AN INDISPENSABLE ASSET

TASKPRO MAINTENANCE PROCEDURES

TaskPro is a comprehensive, customizable database of 250 step-by-step maintenance procedures relating to facility and equipment maintenance. TaskPro covers all types of maintenance procedures, from air compressors and heat pumps to fire doors, cranes, elevators and generators.

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SAMPLE PROCEDURE: HEATING AND COOLING UNIT

Frequency: Annual

Application:

This guide card applies to self–contained heating and cooling units containing a complete cooling system and heating unit (gas or oil burner). These are normally installed on rooftops, but can be in other locations. They are also referred to as climate changers, roof packs, etc.

Special Instructions:

1. Schedule shutdowns with operating personnel, as needed.
2. Review manufacturer's instructions.
3. Review the Standard Operating Procedure for "Controlling Hazardous Energy Sources."
4. De-energize, lock and tag electrical circuits.
5. Comply with the latest provisions of the Clean Air Act and Environmental Protection Agency (EPA) regulations as they apply to protection of stratospheric ozone.
6. No intentional venting of refrigerants is permitted. During the servicing, maintenance, and repair of refrigeration equipment, the refrigerant must be recovered.
7. Whenever refrigerant is added or removed from equipment, record the quantities on the appropriate forms.
8. Recover, recycle, or reclaim the refrigerant as appropriate.
9. If disposal of the equipment item is required, follow regulations concerning removal of refrigerants and disposal.
10. If materials containing refrigerants are discarded, comply with EPA regulations as applicable.
11. Refrigerant oils to be removed for disposal must be analyzed for hazardous waste and handled accordingly.
12. Closely follow all safety procedures described in the Material Safety Data Sheet (MSDS) for the refrigerant and all labels on refrigerant containers.

Check Points:

1. Remove debris from air screen and clean underneath unit.
2. Inspect gaskets. Look for leaks between unit and structure, caulk as necessary.
3. Clean condenser, cooling coil fins, and fans.
4. Remove dirt or dust from all interior parts.
5. Replace filter.
6. Inspect and adjust damper.
7. Lubricate motor and fan bearings.

8. Check fan RPM to design specifications.
9. Check bearing collar set screws on fan shaft to make sure they are tight.
10. Check dampers for dirt accumulations. Check felt. Repair or replace as necessary.
11. Check damper motors and linkage for proper operation.
12. Lubricate mechanical connections of dampers sparingly.
13. Clean coils by brushing, blowing, vacuuming or pressure washing.
14. Check coils for leaking, tightness of fittings:
    a. Check for refrigerant leaks using a halogen detector or similar testing device. If leaks are not able to be stopped or corrected, report leak status to supervisor. Consult the Material Safety Data Sheets (MSDS) for disposal requirements. Reclaimed and recycled CFCs are exempt from hazardous waste regulations (Consult 40 CFR Part 261).
    b. Check refrigerant levels and recharge if needed.
15. Use fin comb to straighten coil fins.
16. Flush and clean condensate pans and drains.
17. Check belts for wear, adjust tension or alignment and replace belts when necessary. Multi–belt drives should be replaced with matched sets.
18. Check rigid couplings for alignment on direct drives and for tightness of assembly. Check flexible couplings for alignment and wear.
19. Check electrical connections for tightness.
20. Check mounting for tightness.
21. Check for corrosion.
22. Check mounting bolts and tighten if needed.
23. Check and adjust, or replace if necessary, vibration eliminators.
24. Compressor.
    a. Check compressor oil level.
    b. Run machine, check action of controls, relays, switches, etc., to see that:
        (1). Compressor(s) run at proper settings.
        (2). Reheat coils activate properly.
        (3). Crankcase heater is operating properly.
        (4). Suction and discharge pressures are proper.
        (5). Discharge air temperature is set properly.
25. Heating Unit.
    a. Gas and/or oil fired (if equipped).
        (1). Check burner for flashback and tight shutoff of fuel.
        (2). Check operation of controls. Clean and adjust if necessary.
        (3). Clean burner, chamber, thermocouple and control. (Use a high suction vacuum and/or brush.) Check combustion chamber for cracks, holes, or other defects.

(4). Adjust pilot or electric ignition device.

(5). Inspect vent and damper operation.

(6). Operate unit and adjust burner.

(7). Check operation of safety pilot, gas shutoff valve, and other burner safety devices.

(8). Check temperature differential and controls.

(9). Check frame of unit with ohmmeter for proper electric ground.

(10). Replace covers (if any) and clean area.

b. Electrical (if equipped).

(1). Visually inspect for broken parts, contact arcing or any evidence of overheating. Inspect all wiring for deterioration.

(2). Check name plate for current rating and controller manufacturer's recommended heater size. (Heater size shall not be changed without the regional design engineer's approval.)

(3). Check line and load connections and heater mounting screws for tightness.

Tools and Materials:

1. Tool Group A
2. Tachometer
3. Grease gun and oiler
4. Pressure washer
5. Vacuum
6. Fin comb
7. Cleaning tools, approved refrigerant, and materials. Consult the MSDS for hazardous ingredients and proper personal protective equipment.
8. Safety goggles and gloves.
9. CO2 analyzer
10. Self sealing quick disconnect refrigerant hose fittings
11. Refrigerant recovery/recycle unit
12. EPA/DOT approved refrigerant storage tanks.