

## Equipment Maintenance Checklist



### Safety

Equipment should only be inspected, tested and maintained by qualified trained personnel. This document is meant as a guide to what actions should take place; it is not an instruction on how to complete the activities.

### Operation

Continued safe operation of your equipment depends on regular maintenance and testing of its operating and protective controls. The tests outlined below are designed to determine whether or not the equipment and controls are in good operating condition. The applicable log sheet should be used to guide you and document results.

### Repairs

Should any test indicate that the device being tested or observed is not in good operating condition, it should be repaired immediately. Record and maintain records of repairs or changes so that a complete record will be available for review at any time.

### Records

Equipment procedures and maintenance guidelines should be kept in a central location for quick reference when needed. If missing, research manufacturers' websites for the service, operating and parts manuals for the installed equipment models.

### Instructions

Read and follow all manufacturers' guidelines and instructions for periodic service, maintenance and inspection of equipment and systems.

### Prepare!

You should have an emergency shutdown procedure for critical equipment. Educate key employees on how to implement these procedures.

*Don't wait for equipment failure!*



# Equipment Maintenance Checklist

Equipment/System	What to look for/What to do	Daily	Weekly	Monthly	Quarterly	Annually	Reference document
<b>BOILERS</b> Steam heating high pressure Over - 15psi <i>Caution – All steam and water discharges must be piped to a safe place.</i>	<b>Pump and system</b> – Check feedwater and condensate pumps for proper operation and leaky packing. Examine traps, check valves, makeup float valves, expansion or condensate tank, and other parts of the system.	•					421 422 441
	<b>Low-water fuel cut-off</b> – Drain float chamber while boiler is running. This should interrupt the circuit and stop the burner.	•					
	<b>Burner operation</b> – If the burner starts with a puff or operates roughly, call your service personnel at once!	•					
	<b>Safety/relief valve</b> – Pull try-lever to full open position with pressure on the boiler. Release try-lever to allow the valve to snap closed.		•				
	<b>Water column or gauge glass</b> – Open the drain valve quickly to void a small quantity of water. Water level should return quickly when the drain valve is closed.	•					
Steam heating low pressure 15psi and under <i>Caution – All steam and water discharges must be piped to a safe place.</i>	<b>Pump and system</b> – Check feedwater and condensate pumps for proper operation and leaky packing. Examine traps, check valves, makeup float valves, expansion or condensate tank, and other parts of the system.	•					401 423 422
	<b>Low-water fuel cut-off</b> – Drain float chamber while boiler is running. This should interrupt the circuit and stop the burner.		•				
	<b>Burner operation</b> – If the burner starts with a puff or operates roughly, call your service personnel at once!	•					
	<b>Safety/relief valve</b> – Pull try-lever to full open position with pressure on the boiler. Release try-lever to allow the valve to snap closed.		•				
	<b>Water column or gauge glass</b> – Open the drain valve quickly to void a small quantity of water. Water level should return quickly when the drain valve is closed.			•			
Hot water heating 160°F & 250psi or less <i>Caution – All water discharge must be piped to a safe place.</i>	<b>Pump and system</b> – Check feedwater pump for proper operation and leaky packing. Examine check valves, makeup float valves, expansion, and other parts of the system.	•					401 423 442
	<b>Low-water fuel cut-off (If applicable)</b> – Drain float chamber while boiler is running. This should interrupt the circuit and stop the burner.			•			
	<b>Burner operation</b> – If the burner starts with a puff or operates roughly, call your service personnel at once!	•					
	<b>Safety/relief valve</b> – Pull try-lever to full open position with pressure on the boiler. Release try-lever to allow the valve to snap closed.			•			



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AIR CONDITIONING & REFRIGERATION	<b>Hermetic</b> <i>Caution</i> - Always de-energize electrical equipment before testing, cleaning or performing maintenance.						406 407 425 445 448	
	<b>Motors</b> – Take insulation resistance readings of motor windings. If less than one megohm DO NOT start motor. Check for the cause of Low Resistance. Note: Hermetic motor readings less than 30 megohms should be checked by a service technician.					•		
	<b>Motor controls</b> – Inspect starter contacts for deterioration, pitting, corrosion, etc.; check terminal connections for tightness; examine overload protection for adequate size and defects; determine that timing devices have correct operating sequence; check mechanical linkage for binding and looseness.						•	
	<b>Fans</b> – Check for broken, cracked, bent or loose blades or hubs; check shaft and bearings; check belt tension and condition.						•	
	<b>Filters</b> – Clean air filters serving the evaporator and the air-cooled condenser. If a water-cooled condenser is used, the water side must be kept clean.	•						
<b>Non-hermetic</b> <i>Caution</i> – Always deenergize electrical equipment before testing, cleaning or performing maintenance.	<b>Motors</b> – Take insulation resistance readings of motor windings. If less than one megohm DO NOT start motor. Check for the cause of low resistance. Check air ventilation openings on open-type motors for obstruction. Check bearings on open-type motors for adequate and proper lubrication.						406 407 425 445 448	
	<b>Motor controls</b> – Inspect starter contacts for deterioration, pitting, corrosion, etc.; check terminal connections for tightness; examine overload protection for adequate size and defects; determine that timing devices have correct operating sequence; check mechanical linkage for binding and looseness.						•	
	<b>Fans</b> – Check for broken, cracked, bent or loose blades or hubs; check shaft and bearings; check belt tension and condition.						•	
	<b>Filters</b> – Clean air filters serving the evaporator and the air-cooled condenser. If a water-cooled condenser is used, the water side must be kept clean.			•				
	<b>Moisture indicator</b> – Observe to determine any change in the indicator chemical color or the presence of gas bubbles in the liquid refrigerant. In either case your service technician should be called.			•				
	<b>Oil sight glass</b> – Observe the glass to establish that sufficient oil is in the compressor crankcase. Oil leakage should not be tolerated. Any change in normal oil level should be investigated by your service technician.			•				
	<b>Temperature</b> – In-operation temperature levels for the compressor suction and discharge should be established and recorded. Any unusual change in these temperatures should be called to the attention of your service technician.			•				
	<b>Pressure</b> – Operating pressure levels should be established and recorded. Any unusual change in these pressures should be called to the attention of your service technician.			•				



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ELECTRICAL / ELECTRONIC	<b>Electrical distribution system</b> <i>Caution - Always deenergize electrical equipment before testing, cleaning or performing maintenance.</i>			•			420 443 446 447
	<b>Cool</b> – All vent and air circulation openings must be clear and operational. Electrical loads should be reviewed and corrected to ensure that circuits are properly loaded and balanced.						
	<b>Clean</b> – Dust and/or dirt accumulations should be removed from the equipment and surroundings. Equipment should be thoroughly cleaned inside and outside. Space in switchrooms and switchgear enclosures should not be used for storing tools, supplies, or other material.					•	
	<b>Dry</b> – Precaution should be taken to prevent steam, chemicals, moisture, or condensation from entering electrical enclosures.			•			
	<b>Tight</b> – Clean and tighten all loose parts and replace any that war worn. Equipment should be manually exercised to establish that moving parts do not bind and are free to operate.					•	
<b>Electronic &amp; computer equipment</b> <i>Caution - Always deenergize electrical equipment before testing, cleaning or performing maintenance.</i>	<b>Protection</b> – Computers, associated components of the computer system, and other electronic equipment should be protected by a UL-listed surge suppression device. Verify that vital programs and records are stored remotely and/or in an approved safe located in a low-hazard area, and protected by smoke detection and automatic sprinklers.			•			420 443
	<b>Heat</b> – All vent and air circulation openings must be free from obstruction. Filters should be kept clean and sound, and the fans operable.			•			
	<b>Smoke</b> – Ensure that approved detectors are installed and maintained. Verify that the actuation of any detector results in the sounding of alarms and the shut down of air conditioning equipment.					•	
	<b>Dry</b> – Precaution should be taken to prevent steam, chemicals, moisture, or condensation from entering computers or associated equipment.			•			

Equipment/System	What to look for/What to do	Daily	Weekly	Monthly	Quarterly	Annually	Reference document #
MECHANICAL	<b>Fans, blowers &amp; air induction louvers</b>					•	420 443
	<b>Fans &amp; blowers</b> – Check for broken, cracked, bent or loose blades or hubs; check shaft and bearings; check belt tension and condition.  <b>Vents &amp; louvers</b> – Inspect for damage and operation. Parts should be free of obstructions or blockage that would prevent proper intake for combustion air. Vents must not be blocked open; this may cause excessive cold air induction and possible freezing of vital systems.			•			
<b>Deepwell pumps</b>	<b>Motors</b> – Take insulation resistance readings of motor windings. If less than one megohm DO NOT start motor. Check for the cause of low resistance. Check air ventilation opening on open-type motors for obstruction. Check bearings on open-type motors for adequate and proper lubrication.					•	425
	<b>Motor controls</b> – Inspect starter contacts for deterioration, pitting, corrosion, etc.; check terminal connections for tightness; examine overload protection for adequate size and defects; check mechanical linkage for binding and looseness.					•	



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MISC	Hot water heaters	Relief valve – Pull try-lever to full open position with pressure on the equipment. Release try-lever to allow the valve to snap closed. Caution – All discharges must be piped to a safe place.			•			423
	Food preparation equipment, pressurized cookers, steam kettles & appliances	See “Commercial Cooking Equipment Cleaning & Maintenance procedures” wallchart.						438
Reference documents via <a href="http://www.HSB.com">www.HSB.com</a> Reference documents for all of the above checklist items are available through HSB.com.			National toll-free inspection hotline Inspection questions, requests for reference documents or status of scheduled inspections can be made directly to HSB’s national Inspection Hotline.			Telephone: 800-333-4677 Fax: 800-292-4083 E-mail: NSCINSP_hotline@hsb.com		

Keep A Record of Your Service Contractors for Quick Reference				
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Heating				
Cooling And Refrigeration				
Electrical				
Plumbing				
Utility				
Other				

**Contact:**

AIG Programs Loss Control  
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