

PREVENTIVE MAINTENANCE RECOMMENDATIONS JOHNSON AIR ROTATION® FUEL-FIRED HEATING UNITS

GENERAL:

- All maintenance should be performed by **QUALIFIED** personnel. If you do not have qualified personnel on staff, we can assist you in locating a local service contractor. Call us at (314) 739-0037.
- ALWAYS turn off power and fuel as appropriate before performing maintenance and service work.
- **ONLY QUALIFIED** personnel with the proper test equipment should adjust oil pressure, air damper settings, gas pressure regulation and fuel/air ratio settings.
- Our customers have learned over the years that it saves **TIME** and **MONEY** when they have their burner service company call us at (314) 739-0037 **PRIOR** to servicing the equipment to review procedures, settings, etc.
- The Operating and Maintenance Manual contains additional material from the suppliers we use for various unit components. Check the material in the manual for additional specifications and service recommendations.
- **CALL (314) 739-0037 WITH ANY QUESTIONS.**

WEEKLY:

- Ensure that electrical panels and access doors are closed.
- Listen to the unit for unusual sounds. Any grinding, squealing, unusual rubbing or scraping sounds mean that something needs attention. The equipment has a customary uniform sound. If it changes, something in the unit has changed and should be checked.
- During the heating season, make it a practice to check the flue gas temperature shown on the stack thermometer. After the burner has been running for about 10 minutes, the temperature should be between 350°F and 600°F. If it is below 325°, burner service may be required.

ANNUAL--DURING HEATING SEASON:

- Check the unit periodically for fuel leaks. If you smell gas, immediately shut off the unit. Find and fix the leak, or call for outside service.
- On modulating burners, watch the fuel and air linkages during normal burner operation. Check for loose swivel connections or restricted linkage; call your burner service company. Do not try to tighten or readjust without combustion analysis equipment.

ANNUAL--END OF THE HEATING SEASON:

- Check the main fan drive(s) and belt(s).
 - ✓ Hand spin the drives and listen to the fan and motor bearings.
 - ✓ Check V-belt(s) for wear, tension and alignment.
 - ✓ To check tension, put moderate hand pressure at the midpoint between the fan and motor sheaves. The belt should deflect approximately ¾" to 1".
 - ✓ If adjustment is required, loosen the four motor mounting nuts, make the necessary adjustment with the motor take-up bolt, then re-tighten the motor mounting nuts.
 - ✓ All of the fans use dual or triple belt sets. If one belt needs replacement always replace both or all three belts of the set. Use only "matched" sets of belts or the same manufacturer. Operate under

load for 24-hours to allow the belts to seat properly and make a final adjustment if necessary. Some belt squeal when the fan is started is normal. If the squeal persists, the belts are too loose.

- ✓ **DO NOT OVER TIGHTEN BELTS.** Excessive tension will cause premature bearing and shaft failure, undue sheave wear and overload motors.
- Check condition of sheaves.
 - ✓ Check the main air fan shaft and bearing assembly for play. Loosen the belts before checking. If bearings are in good condition, there should be no shaft play. If any play is found, call Johnson MarCraft at (314) 739-0037 for the recommended bearing replacement procedure.
 - ✓ Vacuum the return air grills and fan compartment.
 - ✓ Wipe off the main air fan blades.
 - ✓ Lubricate the main fan shaft pillow block bearings. Use a **CLEAN** lubricant, Shell Alvania #3 or equal. **ONE** pump of the grease gun is sufficient.
 - ✓ **DO NOT OVER LUBRICATE.**
 - ✓ Lubricate the electric motors. See motor manufacturer's instructions. We use different motor suppliers and recommendations vary.
 - ✓ Always replace grease fitting caps.
- Inspect heat exchanger tubes.
 - ✓ Remove the tube access covers located on either side of the flue gas outlet.
 - ✓ If the tubes are dirty, remove the tube turbulators and punch the tubes with a tube brush.
 - ✓ **NOTE** Not all tubes have turbulators, so **MARK WHICH TUBES DO NOT** have them, so the turbulators can correctly be re-installed.
 - ✓ If there is any soot or scale left in the front flue box after cleaning the tubes, vacuum or brush it out. The soot or scale pushed through the tubes by the tube brush will fall into the primary furnace, and will be incinerated by the burner during the next firing cycle.
 - ✓ If heavy deposits of soot or scale are found, call Johnson MarCraft at (314) 739-0037.
 - ✓ Inspect the access cover gasket before remounting. Replace the gasket, if required, with ½" Anchor Packing #1506 braided fiberglass rope or equal.
- Have a qualified commercial-industrial burner service company inspect, test and adjust the burner. Have the service company call us at (314) 739-0037 prior to adjusting the unit. We can save them time and save you money by reviewing the adjustment procedures before they actually begin working on the equipment.

**ALL COVER PLATES, ENCLOSURES AND GUARDS
MUST BE IN PLACE AT ALL TIMES, EXCEPT
DURING MAINTENANCE AND SERVICING.**

CALL US WITH ANY QUESTIONS.
ASSISTANCE IS AVAILABLE.



(314) 739-0037