NEBRASKA
DEPT. OF ENVIRONMENT AND ENERGY

State of Nebraska Weatherization Assistance Program

Mechanical System Inspection/Clean & Tune

FORM **WX17**

Agency: ☐BVCAP ☐CAPLSC ☐CAPMN ☐CNCAP ☐HFHO ☐NENCAP ☐NWCAP ☐SENCA

Inspector Name:	Date:	Job Number:

Client Name & Address:	City:	Phone Number:

Ownership:	Building Type:	Fuel Type:	Heating System Type:
☐Renter ☐Owner	☐Frame ☐Mobile ☐Multifamily	Heating: _____ Water Heating:	☐Forced Air ☐Gravity ☐Boiler ☐Vented ☐Un-vented ☐Wall ☐Floor ☐Heat Pump

Cooling System Type:	Water Heating Type:
☐Central Air ☐Window ☐Heat Pump ☐None ☐A Coil ☐Sloped Coil	☐Tank ☐Instantaneous ☐Heat Pump

INSPECTION/EVALUATION REQUIREMENTS

Combustion Units Only
- ☐ Leakage testing of piping and controls
- ☐ Test heat exchanger for cracks and openings
- ☐ Inspect venting for pitch, size, blockage, corrosion
- ☐ Inspect heat exchanger for excessive corrosion
- ☐ Inspect burners and crossovers for blockage
- ☐ Determine pilot is burning properly
- ☐ Determine main burner ignition is satisfactory
- ☐ Test pilot safety devices
- ☐ Visually determine gas is burning properly
- ☐ If equipped, check main burner at low modulator
- ☐ Test for spillage at draft hood

Boilers Only (To be completed by a qualified technician)
- ☐ Recorded data plate information
- ☐ Correct nozzle sizes
- ☐ Fuel pressure readings
- ☐ Steady state efficiency (5.3003.2c)

Boilers Only (To be completed by a qualified technician)
- ☐ Smoke spot tests
- ☐ Net stack temps (5.3003.2e)
- ☐ Carbon dioxide and oxygen (5.3003.2f)
- ☐ Excess air (5.3003.2g)
- ☐ CO (5.3003.2h)
- ☐ Technician will provide printout for 5.3003.2c, 5.3003.2e, 5.3003.2f, 5.3003.2g and 5.3003.2h
- ☐ Inspect for water or combustion product leaks (if applicable)
- ☐ Determine water pumps are operational
- ☐ Test low water cutoff, feed control, etc.
- ☐ Determine the controls are operational

Furnaces and Console Heaters
- ☐ Determine the fan control is operational

All Heating Units (including Electric)
- ☐ Check fan and belt condition
- ☐ Inspect for exposed wiring and disconnect switch
- ☐ Check thermostat operation
- ☐ Check filter, filter rack and cover
- ☐ Check limit and fan control
- ☐ Install sticker (all repairs and Contractor Inspections)

Water Heaters
- ☐ Inspect for water or combustion product leaks (if applicable)
- ☐ Determine unit has pilot access door & draft hood (if applicable)

Air Conditioners
- ☐ Inspect central air conditioner coils inside and out
  - ☐ Not accessible
- ☐ Inspect wiring
- ☐ Inspect pipe insulation

FORCED AIR SYSTEM AIR FLOW EVALUATION – SWS 5.3003.3

Yes	No	N/A	Specification	Notes
☐	☐	☐	External static pressure	
☐	☐	☐	Pressure drop across coiling coils	
☐	☐	☐	Pressure drop across filter	
☐	☐	☐	Air flow measured at each register	
☐	☐	☐	Supply wet bulb temperature	°
☐	☐	☐	Supply dry bulb temperature	°
☐	☐	☐	Return wet bulb temperature	°
☐	☐	☐	Return dry bulb temperature	°
☐	☐	☐	Temperature rise between supply & return	Tested ____° Mfg. Reqd. ____°

FORCED AIR SYSTEM ELECTRICAL SERVICE EVALUATION – SWS 5.3003.4

Yes	No	N/A	Specification	Notes
☐	☐	☐	Polarity of equipment tested/corrected	
☐	☐	☐	Voltage/amperage in accordance with mfg. specs	
☐	☐	☐	Voltage drop in accordance with mfg. specs/range	
☐	☐	☐	Grounding conforms with NFPA 70 National Electrical Code	
☐	☐	☐	Blower amperage will not exceed mfg. full load amperage	
☐	☐	☐	Compressor amperage will not exceed mfg. full load amperage	
☐	☐	☐	Blower compartment safety switch operation verified	
☐	☐	☐	Heat pump emergency heat circuit function verified	

REFRIGERANT LINE EVALUATION – SWS 5.3003.5

Yes	No	N/A	Specification	Notes
☐	☐	☐	Insulated to a minimum R-4	
☐	☐	☐	If exposed to sunlight, protected from UV degradation	
☐	☐	☐	Sized to meet manufacturer specifications	
☐	☐	☐	Installed without kinks, crimps, or excessive bends	
☐	☐	☐	Appropriately routed, supported and secured to prevent damage	

NEO 05-21-15 Rev. 03-03-21
Supersedes NEO 05-21-15 Rev. 04-02-18

CLEAN AND TUNE REQUIREMENTS

All Units

- ☐ Lubricate all moving parts
- ☐ Clean and vacuum the return air and cabinet and filter rack
- ☐ Calibrate and adjust the thermostat, inspect wiring
- ☐ Clean or replace filter
- ☐ Adjust the conditioned airflow, high limit, fan control, fan on/fan off and temperature rise
- ☐ Adjust the belt tension or replace belt (if needed)
- ☐ Remove and clean the blower
- ☐ Check blower capacitor, fan relay and or contatcts
- ☐ Clean air conditioner coil ☐ Not Accessible

All Units

- ☐ Seal thermostat wire penetration in frame homes
- ☐ Install sticker (all repairs and Contractor Inspections)

Combustion Units

- ☐ Clean flame sensor
- ☐ Clean and test heat exchanger – except boilers
- ☐ Check and adjust burners
- ☐ Clean the exhaust port and draft hood

Electric Units

- ☐ Repair or replace damaged wiring
- ☐ Test heating elements and sequencers

CARBON MONOXIDE TESTING AND ADJUSTMENT

Test and adjust each chamber for carbon monoxide		
	Pre-cleaning	**Post-cleaning**
Chamber 1	PPM	PPM
Chamber 2	PPM	PPM
Chamber 3	PPM	PPM
Chamber 4	PPM	PPM

HVAC CLIENT EDUCATION

Yes	No	N/A	Specification
☐	☐	☐	Basic operation of the equipment has been explained to the client (i.e. efficiency measures, design considerations differences from previous systems)
☐	☐	☐	Proper operation and programming of the system controls for proper operation has been explained
☐	☐	☐	Indoor and outdoor shut-offs have been demonstrated
☐	☐	☐	Location of combustion air inlets have been identified for the client as per NFPA 31, 54 & 58
☐	☐	☐	Client has been informed of the importance of not blocking combustion air inlets
☐	☐	☐	Client has been informed of the importance of cleaning dust and debris from return air grilles
☐	☐	☐	Client has been informed of proper placement of interior furnishings with respect to registers
☐	☐	☐	Client has been informed of the negative consequences of closing registers
☐	☐	☐	Client has been informed of the importance of leaving interior doors open as much as possible
☐	☐	☐	Client has been informed of the importance of proper filter selection and how to change the filter
☐	☐	☐	Client has been informed of the importance of keeping the outside units clear of debris, vegetation, decks and other blockages
☐	☐	☐	Client has been informed of the importance of routine professional equipment maintenance
☐	☐	☐	Client has been informed that there will be no air bypass around the new filter and that the new forced air system will have a minimum MERV 6 filtration
☐	☐	☐	Client has been informed of situations when a HVAC contractor should be contacted • Fuel Odors • Water draining from secondary drain line • Emergency heat indicator always on for a heat pump • System blowing cold air during heating season and vice versa • Icing of evaporator coils during heat pump cooling mode • Heat pump outside unit never defrosts • Unusual noises • Unusual odors
☐	☐	☐	Client has been informed that carbon monoxide(s) alarm has been installed and the importance of maintenance
☐	☐	☐	Client has been provided with relevant manuals and warranties
☐	☐	☐	The labor warranty has been explained to the client

SIGNATURES

I certify that the work performed meets the requirements of the Nebraska Weatherization Assistance Program Installation Measures and Work Standards.

Agency or Company Name _____

Sign Here ▶ _____ _____

Signature Heating/Plumbing Technician — Date

This material was prepared with the support of the U.S. Department of Energy (DOE), Low Income Weatherization Assistance Program Grant. However, any opinions findings conclusions or recommendations expressed herein are those of the author and do not necessarily reflect the views of DOE.