

# Residential Heating, Cooling and Water Heating Program

## Central Air Conditioner Tune-Up Report



First Name:	Last Name:	Consumers Energy Account Number:
Premise Address, City, ZIP (where equipment was serviced):		
Homeowner's Email (to receive rebate status updates):		
Contractor Name:		

<input type="checkbox"/> Natural Gas Furnace or <input type="checkbox"/> Air Handler <input type="checkbox"/> Condensing Unit or <input type="checkbox"/> Heat Pump SEER (if known) _____ Service Date _____ Indoor Coil (tons and ref. control only if in air handler)	Furnace or AHU Manufacturer _____ Rated TESP _____ Model # _____ Serial # _____ Condensing Unit Manufacturer _____ Tons _____ Model # _____ Serial # _____ Indoor Coil Manufacturer _____ Tons _____ Metering Device <input type="checkbox"/> TXV <input type="checkbox"/> Fixed
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Air conditioning tune-up services must be performed between April 1 and Sept. 30, 2020, to qualify.  
 Only one rebate is available for each qualifying cooling unit serviced within the measure life, which is five years.

	Test Results	Before	After*	Comments	
Required	Fan Airflow (measured/verified) <sup>†</sup>	@	@	Ideally this system should have _____ CFM	
	Coil Entering WB Temp <sup>†</sup>			Coil entering conditions - measure to 1 decimal place F	
	Coil Leaving WB Temp <sup>†</sup>			Coil leaving conditions - measure to 1 decimal place F	
	Coil Capacity	BTUH	BTUH	Btu = CFM x 4.5 x Δ Enthalpy	
	÷ Equipment Nominal Btu	BTUH	BTUH	Manufacturer's rated nominal cooling BTUH	
	Coil Capacity/System Nominal = System Effective Efficiency <sup>†</sup>	%	%		
Optional But Recommended	System Watts			Watts = measured volts x measured amps	
	Room Return Air DB (opt)	°F	°F	Compare to coil entering DB (optional)	
	Farthest Room Supply DB (opt)	°F	°F	Compare to coil leaving DB (optional)	
	<b>Charge Verification</b>		<b>Added</b>	<b>Recovered</b>	<b>Quantity:</b> <input type="text"/> <b>Lb.</b> <input type="text"/> <b>Oz.</b>
	Condenser Entering Air DB	°F	°F	°F	Outdoor air temperature
	Suction/Liquid Line Pressure				Needed to check refrigerant charge
	Suction/Liquid Line Temperatures				Needed to check refrigerant charge
Actual/OEM Specified				<input type="checkbox"/> Superheat <input type="checkbox"/> Subcooling <input type="checkbox"/> Approach	

\*If initial readings are 85% or less, post-maintenance calculations are required.

<sup>†</sup>Mandatory values. System efficiency calculated on back of form.

### Calculation Worksheet - Before

System Watts (Power):

Blower Motor Volts \_\_\_\_\_ x Amps \_\_\_\_\_ = \_\_\_\_\_ Watts

Compressor Volts \_\_\_\_\_ x Amps \_\_\_\_\_ = \_\_\_\_\_ Watts

Condenser Fan Volts \_\_\_\_\_ x Amps \_\_\_\_\_ = \_\_\_\_\_ Watts

Add the above to get total system watts \_\_\_\_\_

Converting Wet Bulb to Enthalpy (Measure all temperatures to first decimal place and record Enthalpy to two decimal places.):

Coil Entering WB \_\_\_\_\_ = \_\_\_\_\_ Btu/Lb Enthalpy a

Coil Leaving WB \_\_\_\_\_ = \_\_\_\_\_ Btu/Lb Enthalpy b

Coil Capacity: CFM \_\_\_\_\_ x 4.5 x (Enthalpy a - b \_\_\_\_\_) = \_\_\_\_\_ BTUH

System Effective Efficiency: Coil Capacity: \_\_\_\_\_ ÷ \_\_\_\_\_ Equipment Normal Capacity = \_\_\_\_\_ %

Complete these calculations to get coil capacity.  
System efficiency is coil capacity ÷ nominal capacity.

### Tune-Up Procedures - Check all that apply

As a minimum, the following were accomplished:

- Inspected filter, cleaned or replaced standard filters
- Cleaned condenser coil
- Inspected evaporator coil, recommended cleaning as needed
- Adjusted airflow
- Adjusted refrigerant charge
- Inspected electrical connections and wire

Comments:

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### Calculation Worksheet - After (Required if "Before" efficiency is less than 85% of nominal)

System Watts (Power):

Blower Motor Volts \_\_\_\_\_ x Amps \_\_\_\_\_ = \_\_\_\_\_ Watts

Compressor Volts \_\_\_\_\_ x Amps \_\_\_\_\_ = \_\_\_\_\_ Watts

Condenser Fan Volts \_\_\_\_\_ x Amps \_\_\_\_\_ = \_\_\_\_\_ Watts

Add the above to get total system watts \_\_\_\_\_

Converting Wet Bulb to Enthalpy (Measure all temperatures to first decimal place and record Enthalpy to two decimal places.):

Coil Entering WB \_\_\_\_\_ = \_\_\_\_\_ Btu/Lb Enthalpy a

Coil Leaving WB \_\_\_\_\_ = \_\_\_\_\_ Btu/Lb Enthalpy b

Coil Capacity: CFM \_\_\_\_\_ x 4.5 x (Enthalpy a - b \_\_\_\_\_) = \_\_\_\_\_ BTUH

System Effective Efficiency: Coil Capacity: \_\_\_\_\_ ÷ \_\_\_\_\_ Equipment Normal Capacity = \_\_\_\_\_ %

Complete these calculations to get coil capacity.  
System efficiency is coil capacity ÷ nominal capacity.

### Notes

If the ductwork is installed in a hot, unconditioned space, a difference between the room return air and coil entering air temperatures could indicate delivered capacity loss from duct leakage and/or transmission gains. Duct sealing or insulating may be recommended to improve delivered capacity, comfort and efficiency.

A difference between the coil leaving temperature and the temperature delivered to a supply terminal usually indicates transmission gains through inadequate insulation. If the supply ducts leak, air will be lost to the unconditioned space.

If adequate coil airflow cannot be achieved by replacing a dirty filter or changing the blower speed, the problem is likely inadequate ductwork.

Technician (print name): \_\_\_\_\_

Technician Signature: \_\_\_\_\_

Date: \_\_\_\_\_

