



State of Ohio
Weatherization Program
Standards

Section **MOBILE HOME MECHANICAL
SYSTEMS FINAL INSPECTION**

Subject **Domestic Hot Water**

FUEL SUPPLY 801-4.1

Ensure that fuel is available to begin the final inspection.

fuel availability
801-4.1a

Ensure that there are no propane or natural gas leaks.

fuel leakage, gas
801-4.1b

Ensure that there is no fuel leaks in kerosene or fuel oil fired DHW units.

fuel leakage, oil
801-4.1c

Ensure that natural gas units are not over or underfired by clocking the meter and calculating the actual Btu input.

Btu input
801-4.1d

ELECTRICAL POWER SUPPLY 801-4.2

Ensure that the main electrical power supply to the unit is safe.

main power safety
801-4.2a

Ensure that the electrical line to the unit is a properly sized and properly fused dedicated circuit if one is needed.

dedicated circuit
801-4.2b

Ensure that wiring at or in the DHW unit is not charred, frayed, missing insulation and has no loose or improper connections.

safe wiring
801-4.2c

DHW UNIT CLEARANCES 801-4.3

Ensure that a combustion-type DHW tank is at the required distance from combustible materials PMI.

unit clearances
801-4.3a

VENT SYSTEM VISUAL INSPECTION 801-4.4

Ensure that the vent system extends from the DHW unit to the outside of the mobile home, has no cracks, holes or disconnected sections, and has no serious corrosion or rust.

vent system, visual inspection
801-4.4a

Ensure that vent to roof to outside connections are securely fastened.

vent connections
801-4.4b

elbows 801-4.4c

Ensure that there are no elbows in the venting.

combustion air
801-4.4d

Ensure that combustion air requirements are properly met.

DRAFT TESTING 801-4.5

draft, "worst case"
801-4.5a

Perform the worst case draft test (see 1506-4) and ensure that draft is within acceptable range as specified in Table 801-4.5.

Table 801-4.5 Draft Test Locations and Acceptable Readings

DHW Unit Type	Draft Gauge Probe Placement	Worst Case Acceptable Draft Readings at Listed Outdoor Temperatures (F)				
		< 20	21-40	41-60	61-80	> 80
Gas Atmospheric Appliances	Flue (after diverter)	-5 Pa	-4 Pa	-3 Pa	-2 Pa	-1 Pa
Gas Power Burners		-.02 w. c."	-.016 w. c."	-.012 w. c."	-.008 w. c."	-.004 w. c."
Oil Burners	Flue (before Barometric Damper) or draft diverter	-15 Pa	-13 Pa	-11 Pa	-9 Pa	-7 Pa
		-.06 w. c."	-.053 w. c."	-.045 w. c."	-.038 w. c."	-.03 w. c."

COMBUSTION SAFETY AND EFFICIENCY TESTING
801-4.6

carbon monoxide (CO)
801-4.6a

Perform the CO test as required. Ensure that the CO level in the flue gas is at or below 100 ppm.

combustion analysis
801-4.6b

Perform the combustion analysis test as required. Ensure that O₂ and net stack temperature levels are within limits outlined in Table 801-4.6b.

Table 801-4.6 Acceptable Combustion Test Analysis Measurements

DHW Unit Type	(O ₂) Oxygen	Stack Temp.	Smoke Test	(CO) Carbon Monoxide Max. ppm
GAS (Natural Gas, Propane) Atmospheric	4-9%	300-600° F	N/A	100
	Fan Assisted	300-480° F	N/A	100
OIL	4-9%	325-600° F	1 or less	100
Flame Retention	4-7%	325-600° F	1 or less	100

WATER TANK CONDITION 801-4.7

Ensure that the DHW tank is not leaking water.

tank leakage
801-4.7a

Ensure that an operable pressure relief valve, with the discharge pipe extending through the bottom of the mobile home belly, is present.

**pressure relief valve/
discharge pipe**
801-4.7b

Document tanks which have a manufacturer's warning against insulating.

**tank insulation
warning**
801-4.7c

Ensure that DHW tank has been insulated, if required.

tank insulation
801-4.7d

Ensure that the DHW tank temperature has been lowered, when possible, without affecting the customer's lifestyle.

temperature setting
801-4.7e

Ensure that no flame roll-out occurs when the gas-fired DHW unit is activated.

flame roll-out
801-4.7f

Ensure that DHW gas valve is working properly.

gas valve
801-4.7g

Ensure that the thermostat is operating properly.

thermostat
801-4.7h

DHW DISTRIBUTION 801-4.8

water lines
801-4.8a

Ensure that the water lines leading to and from the DHW tank are not leaking.

water line insulation
801-4.8b

Ensure that the first 6 feet of hot and cold water lines are insulated and that clearances from combustion sources are maintained.

fixture leaks
801-4.8c

Ensure that there are no leaks in the hot water fixtures. Ensure that leaks in cold water fixtures have been corrected, if the leaks contribute to moisture problems.

low-flow devices
801-4.8d

Ensure that low-flow devices are installed in the shower and sink fixtures if called for by the initial inspection.

**consumer energy
education**
801-4.8e

CEE

Ensure that the customer is provided with consumer energy education regarding DHW management.