State of Ohio Weatherization Program Standards	Section	MECHANICAL SYSTEMS INSTALLATION
	Subject	Electric Heat Pump/ Central Air Conditioning

TUNE-UPS/REPAIRS 301-2.1

A tune-up involves a visual inspection, some testing procedures, cleaning and adjustments to improve the combustion and seasonal efficiency of the heating system.

tune-up
301-2.1a

Repairs involve the replacement or reconstruction of defective or unsafe parts for the purpose of ensuring the safe operation of the heating system.

repairs
301-2.1b

NON-OPERATIONAL UNITS 301-2.2

Repair or replace non-operational heating units.

repair/replace
301-2.2a

Replacements of heating units using weatherization funds must be cost justified using NEAT.

cost-effectiveness
301-2.2b
NEAT

Switching from the existing fuel source to a different fuel source for use by the heating unit is prohibited without the prior written approval of OEE. Requests for fuel switching must describe the technical reasons for the decision and include cost justification and written authorization from the party responsible for fuel payments.

fuel switching
301-2.2c

The output rating of all replacement heating units shall be sized according to Manual J or NEAT calculations. Documentation of sizing calculations shall be maintained in the client file.

sizing
301-2.2d
NEAT

All new units shall carry a minimum one (1) year warranty on workmanship. Each customer shall receive all manufacturer's product warranty information, clear maintenance instructions, educational information as necessary and a local phone number of who to contact for warranty problems.

warranty
301-2.2e

All units shall be installed in conformance with manufacturer's instructions, local codes, and/or NFPA manuals as required.

local codes
301-2.2f

THERMAL FLUID LEAKAGE 301-2.3

thermal fluid leakage test
301-2.3a

If there is a refrigerant leak in the central air conditioning system, promptly contact an EPA-certified technician to repair the leak(s).

ELECTRICAL POWER SUPPLY 301-2.4

main power safety
301-2.4a

Repair or replace the main electrical supply wiring to the unit if it is unsafe.

dedicated circuits
301-2.4b

Add a dedicated circuit that is properly sized and fused to a heat pump/AC unit that does not have one.

disconnect switch
301-2.4c

Add a disconnect switch or repair a defective switch on outdoor units.

hazardous wiring
301-2.4d

Replace any unsafe wiring to the heat pump/AC unit.

UNIT CLEARANCES 301-2.5

unit clearance, indoors
301-2.5a

Move any unit or combustible material where clearances are not PMI.

unit clearances, outdoors
301-2.5b

Move any unit or obstruction that is not PMI. Clean the cooling fins if they are dirty.

BACK-UP SYSTEM 301-2.6

back-up system
301-2.6a

Address the back-up system based on fuel and unit type in accordance with the standards in 301-1.

AIR HANDLER 301-2.7

condensate drainage
301-2.7a

If the condensate drains improperly, make any changes necessary to ensure proper drainage.

A-coil
301-2.7b

If any holes or cracks are visible in the A-coil, have an EPA-certified technician make repairs.

fins/filters/ducts
301-2.7c

Clean the fins, filters and ducts as needed. Remove any obstructions.

If the temperature rise/drop is out of the range specified by the manufacturer, determine what the problem is and remedy it. Consult Tables 301-2.7.i and 301-2.7.ii for some possibilities.

temperature rise/drop problem
301-2.7d

Table 301-2.7.i Typical Solutions for High Temperature Rise

PROBLEM:	CHECK FOR:	REMEDY:
Hiigh Temperature Rise [>70°/PMI]	• Fan speed too slow	• Set Fan speed higher or replace motor
	• Obstruction in duct work	• Remove obstruction
	• Inadequate return/distribution ductwork	• Install proper ductwork
	• Blower belt/filter/AC coil defective or dirty	• Clean or replace belt/filter/AC coil
	• Unit overfired	• Adjust fuel pressure, change orifices
	• Dirty or defective blower	• Clean or replace blower

Table 301-2.7.ii Typical Solutions for Low Temperature Rise

PROBLEM:	CHECK FOR:	REMEDY:
Low Temperature Rise [<40°/PMI]	• Fan speed too fast	• Set fan speed slower or replace motor
	• Excessive air flow from blower	• Adjust air flow or replace blower
	• Unit underfired	• Adjust fuel pressure or change orifices
	• Low stack temperature (PMI)	• Resize the vent pipe
	• Cycling on high limit	• Clean or replace blower, install more or larger duct work

CONTROLS 301-2.8

Clean the blower motor, belt, and fan, and/or replace parts, if needed. Lubricate the motor if it is needed.

blower
301-2.8a

Replace or relocate the thermostat, if needed.

thermostat
301-2.8b