"/>	Atmospheric	<input type="checkbox"/>		
Induced Draft	<input type="checkbox"/>	Other: _____	<input type="checkbox"/>	Power Vented	<input type="checkbox"/>		
Condensing	<input type="checkbox"/>			Direct Vent	<input type="checkbox"/>		
		Co Level ppm	<input type="checkbox"/>				
Existing Age	<input type="checkbox"/>	Replace?	<input type="checkbox"/>	Existing Age	<input type="checkbox"/>		
Existing Afue%	<input type="checkbox"/>	Fuel Switch?	<input type="checkbox"/>	Co Level Afue%	<input type="checkbox"/>	Optional: Water Temp	<input type="checkbox"/>

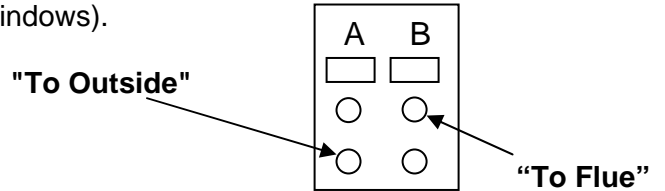
EXHAUST FAN INFORMATION			AIR CONDITIONING	
Location	CFM	Vented to Exterior?	Existing Unit? <input type="checkbox"/> Yes <input type="checkbox"/> No	
			Room Unit: <input type="checkbox"/>	How Many?
			Central Unit: <input type="checkbox"/>	
			System Age:	
			Recommend Replacement?	
Notes:			Duct Leakage/Open Vents in Basement?	



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 <small>WRT</small> 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 = $(T_{out} F^{\circ} \div 40) - 2.75$

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.