AAON MAINTENANCE CHECKLIST:

Quarterly checks:

- **Fans**

1- Inlet Cones: Make sure there is sufficient clearance to prevent blower rub.

2- Bearings: listen and feel for bearing wear (replacing bearings is a small fraction of the cost of replacing a motor or mounting frame).

3- Check for vibration and verify fan balance (call dynamic balancer if needed, this is also much less $ than replacing motors and frames).

4- Belts: DON'T OVERTIGHTEN! Check belt deflection, check for wear -this will only apply to exhaust fans since the supply fan blowers are direct drive.

5- Make repairs when needed.

- **Filters**

1- Check condition of filters (easiest way is to remove one and see how much light comes through).

2- Make sure that no filters have come off or pulled through the filter rack.

3- Replace filters if needed.

- **Evaporator coils**

1- Check for dust and debris build up (always use a coil brush or low pressure compressed air before applying any water a cleaning solution, this will prevent debris from becoming embedded in the coils).

2- Check distributor tubes and cap tubes to make sure that there aren't any rubbing against each other (this will help prevent common refrigerant leaks).

3- Check condensate pans and drains.

4- Clean coils, drains and condensate pans when needed.

- **Crankcase heaters** (this is one of the most inexpensive parts in the system but can save a compressor) Make sure heater is warm, and make sure that the worm gear screw hasn't loosened from vibration.
- **Check Water piping for leaks**.
- **Check economizer gears, blades, and linkages.**

BI-ANNUAL CHECKS:

- **Cooling season checkout**

1- Check all wire connections DO NOT OVERTIGHTEN! This includes motor wiring connections at motor and compressor terminal boxes.

2- Inspect all wiring make sure –Look for spots where the wire may come in contact with metal edges, insulate and make repairs when needed.

3- Check for refrigerant leaks: check all refrigeration piping, service ports, cap tubes, coils, distributor tubes, TXVs, check for oil and use a refrigerant leak detector.

4- Clean blower wheels and fans blades, this helps keep fans efficient and in balance.

5- Clean condenser coils (use coil brush or low pressure compressed air to remove dust and debris before cleaning with water or coil cleaner) AVOID GETTING COIL CLEANER ON CONDERNSER FAN MOTORS! This can cause damage to motor windings.

6- Check condenser fan mounting brackets and fan alignment, make sure bolts and set screws are tight.

7- Perform operational check

1- Check amps on all motors and compressors make sure amps are under the nameplate rating.
2- Verify correct operation of compressor safeties, and digital scroll controller(see Copeland handout)
3- Check pressures and temperatures on the refrigeration circuits to make sure superheat and subcooling are within AAON guidelines (8-10 SH, 12-18 subcooling) This check should be performed when the system is controlling at or close to the design supply and return air temps, and when the OSA temp is warm enough to provide head pressures above 300 psi. DON'T CHARGE TO SIGHT GLASS! There is a chance that there

can be flash gas in the sight glass even with proper charge in a system, especially with fan cycling control. If charge adjustment is required proceed to the next step.

4- Charge adjustment

If the subcooling and superheat are both high –the TXV can be adjusted out to lower superheat, make small adjustments and wait 10-15 minutes to re-check SH and SC before making another TXV adjustment.

If the subcooling and superheat are low –the TXV can be adjusted in to raise superheat, same guidelines apply –wait 10-15 minutes before making another adjustment.

If the superheat is high and the subcooling is low –the system might need refrigerant, make sure that all components are operating correctly before adding charge. Add small amounts of refrigerant and let TXV re-adjust to prevent overcharging.

If the superheat is low and the subcooling is high –the system might be overcharged, make sure all components are operating correctly and there is sufficient load on the evaporator and condenser before removing charge. Remove small amounts of refrigerant and let the TXV re-adjust to prevent undercharging.

- **Heating season checkout**

RTUs with hot water

1- Inspect hot water coils –clean and straighten fins if needed.

2- Check for leaks.

3- Verify correct glycol levels

RTUs with gas heat

1- No cleaning is necessary for the heat exchanger

2- Check safeties

3- Check combustion fan amps and operation

4- Check manifold pressure

5- Blow out burner orifices if necessary

Perform RTU pre-heating season operational checks

1- Check amps on supply and exhaust fans, make sure amps are under the nameplate rating.

2- Check operation of heating valve.

3- Verify freeze protection if applicable (freeze stat check).

- **Bearing maintenance**

1- Grease all motor and fan bearings (use manufacturers recommended grease and grease amounts per re-lubrication interval) –see Baldor maintenance handout for procedure to calculate grease amounts.