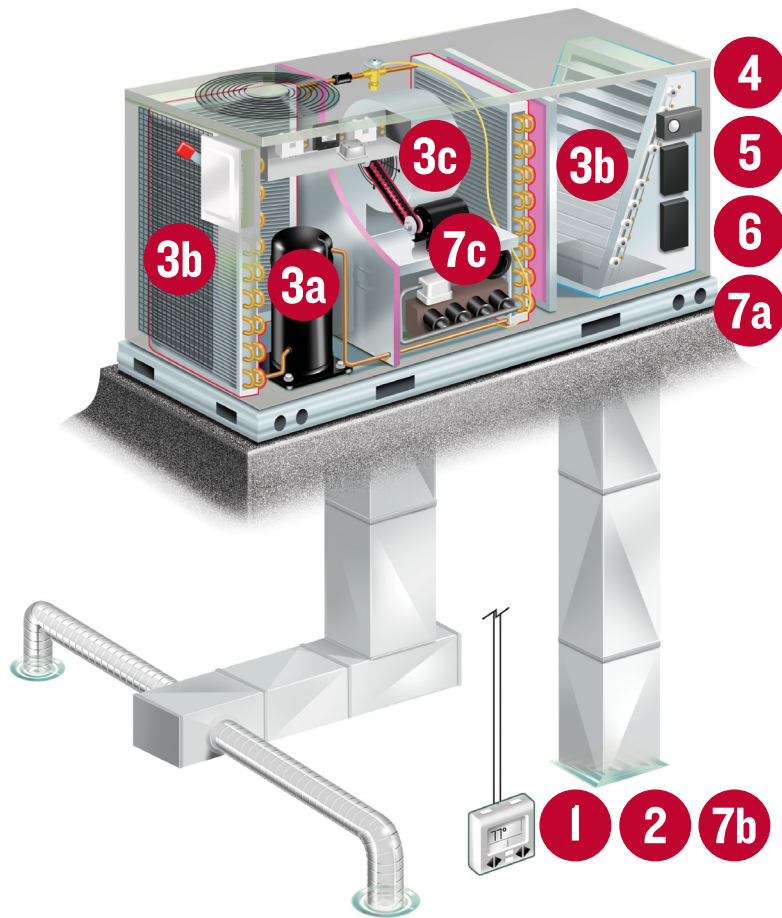


# Retro-Commissioning: DX Tune-up

## An Illustrated Measure Guide



**1. Advanced Thermostat.** Installing an advanced thermostat gives you the ability to set a heating/cooling schedule based on actual building occupancy, rather than conditioning air 24-7-365.

**2. Thermostat Modification.** This measure consists of finding and setting the ideal operational schedule for your HVAC system.

**3. HVAC Tune-up.** This measure is a group of enhancements to your HVAC system that optimizes refrigerant charge, heat transfer, and blower efficiency.

**3a. Refrigerant Charge.** We test your current refrigerant charge, correct issues as necessary, and re-test the charge to verify the success of the repair.

**3b. Coil Cleaning.** Cleaning evaporator and condenser coils ensures optimal heat transfer, resulting in decreased run time and energy savings.

**3c. Cogged V-belt.** Cogged v-belts run with less mechanical resistance than smooth blower belts, increasing efficiency, saving energy, and prolonging the life of your equipment.

**4. Economizer Repair.** If your HVAC's economizer is not operational, we repair as necessary to restore functionality.

**5. Economizer Changeover Sensor Replacement.** If necessary, we replace the sensor that tells the economizer when to open the damper and let in fresh outside air.

**6. Economizer Adjustment.** By optimizing economizer settings, we save energy by ensuring your building is making the best use of free, fresh outdoor air, rather than relying completely on the HVAC system to cool the space mechanically.

**7. Variable Frequency Drive and Demand-Controlled Ventilation.** Variable Frequency Drive and Demand-Controlled Ventilation (VFD and DCV) is a series of complementary upgrades that enable the HVAC system to respond to real-time ventilation needs and reduce energy use for heating, cooling, and supply fan motor operation.

**7a. Digital Economizer Control.** Installing digital economizer controls is like giving an economizer a bigger, better brain. This upgrade saves energy by allowing the economizer to be more precise and finely tuned, making the fullest use of cool, fresh outdoor air to help cool the air inside.

**7b. CO<sub>2</sub> Sensor.** Pairing digital economizer controls with a CO<sub>2</sub> sensor in an indoor space allows the HVAC system to respond to real-time HVAC needs, reducing overall HVAC runtime.

**7c. Variable Frequency Drive.** Adding a VFD to your fan motor allows it to vary its speed throughout the day depending on real-time ventilation needs, resulting in a reduction in energy demand.