

# CAZ WORKBOOK -- WORST CASE

Customer Name	Address	Date of CAZ Test
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Name of Person Conducting CAZ	Combustion Appliance Description	Location
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1. Check and record CO outside	ppm
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2. Check and record CO inside (should be less than 9 ppm)	ppm
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**3. Leave CO Analyzer ON during testing to make sure CO level does not exceed 35 ppm**

4. Inspect venting system (condition and clearances)	
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5. Check for appliance safety concerns (loose wires, combustibles near appliances, etc.)	
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6. Determine appliance type and record depressurization limit from chart below.	
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**BPI - CAZ DEPRESSURIZATION LIMITS FOR MULTIPLE APPLIANCE TYPES**

✓	Venting Conditions	Limit (Pascals)
	Orphan natural draft water heater (including outside chimneys)	-2
	Natural draft boiler or furnace commonly vented with water heater	-3
	Individual natural draft boiler or furnace	-5
	Induced draft boiler or furnace commonly vented with water heater	-5
	Mechanically-assisted draft boiler or furnace commonly vented with water heater.	-5
	Mechanically-assisted 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

7. Record Outdoor Temperature	
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8. Record Minimum Draft Requirement using the formula from the BPI table below.	pa
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ACCEPTABLE DRAFT TEST RANGES	
Outside Temperature (degree F)	Draft Pressure Standard (Pa)
<10	-2.5
10 - 90	$(T_{out} / 40) - 2.75$
>90	-0.5

T\_out means - temperature outside

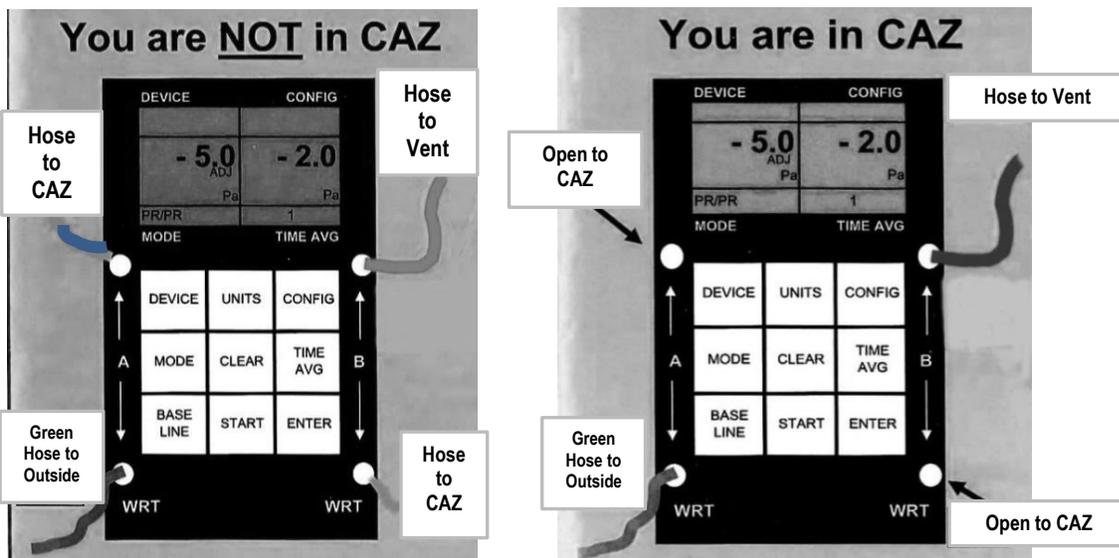
9. CLOSE all exterior doors and windows	
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10. OPEN all interior doors	
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11. Turn off the air handler and all exhaust fans

12. Set up meter with reference to the outside

**Turn Meter ON**  
**Press BASELINE once**  
**Press START**  
**Press Enter**



13. Turn ON Dryer (check filter) and all fans that exhaust to the outside

14. Start with the furthest door from CAZ and check all DOORS with SMOKE

15. If you are on the same side of the door as the Appliance -  
If the Smoke blows toward your Nose, the door stays closed.

16. Check and record pressure on the left side of the Meter

 pa

17. Turn ON the Air Handler (remove filter)

18. If pressure is more negative (than recorded on step 16), leave air handler ON and recheck all doors with smoke. If pressure is less negative, turn air handler OFF.

Yes
No

19. Record Worst Case Depressurization reading (Left side)

 pa

20. If the number recorded on step 6 is more negative than the number recorded on step 18, then the appliance **Passes** worst-case depressurization. If not, the appliance **Fails** worst-case depressurization.

Yes
No

21. Turn ON appliance

22. Check for Spillage (must pass within 60 seconds of the unit firing into cold vent).  
If the unit does not pass spillage, you must go to natural conditions and retest.

23. Check DRAFT with probe in flue pipe and record draft reading (right side).

pa

24. If the pressure recorded on step 23 is more negative than the number recorded on step 8, the draft passes. If not, the draft fails.

pa

25. Check and RECORD the undiluted CO reading.

ppm

Compare findings above to the BPI action level chart below and make appropriate recommendations.

CO Measurements for Undiluted Flue Gases @ Steady State	And/ Or	Spillage and Draft Test Results	Retrofit Action
0-25 ppm	And	Passes	Proceed with work
26-100 ppm	And	Passes	Recommend that the CO problem be fixed.
26-100 ppm	And	Fails at worst case only	Recommend a service call for the appliance and/or repairs to the home to correct the problem.
100-400 ppm	Or	Fails under natural conditions	<b>Stop Work:</b> Work may not proceed until the system is serviced and the problem is corrected.
>400 ppm	And	Passes	<b>Stop Work:</b> Work may not proceed until the system is serviced and the problem is corrected.
>400 ppm	And	Fails under any conditions	<b>Emergency:</b> Shut off fuel to the appliance and have the homeowner call for service immediately.

> Test Burners for flame



Left Front



Right Front



Left Rear



Right Rear

> Test Range Oven for CO

 ppm

> Make appropriate action based on BPI Standards in chart below.

RANGES AND OVENS		✓
1.	Remove any items including foil in or on oven/range top.	
2.	Make sure self-cleaning features are not activated.	
3.	Test oven in vent sleeve, before diluting air.	
4.	100 ppm to 300 ppm as measured - you must install a carbon monoxide detector and recommendation for service must be made to the consumer.	
5.	Greater than 300 ppm as measured - the unit must be serviced prior to work. If greater than 300 ppm after servicing, exhaust ventilation must be provided with a capacity of 25 CFM continuous or 100 CFM intermittent.	

**Note: Continually monitor ambient CO levels during testing.**

### Daily CAZ Testing

To ensure that Weatherization work does not adversely affect the operation of combustion appliances in the home, daily testing is required. Test spillage and depressurization for each CAZ at the conclusion of each work day in which envelope or duct sealing measures have been performed. *Ref. SWS 2.0201.1i*

Attach this form to the CAZ Workbook(s) completed during the initial assessment of the dwelling.

Enter results for each CAZ following procedures in the approved CAZ Workbook. Compare the daily depressurization and spillage results with the number recorded on steps 6 and 22 (pages 1 & 3 in Workbook) and indicate Pass or Fail with ✓ or X. Note the corrective actions taken in the space below.

*If no combustion appliances are present on job site, do not include this form in Client File.*

Item	Tester's Initials										
	Date										
1	Depressurization (pa)										
	Spillage (sec)										
2	Depressurization										
	Spillage										
3	Depressurization										
	Spillage										

Item	Combustion Zone / Appliance Descriptions
1	
2	
3	

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