CT WAP Daily Test-Out Form #45 **Effective Date: 10/10/2019**

Client Name:	Outside Temp:

Worst Case Depressurization Test

Set House to "Natural Conditions"	
TURN OFF OR SET TO PILOT ALL COMBUSTION APPLIANCES TURN OFF AIR HANDLERS, EXHAUST FANS, CEILING FANS, W/U'S CLOSE ALL EXTERIOR DOORS AND WINDOWS OPEN ALL INTERIOR DOORS **NOTE: IF BLOWER DOOR IS SET UP, BE SURE FAN IS COVERED**	CLOSE ALL OPERABLE VENTS AND DAMPERS CHECK DRYER VENT AND LINT FILTER VISUALLY INSPECT VENTING (of each combustion appliance) REMOVE FURNACE FILER (re-install after testing)
Calibrate monoxer outside; record living space ambient CO: If >35 ppm, corrective action required. _____**ppm**	**Pass/Fail**

Setup manometer and pressure hoses to measure CAZ (WRT) outdoors (see illustrations below if needed)
Take baseline pressure using manometer baseline function (Press baseline, start and after at least 30 to 60 seconds press enter).
Turn on all exhaust fans – bath fans, kitchen fans, dryers – (do not turn on whole-house "attic" fans).
Close all interior doors to rooms. Test doors starting with the furthest away from the CAZ and work your way back to the CAZ.
If the manometer is positive leave door closed. If negative, open door. "If it blows, close door. If not, leave door open".
If the house has a fireplace that the client uses, turn on the blower door to 300 CFM with ring B to simulate.
Recreate Worst Case conditions for each CAZ. If appliances share a common flue – always fire the smallest BTU appliance first.
Perform Worst Case Draft and combustion test for each appliance under this worst case condition.

Designate Combustion Appliance being tested:	**1**	**2**	**3**	**4**
Open door, if present, between CAZ and Main Body of house. Record Reading:	Pa	Pa	Pa	Pa
Close door between CAZ and Main Body of house. Record reading: (If no door, skip to next step)				
Turn on Air Handler. Check position of interior doors with smoke puffer or manometer for worst case condition. Close CAZ door. Record reading:				
Open door between CAZ and Main Body of house. Record reading: (If no door, skip step)				
According to CAZ Depressurization Limit Table below, does CAZ pass? ***If ambient CO gets above 35ppm, discontinue testing, set in Natural Conditions and retest**	**Yes** **No**	**Yes** **No**	**Yes** **No**	**Yes No**

CAZ Depressurization Limit Table **If the CAZ is more negative than the values listed, take appropriate corrective action**	
Appliance Types	**CAZ Depressurization Limits**
Orphaned natural draft water heater (including outside chimneys)	**-2 Pa**
Natural draft boiler or furnace commonly vented with water heater	**-3 Pa**
Natural draft boiler or furnace with vent damper commonly vented with water heater	**-5 Pa**
Individual natural draft boiler or furnace or water heater	**-5 Pa**
Mechanically Assisted/Induced draft boiler or furnace commonly vented with water heater	**-5 Pa**
Mechanically Assisted/Induced draft boiler or furnace alone, or fan assisted water heater alone	**-15 Pa**
Exhausto chimney-top draft inducer (fan at chimney top); High static pressure flame retention head oil burner; Sealed combustion appliances	**-50 Pa**

Carbon Monoxide Test

Appliance 1: _____ppm	Appliance 2: _____ppm	Appliance 3: _____ppm	Appliance 4: _____ppm

Assessor's Signature Date

Worst Case Spillage and Draft Tests

Spillage Test:

Keep CAZ in most negative or "Worst Case Condition:

Start with the smallest BTU appliance. Fire the appliance and start a 60 second timer.

Under Worst Case does the appliance develop a good draft within 60 seconds?

Type of Appliance	Time	Good Draft?
Appliance 1:	sec.	Yes No
Appliance 2:	sec.	Yes No
Appliance 3:	sec.	Yes No
Appliance 4:	sec.	Yes No

NOTE: If vent pressure is anything other than a negative pressure, the vent IS NOT venting properly. If the appliance does not develop a good draft within 60 seconds, steps MUST be taken to correct the problem.

Draft Test:

Keep CAZ in most negative or "Worst Case Condition:

Measure vent pressure WRT to CAZ on channel B. Set time Average to "long" to record pressure.

Repeat test for any other natural draft appliances in the CAZ.

Type of Appliance	Pressure	Calc. Range	Acceptable?
Appliance 1:	Pa	Pa	Yes No
Appliance 2:	Pa	Pa	Yes No
Appliance 3:	Pa	Pa	Yes No
Appliance 4:	Pa	Pa	Yes No

NOTE: Any appliance that fails a draft test under "WORST CASE CONDITIONS" MUST also be tested under natural/normal conditions, to ensure it will develop a good draft under normal conditions.

Natural/Normal Conditions Spillage/Draft Tests

Record outdoor temperature.

Allow venting system to cool down.

Starting with the smallest BTUH appliance, fire the appliance and start a 60 second timer.

Under Natural/Normal conditions does the appliance develop a good draft within 60 seconds?

Type of Appliance	Time	Good Draft?
Appliance 1:	sec.	Yes No
Appliance 2:	sec.	Yes No
Appliance 3:	sec.	Yes No
Appliance 4:	sec.	Yes No

NOTE: Any appliance that fails a draft test under natural/normal conditions MUST be taken out of service until problem can be corrected.

Measure vent pressure WRT to CAZ on channel B. Set time Average to "long" to record pressure.

Repeat test for any other natural draft appliances in the CAZ.

Type of Appliance	Pressure	Calc. Range	Acceptable?
Appliance 1:	Pa	Pa	Yes No
Appliance 2:	Pa	Pa	Yes No
Appliance 3:	Pa	Pa	Yes No
Appliance 4:	Pa	Pa	Yes No

If the measured vent pressures under both worst case and natural conditions are not within an acceptable range, steps MUST be taken to correct the problem.

Outdoor Temperature	Minimum Acceptable Draft Pressure
Below 10°	-2.5 Pa
10° F up to 90° F	(Outdoor temp ÷ 40) – 2.75 *see example
Above 90° F	-0.5 Pa

*Example: (33° F ÷ 40) – 2.75= -1.93 or -2 Pa draft pressure.

NOTE: Rounding final number up is acceptable. Rounding down is UNACCEPTABLE.

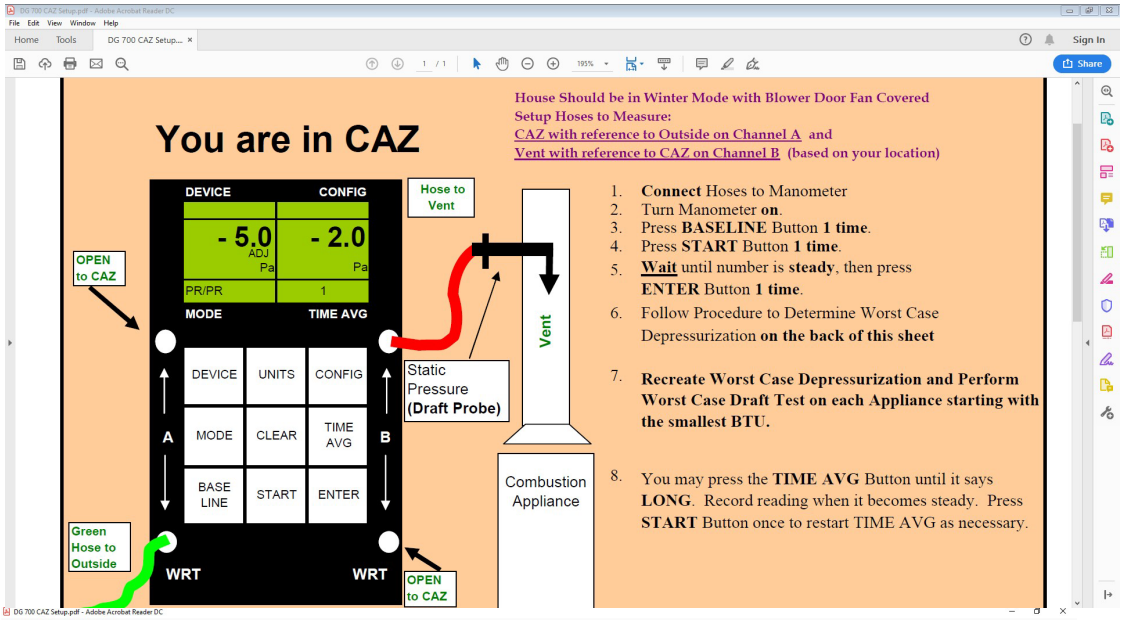
Worst Case draft fails if pressure is MORE POSITIVE than the limit!

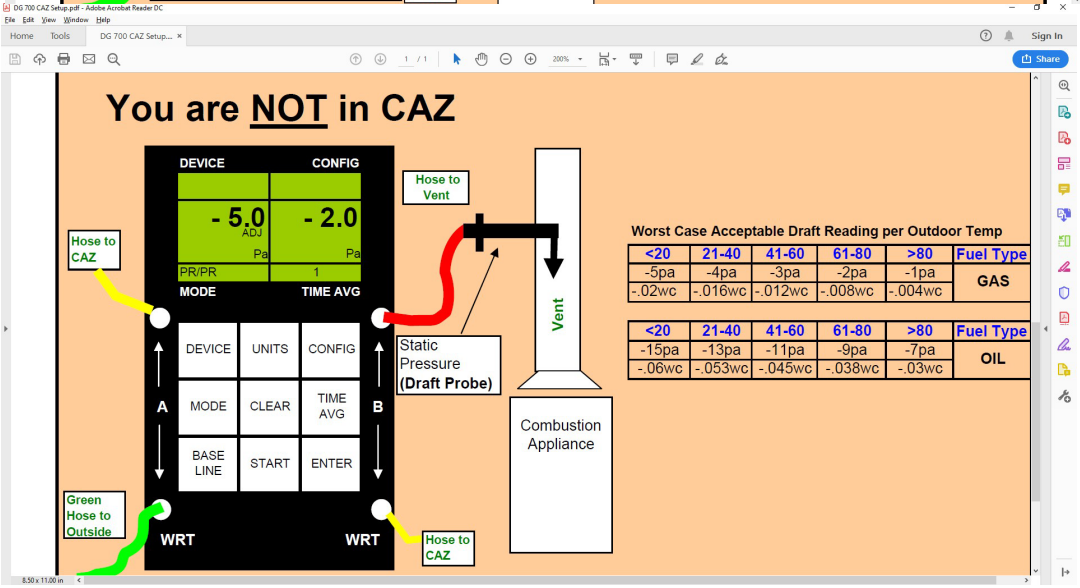
_____ _____

Assessor's Signature Date

Combustion Safety Test Action Levels			
CO Test Results	And/or	Spillage and Draft Test Results	Retrofit Actions
0 – 100 ppm	And	Passes	Proceed with work; if over 25ppm recommend CO problem be fixed
100 – 400 ppm	And	Passes	Recommend that the CO problem be fixed
100 – 400 ppm	And	Fails at worst case only	Recommend a service call for the appliance and/or repairs to the home to correct problem
100 – 400 ppm	or	Fails under natural conditions	Stop Work: Work may not proceed until the system is serviced and the problem is corrected
>400 ppm	And	Passes	Stop Work: Work may not proceed until the system is serviced and the problem is corrected
>400 ppm	And	Fails under any conditions	Emergency: Shut off fuel to the appliance and have the homeowner call for service immediately.

COMBUSTION APPLIANCE ZONE AND WORST CASE DRAFT TESTING





-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
ADD Positive = Move to Right SUBTRACT Positive = Move to Left										0	ADD Negative = Move to Left SUBTRACT Negative = Move to Right!									