



State of Ohio  
Weatherization Program  
Standards

Section	<b>MOBILE HOME MECHANICAL SYSTEMS INSTALLATION</b>
Subject	<b>Domestic Hot Water</b>

### *FUEL SUPPLY 701-4.1*

Repair leaks in the fuel supply lines. Replacement fuel lines shall be in accordance with the applicable NFPA material code for the fuel type being serviced.

**fuel leaks**  
701-4.1a

Use a manometer to check the manifold gas pressure and adjust according to manufacturer's instruction. If unable to locate manufacturer's recommended pressures, it is possible to use 11" water column for LP/propane and 3.25-3.75" water column inches for natural gas. Set oil pump pressure to PMI. With oil burners, it is too important to give a range.

**gas pressure**  
701-4.1b

Adjust the gas pressure if the DHW tank is under- or over-fired. Replace the orifice in a propane or natural gas system with the proper sized orifice, if necessary.

**gas orifices**  
701-4.1c

### *ELECTRICAL POWER SUPPLY 701-4.2*

Repair or replace the main electrical power supply to an electric tank if it is unsafe.

**main power supply**  
701-4.2a

Install a properly sized and fused dedicated circuit for the DHW if one is necessary based on wire condition, a history of circuit failure, or if a new unit is to be installed.

**dedicated circuit**  
701-4.2b

Replace any wiring in or connected to the heating unit that is charred, frayed, or has damaged insulation. Correct loose or improper wiring connections. Repair or replace defective wiring in, or leading to, the DHW unit in accordance with NFPA 70, the National Electric Code.

**hazardous wiring**  
701-4.2c



### *DHW UNIT CLEARANCES 701-4.3*

If a combustion-type DHW tank is not located with the required clearance from combustibles PMI, move it to achieve the required distance.

**unit clearances**  
701-4.3a

*VENT SYSTEM INTEGRITY 701-4.4*

**damaged/corroded**  
701-4.4a

Repair or replace sections of the venting system that are corroded, rusted, clogged or blocked, contain cracks or holes, and are unsealed, loose or disconnected, PMI, or Part 3280.707 (d) (1) or (2) of HUD Mobile Home Construction and Safety Standards for Energy Efficiency.

**vent connections**  
701-4.4b

Securely fasten vent-to-chimney connections.

*DRAFT 701-4.5*

**draft problems**  
701-4.5a

Correct any vent or combustion appliance zone pressure problem that prevents the proper draft from a combustion DHW tank. Refer to Table 701-4.5 for acceptable draft measurements.

Table 701-4.5 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 Barometer Damper) or draft diverter	-15 Pa -.06 w. c."	-13 Pa -.053 w. c."	-11 Pa -.045 w. c."	-9 Pa -.038 w. c."	-7 Pa -.03 w. c."

*COMBUSTION SAFETY & EFFICIENCY 701-4.6*

**CO abatement**  
701-4.6a

Clean, repair, or adjust the DHW burner and fire tube to reduce CO amount in the vent pipe if they are higher than 100 ppm.

**O<sub>2</sub> and stack temperature**  
701-4.6b

Clean, repair, or adjust the DHW burner and fire tube if the O<sub>2</sub> and the net stack temperature readings are not within the acceptable limits according to manufacturer's specifications, or the applicable code, Part 3280.707 (d) (1) or (2) of HUD Mobile Home Construction and Safety Standards for Energy Efficiency.

*WATER TANK CONDITION 701-4.7*

Replace the tank if it is leaking. It may be replaced using HWAP Health and Safety funds.

**tank leakage**  
701-4.7a

If the pressure relief valve and/or the discharge pipe is not present and there is an existing location for them, install them. If the relief valve and/or discharge pipe are not present and there is no existing location for them, install them in the hot water line.

**pressure relief valve/  
discharge pipe**  
701-4.7b

Insulate the DHW tank, unless there is a written warning on the tank stating not to insulate. Do not wrap the tank if there is no pressure relief valve and no way to install one.

**DHW tank insulation**  
701-4.7c

If flame roll-out is occurring, clean and tune the DHW, and retest.

**flame roll-out**  
701-4.7d

Replace the gas valve if it is not functioning properly.

**gas valve**  
701-4.7e

Replace the thermostat if it is not operating properly.

**thermostat**  
701-4.7f

*DHW DISTRIBUTION 701-4.8*

If water lines are leaking, inform the customer and repair the leaks.

**water line leaks**  
701-4.8a

Insulate the first six feet of the hot and cold water lines with foam pipe wrap.

**water line insulation**  
701-4.8b

NOTE: Keep the insulation at a safe clearance from gas or oil vent pipes, if the pipes are near the water lines. Refer to Table 301-4.4 for NFPA Venting Codes.

Repair hot water fixture leaks. If cold water fixtures are leaking, inform the customer, and repair cold water fixture leaks that contribute to moisture problems.

**water fixture leak**  
701-4.8c

CEE

Install appropriate low-flow devices if the customer has agreed.

**low-flow devices**  
701-4.8d

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