



SPRING MAINTENANCE SUGGESTIONS FOR HVAC EQUIPMENT

1.) CHECK OR CHANGE FILTERS

What you are looking for: Visually restricted or plugged filters.

How to correct potential issues found: Replace all with equivalent- twice a year on spring and fall startups or as needed.

Possible consequences of neglect: High/excessive current or amp draws on supply fan motors and contactors result in premature component failure. Poor or no airflow, low suction pressure, low superheat. frosting/icing of evaporator coil(s) and/or slugging of liquid refrigerant back to compressor resulting in premature mechanical failure of internal moving compressor parts. Unsatisfactory/uncomfortable space conditions and unreliable equipment.

2.) CHECK OR CHANGE BELTS

What you are looking for: Belts that are out of adjustment, stretched, cracked -there should only be a half inch of belt deflection on the driven side or enough tension so the belt does not slip on startup of associated motor.

How to correct potential issues found: Inspect, adjust or replace as needed. An inspection at least twice a year can help extend belt life. A properly adjusted/aligned belt can last up to a year or more.

Possible consequences of neglect: Poor or no air flow, frosting/icing of evaporator coil(s), slugging of liquid refrigerant back to compressor resulting in premature mechanical failure of internal moving compressor parts. Unsatisfactory/uncomfortable space conditions and unreliable equipment.

3.) VERIFY ALL ELECTRICAL CONNECTIONS ARE TIGHT

What you are looking for: Loose connections at termination, or distribution/junction block of electrical components.

How to correct potential issues found: Physically verify twice a year with the appropriate tool that all mechanical termination points are tight and secure. Refer to torque specs if applicable. This would include lugged/screwed terminals as well as "stab-on" electrical wire terminals.

Possible consequences of neglect: Excessive component amp draw, single phasing of three-phase components/motors can result in premature component failure. Unsatisfactory/uncomfortable space conditions and unreliable equipment.

4.) LOOK OVER ALL ELECTRICAL COMPONENTS TO ENSURE THEY ARE NOT SHOWING ANY SIGNS OF WEAR

What you are looking for: Discoloration at wire terminations/connections, and pitted or frayed contacts of electrical components.

How to correct potential issues found: Physically verify twice a year with the appropriate tool that all mechanical termination points are tight and secure. Refer to torque specs if applicable. This would include lugged/screwed terminals as well as "stab-on" electrical wire terminals. Replace all components that are questionable.

Possible consequences of neglect: Excessive component amp draw, single phasing of three-phase components/motors will result in premature component failure. Unsatisfactory/uncomfortable space conditions and unreliable equipment.

Turn over for more suggestions.

5.) CLEAN COILS- BOTH CONDENSER/OUTDOOR AND EVAPORATOR/INDOOR

What you are looking for: Visual buildup of restriction (dirt, dust and debris), unacceptable high discharge/liquid or low side suction pressures and temperature, based on conditions. Also check for excessive or low current amp draws and frosting or icing of evaporator coils. Poor equipment performance and higher utility bills can be indicators as well.

How to correct potential issues found: Annual cleaning of both outdoor condenser and indoor evaporator coils is a requirement best scheduled before the first beneficial use. In some areas, cleaning after the annual spring release of the notorious cottonwood seed-well known here in Wisconsin is also advised. Coils may visually look clean, but for thicker multi-pass coils, a visual inspection does not do proper justice. Verified refrigerant pressures and temperatures are the only valid test to be certain the outdoor coil is not impacted with unseen debris that normally accumulate over the average duration of a cooling season.

The use of a water source (hose bib) and a garden hose, with a fitting on the end that has standard system water pressure of 50 to 60 psi to concentrate water flow is recommended to flush/force any impacted/embedded debris within the rows/passes of fin and tube (that the coils are constructed of) has been proven best to remove all types of debris trapped within. Diluted acid or alkaline-based coil cleaner may also be used to remove residue and aid in the loosening up and breakdown of debris both on and within the coil. Extreme caution must be followed when using chemical cleaners, both for personal safety reasons and due to the effects the chemicals can have on metal surfaces. If a diluted solution of either is used, a thorough flush and rinse with a sufficient volume of water must be used to remove all residual chemical from all metal surfaces on the unit that the chemical has come in contact with. In addition, the surrounding area adjacent to the unit must also be considered and thoroughly rinsed as well to dilute the chemicals to an acceptable level. High pressure water or use of a pressure washer is discouraged and can damage the coil.

Possible consequences of neglect: Failed electrical components, motors and compressors; unsatisfactory/uncomfortable space conditions and unreliable equipment.

6.) CHECK THAT DRAIN PANS ARE CLEAR AND FREE-FLOWING

What you are looking for: Poor drainage or backed-up condensate from the dehumidification process; appearance of water in areas other than the trap or drain area; stained or wet ceiling tiles in area below equipment if equipment is on roof; visual debris in drain pan on inspection.

How to correct potential issues found: Thoroughly flush all drain pans and traps to remove any buildup of accumulated debris with a water source. It's best to use an ample amount of water from a garden hose or something similar. Be certain to prime the trap with water on a pull or draw-through system where the drain trap is on the negative side of the suction created by the supply fan. Condensate traps on a push-through system or located on the positive side of a supply fan are naturally primed by the positive static air pressure on the discharge side of the supply blower and thus do not require a trap.

Possible consequences of neglect: Water backed up in the unit will eventually overflow from the pan and most likely migrate to the space below. This can cause substantial damage to anything located below the area water floods down to, such as ceiling tiles and electronics. Potential migration into the site electrical system is also possible. Anything under the unit in the space could be ruined.

Regular maintenance keeps your HVAC equipment operating reliably and at peak efficiency. More importantly, it greatly reduces the risk of breakdown during extreme weather conditions when the unit is needed most- and repairs are the most costly. It also adds extensive longevity to the life of the unit.



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