Preventive Maintenance Plans

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GAS WATER HEATER	D2025 260 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operation or area personnel for deficiencies.				X						X		
Check for water leaks to tank and piping, check for fuel system leaks.				X						X		
Check gas burner and pilot for proper flame; adjust if required.				X						X		
Check operation and condition of pressure relief valve.				X						X		
Check automatic controls for proper operation (temperature regulators, thermostatic devices, automatic fuel shut off valve, etc.).				X						X		
Check draft diverter and clear openings, if clogged.				X						X		
Check electrical wiring for fraying and loose connections, if present.				X						X		
Check for proper water temperature setting; adjust as required.				X						X		
Check condition of flue pipe and chimney.				X						X		
Drain sediment from tank.				X						X		
Safety checks: Check draft at diverter and the stack temperature.				X						X		
Clean area around equipment.				X						X		
Fill out log book at the site noting work performed, report deficiencies.				X						X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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OIL WATER HEATER	D2025 260 PM2											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operation or area personnel for deficiencies.				X						X		
Check for water leaks to tank and piping, check for fuel system leaks.				X						X		
Check operation and condition of pressure relief valve.				X						X		
Check automatic controls for proper operation (temperature regulators, thermostatic devices, automatic fuel shut off valve, etc.).				X						X		
Check draft diverter and clear openings, if clogged.				X						X		
Check electrical wiring for fraying and loose connections, if present.				X						X		
Check for proper water temperature setting; adjust as required.				X						X		
Check condition of flue pipe and chimney.				X						X		
Replace the oil supply line filter. The line filter cartridge must be replaced to avoid contamination of the fuel unit and nozzle.				X						X		
Inspect the oil supply system. All fittings should be leak-tight. The supply lines should be free of water, sludge and other restrictions.				X						X		
Remove and clean the pump strainer if applicable.				X						X		
Inspect the igniter spring contacts.				X						X		
Clean the cad cell grid surface, if necessary.				X						X		
Clean and check boiler combustion chamber, burner and burner controls.				X						X		
Replace oil nozzle with equivalent nozzle.				X						X		
Clean and inspect the electrodes for damage, replacing any that are cracked or chipped. Check gap and alignment of electrodes. Replace electrodes if tips are rounded.				X						X		
Inspect all gaskets. Replace any that are damaged or would fail to seal adequately.				X						X		
Inspect the combustion head and air tube. Remove any carbon or foreign matter. Replace all damaged units with exact parts.				X						X		
Clean the blower wheel, air inlet, air guide, burner housing and static plate of any lint or foreign material.				X						X		
Inspect the vent system and chimney for soot accumulation or other restriction. Clean boiler flue and barometric damper, check damper for proper operation, adjust as required.				X						X		
Check oil pump supply pressure to nozzle.				X						X		
Clean and check burner motor, blower and oil as required. If motor is not permanently lubricated, oil motor with a few drops of SAE 20 nondetergent oil at each oil hole. DO NOT over oil motor. Excessive oiling can cause motor failure. Check electronic burner ignition.				X						X		
Check burner motor current. The amp draw should not exceed the nameplate rating by more than 10%.				X						X		
Check all wiring for secure connections or insulation breaks.				X						X		
Check the pump pressure and cutoff function.				X						X		
Check primary control safety lockout timing.				X						X		
Check ignition system for proper operation.				X						X		
Clean the appliance thoroughly according to the manufacturer's recommendations.				X						X		
Perform burner test and record efficient percent CO2, draft stack degree F and smoke. Set combustion with test instruments. Make all necessary air and oil adjustments in order to achieve highest efficiency possible.				X						X		
Check fuel level in tank. Check oil tank for the presence of water.				X						X		
It is good practice to make a record of the service performed and the combustion test results.				X						X		
Drain sediment from tank.				X						X		
It is good practice to make a record of the service performed and the combustion test results.				X						X		
Clean area around equipment.				X						X		
Fill out log book at the site noting work performed, report deficiencies.				X						X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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ELECTRIC WATER HEATER	D2025 260 PM3											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operation or area personnel for deficiencies.				X								
Check for water leaks to tank.				X								
Check operation and condition of pressure relief valve.				X								
Check automatic controls for proper operation (temperature regulators, thermostatic devices). Check for proper operation of heating elements. If present in a tank-type heater, check lower and upper elements.				X								
Check electrical wiring for fraying and loose connections, if present.				X								
Check for proper water temperature setting; adjust as required.				X								
Undersink/on-demand: Check temperature and hot water flow.				X								
Tank type: Drain sediment from tank.				X								
Clean area around equipment.				X								
Fill out log book at the site noting work performed, report deficiencies.				X								
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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SIMPLEX or DUPLEX SUMP PUMP	D2095 905 PM1											
MAINTENANCE PROCEDURES*	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**
Check for proper operation of pump, including correct rotation.				X						X		
Activate float switches and check pumps for proper operation.				X						X		
Check for leaks on suction and discharge piping, seals, packing glands, etc.; make minor adjustments as required.				X						X		
Check pump and motor operation for excessive vibration, noise and overheating.				X						X		
Check alignment of pump and motor; adjust as necessary.				X						X		
Check electrical wiring and connections; tighten loose connections.				X						X		
Lubricate pump and motor as required.				X						X		
Clean out trash from sump bottom.				X						X		
Fill out log book at the site noting work performed, report deficiencies.				X						X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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SUBMERSIBLE PUMP	D2095 910 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operating personnel for any deficiencies.				X						X		
Remove pump from pit.				X						X		
Clean out trash from pump intake. Clean out trash from sump bottom.				X						X		
Check for proper operation of pump, including correct rotation.				X						X		
Check electrical plug, cord, and connection.				X						X		
Inspect pump body for corrosion; prime and paint as necessary.				X						X		
Check for leaks on suction and discharge piping, seals, packing glands, etc.; make minor adjustments as required.				X						X		
Lubricate pump and motor as required.				X						X		
Check pump and motor operation for excessive vibration, noise and overheating.				X						X		
Return pump to pit; reset and check float switch for proper operation.				X						X		
Fill out log book at the site noting work performed, report deficiencies.				X						X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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REVERSE OSMOSIS SYSTEM	D2099 110 PM1											
MAINTENANCE PROCEDURES*	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**
Check with operating personnel for any deficiencies.	X									X		
Test water for hardness, chlorine leakage, Iron, reverse osmosis quality.	X									X		
Check flow cycles. Verify service cycle, backwash cycle, brine cycle, rinse cycle, flush cycle.	X									X		
Check electrical connections.	X									X		
Check brine tank and brine level in tank. Inspect brine valve. Time brine rinse cycle. Look for depressurization. Check brine draw and rate.	X									X		
Check prefilters and membrane filters.	X									X		
Regulate pressures and adjust for best quality permeate.	X									X		
Check for leaks on suction and discharge piping, seals, packing glands, etc.; make minor adjustments as required.	X									X		
Lubricate pump and motor as required.	X									X		
Check pump and motor operation for proper operation, including excessive vibration, noise and overheating.	X									X		
Fill out log book at the site noting work performed, report deficiencies.	X									X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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ELECTRIC BOILER	D3025 110 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operation or area personnel for deficiencies.										X		
At the beginning of the heating season, electrical and thermostat connections.										X		
Verify no storage or use of flammable objects, liquids or vapors near the heating system. Immediately remove these items if they are present.										X		
Verify the clearances to combustibles.										X		
Check hot water pressure gauges.										X		
Check for proper operation of primary controls for resistance-type or electrode-type heating elements; check and adjust thermostat.										X		
Check electrical wiring to heating elements, overcurrent projective devices, grounding system and other electrical components as required.										X		
Check over temperature and over-pressure limit controls for proper operation.										X		
Check boiler operation through complete cycle or up to 10 minutes.										X		
The relief valve should vent water when the test lever is lifted. It should not weep or discharge water at normal system pressure. Safety valve capacity must be at least equal to output of boiler.										X		
Clean area around equipment.										X		
Fill out log book at the site noting work performed, report deficiencies.										X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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COMMERCIAL CAST IRON GAS BOILER	D3025 130 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operation or area personnel for deficiencies.										X		
At the beginning of the heating season, check the gas, electrical, thermostat connections, and venting.										X		
Verify no storage or use of flammable objects, liquids or vapors near the heating system. Immediately remove these items if they are present.										X		
Verify the clearances to combustibles. No hanging anything from piping. Immediately remove objects in violation of the clearances to combustibles.										X		
Heat exchanger cleaning: A flue temperature over 550°F, 288°C, indicates that the boiler needs to be cleaned. Follow manufacturer's instructions.										X		
Heat exchanger cleaning: Shut off the electrical power and the fuel supply to the boiler. Remove the jacket panels. Remove the cleanout covers. Clean each flue passage with a wire brush. If heavy deposits are present, pull the burner and vacuum										X		
Heat exchanger cleaning: Vacuum out the burner base and clean and inspect all of the components. Replace any damaged or badly corroded parts.										X		
Inspect the cleanout cover insulation and rope seal. If damaged or deteriorated										X		
Install the clean out covers and reseal them with a silicone caulk rated for 500°F,										X		
Install the panels and remount the burner.										X		
Controls: Service the low water cutoff devices per the manufacturer's instructions.										X		
Controls: The relief valve should vent water when the test lever is lifted. It should not weep or discharge water at normal system pressure. Safety valve capacity must be at least equal to output of boiler.										X		
Thoroughly inspect the vent system for any signs of blockage, corrosion or leakage. Immediately replace any unsound vent system piping.										X		
Check gas supply pressure to gas valve train.										X		
Inspect the water and gas lines to verify they are free from leaks.										X		
Use a combustion analyzer to ensure that the burner is adjusted properly. Follow the burner manufacturer's lighting instructions. A properly adjusted gas burner on high fire will produce a CO^2 of 8.5 to 9.5% with a CO level under 300 ppm.										X		
Safety checks: High limit operation, operating limit operation, low water cutoff, backup low water cutoff, service switches, all additional limits.										X		
Safety checks: Check draft in smoke hood and the stack temperature.										X		
Clean area around equipment.										X		
Fill out log book at the site noting work performed, report deficiencies.										X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures

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OIL-FIRED RESIDENTIAL BOILER	D3025 130 PM2											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operation or area personnel for deficiencies.										X		
Replace the oil supply line filter. The line filter cartridge must be replaced to avoid contamination of the fuel unit and nozzle.										X		
Inspect the oil supply system. All fittings should be leak-tight. The supply lines should be free of water, sludge and other restrictions.										X		
Remove and clean the pump strainer if applicable.										X		
Inspect the igniter spring contacts.										X		
Clean the cad cell grid surface, if necessary.										X		
Make sure low-firing-rate baffle is in place if required for the burner application. Omitting the baffle can result in unacceptable burner combustion.										X		
Clean and check boiler combustion chamber, burner and burner controls.										X		
Replace oil nozzle with equivalent nozzle.										X		
Clean and inspect the electrodes for damage, replacing any that are cracked or chipped. Check gap and alignment of electrodes. Replace electrodes if tips are rounded.										X		
Inspect all gaskets. Replace any that are damaged or would fail to seal adequately.										X		
Inspect the combustion head and air tube. Remove any carbon or foreign matter. Replace all damaged units with exact parts.										X		
Clean the blower wheel, air inlet, air guide, burner housing and static plate of any lint or foreign material.										X		
Inspect the vent system and chimney for soot accumulation or other restriction. Clean boiler flue and barometric damper, check damper for proper operation, adjust as required.										X		
Check oil pump supply pressure to nozzle.										X		
Clean and check burner motor, blower and oil as required. If motor is not permanently lubricated, oil motor with a few drops of SAE 20 nondetergent oil at each oil hole. DO NOT over oil motor. Excessive oiling can cause motor failure. Check electronic burner ignition.										X		
Check burner motor current. The amp draw should not exceed the nameplate rating by more than 10%.										X		
Check all wiring for secure connections or insulation breaks.										X		
Check the pump pressure and cutoff function.										X		
Check primary control safety lockout timing.										X		
Check ignition system for proper operation.										X		
Clean the appliance thoroughly according to the manufacturer's recommendations.										X		
Perform burner test and record efficient percent CO2, draft stack degree F and smoke. Set combustion with test instruments. Make all necessary air and oil adjustments in order to achieve highest efficiency possible.										X		
Check fuel level in tank. Check oil tank for the presence of water.										X		
It is good practice to make a record of the service performed and the combustion test results.										X		
Clean area.										X		
Fill out log book at the site noting work performed, report deficiencies.										X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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HIGH EFFICIENCY GAS-FIRED BOILER	D3025 130 PM3											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operation or area personnel for deficiencies.										X		
At the beginning of the heating season, check the gas, electrical, thermostat connections, and venting.										X		
Verify no storage or use of flammable objects, liquids or vapors near the heating system. Immediately remove these items if they are present.										X		
Verify the clearances to combustibles. No hanging anything from, or placing anything on, the boiler. Immediately remove objects in violation of the clearances to combustibles.										X		
On-site staff - monthly: Inspect the vent piping and outside air intake piping to verify they are open, unobstructed and free from leakage or deterioration.	X	X	X	X	X	X			X	X	X	X
On-site staff - monthly: Inspect the condensate system to verify it is leak tight, open, and unobstructed.	X	X	X	X	X	X			X	X	X	X
Verify correct supply pressure to gas valve.										X		
Inspect the water and gas lines to verify they are free from leaks.										X		
Follow manufacturer's procedures for turning off the boiler. Turn off all power to the boiler. Inspect the wiring to verify the conductors are in good condition and attached securely. Unplug igniter, ground, and flame sensor wires and remove the door/blower/gas valve assembly from the heat exchanger.										X		
Inspect the fire door insulation										X		
Inspect the heat exchanger and combustion chamber. Vacuum.										X		
Inspect the burner for heat damage or other deterioration. Use compressed air to dust off or clean debris from ports.										X		
Inspect the igniter electrode and flame sensor for deposits.										X		
Inspect the blower gas valve assembly. Look for debris drawn into the assembly. Vacuum. Inspect all rubber and plastic components for deterioration.										X		
Inspect and clean the condensate trap.										X		
Reinstall the fire door/blower/gas valve assembly in reverse order. Reconnect any wiring that has been disconnected.										X		
Inspect the vent system to verify that all gaskets and joints between the boiler heat exchanger and terminal are leak tight. Verify that the vent pipes are in good condition.										X		
Inspect the hydronic system. Look for leaks and repair any leaks found.										X		
Inspect air vent(s) in hydronic piping.										X		
Clean area around equipment.										X		
Fill out log book at the site noting work performed, report deficiencies.										X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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COMMERCIAL COAL BOILERS	D3025 130 PM4											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Checked with operation or area personnel for deficiencies.	X									X		
Remove ash and observe condition of ash. Adjust grate timer if necessary. (Note: Perform as a PM function; however, PHMC staff will perform this function as needed)	X									X		
Examine fire bed. Look for clinkers and remove if necessary. (Note: Perform as a PM function; however, PHMC staff will perform function weekly)	X									X		
Roller Chains: Lubricate with chain oil and take up slack.	X									X		
Drive Belt: Check belt condition. Replace or adjust tension)	X									X		
Pitman shaft: Lubricate brass bushings with a few drops of oil.	X									X		
Fan Shaft Bearings (belt drive models only): Grease with high temperature grease.	X									X		
Abrasion Shield: Check for leakage around gasket. Adjust or replace if necessary.	X									X		
Flue Pipe: Check for leakage around seams and res-seal if necessary.	X									X		
Cam Bearing on Grate: Check to make sure bearings are free to rotate.				X								
Fire Box: Clean and inspect fire box.				X								
Swirl Chamber: clean and inspect. Inspect fan condition.				X								
Ceramic Heat Shield: Check for wear around fan shaft hole - replace if gap is greater than 1/6"				X								
Flue Pipe: Remove flue tube assembly and clean. Inspect cyclone funnel.	X			X						X		
Fill out log book at the site noting work performed, report deficiencies.	X			X						X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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OIL-FIRED COMMERCIAL BOILER	D3025 130 PM6											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operation or area personnel for deficiencies.										X		
Replace the oil supply line filter. The line filter cartridge must be replaced to avoid contamination of the fuel unit and nozzle.										X		
Inspect the oil supply system. All fittings should be leak-tight. The supply lines should be free of water, sludge and other restrictions.										X		
Verify no storage or use of flammable objects, liquids or vapors near the heating system. Immediately remove these items if they are present.										X		
Heat exchanger cleaning: A flue temperature over 450°F, 232°C, indicates that soot is accumulating and the boiler needs to be cleaned. Follow manufacturer's instructions.										X		
Remove and clean the pump strainer if applicable.										X		
Inspect the igniter spring contacts.										X		
Clean the cad cell grid surface, if necessary.										X		
Clean and check boiler combustion chamber, burner and burner controls.										X		
Replace oil nozzle with equivalent nozzle.										X		
Clean and inspect the electrodes for damage, replacing any that are cracked or chipped. Check gap and alignment of electrodes. Replace electrodes if tips are rounded.										X		
Inspect all gaskets. Replace any that are damaged or would fail to seal adequately.										X		
Inspect the combustion head and air tube. Remove any carbon or foreign matter. Replace all damaged units with exact parts.										X		
Clean the blower wheel, air inlet, air guide, burner housing and static plate of any lint or foreign material.										X		
Inspect the vent system and chimney for soot accumulation or other restriction. Clean boiler flue and barometric damper, check damper for proper operation, adjust as required.										X		
Check oil pump supply pressure to nozzle.										X		
Clean and check burner motor, blower and oil as required. If motor is not permanently lubricated, oil motor with a few drops of SAE 20 nondetergent oil at each oil hole. DO NOT over oil motor. Excessive oiling can cause motor failure. Check electronic burner ignition.										X		
Check burner motor current. The amp draw should not exceed the nameplate rating by more than 10%.										X		
Check all wiring for secure connections or insulation breaks.										X		
Check the pump pressure and cutoff function.										X		
Check primary control safety lockout timing.										X		
Check ignition system for proper operation.										X		
Controls: Service the low water cutoff devices per the manufacturer's instructions. Check backup low water cutoff.										X		
Controls: The relief valve should vent water when the test lever is lifted. It should not weep or discharge water at normal system pressure. Safety valve capacity must be at least equal to output of boiler.										X		
Check operating high/low limits. Check operation of high limit.										X		
Clean the appliance thoroughly according to the manufacturer's recommendations.										X		
Perform burner test and record efficient percent CO2, draft stack degree F and smoke. Set combustion with test instruments. Make all necessary air and oil adjustments in order to achieve highest efficiency possible.										X		
Check fuel level in tank. Check oil tank for the presence of water.										X		
It is good practice to make a record of the service performed and the combustion test results.										X		
Clean area.										X		
Fill out log book at the site noting work performed, report deficiencies.										X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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RESIDENTIAL GAS BOILER	D3025 130 PM7											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operation or area personnel for deficiencies.										X		
At the beginning of the heating season, check the gas, electrical, thermostat connections, and venting.										X		
Verify no storage or use of flammable objects, liquids or vapors near the heating system. Immediately remove these items if they are present.										X		
Verify the clearances to combustibles.										X		
Heat exchanger cleaning: Shut off the electrical power and the fuel supply to the boiler. Remove the jacket panels. Remove the cleanout covers. Clean each flue passage with a wire brush. If heavy deposits are present, pull the burner										X		
Heat exchanger cleaning: Vacuum out the burner base and clean and inspect all of the components. Replace any damaged or badly corroded parts.										X		
Install the panels and remount the burner.										X		
Controls: Service the low water cutoff devices per the manufacturer's										X		
Controls: The relief valve should vent water when the test lever is lifted. It should not weep or discharge water at normal system pressure. Safety valve capacity must be at least equal to output of boiler.										X		
Thoroughly inspect the vent system for any signs of blockage, corrosion or leakage. Immediately replace any unsound vent system piping.										X		
Inspect the water and gas lines to verify they are free from leaks.										X		
Check gas supply pressure to gas valve.										X		
Check gas burner and pilot for proper flame; adjust if required.										X		
Use a combustion analyzer to ensure that the burner is adjusted properly. Follow the burner manufacturer's lighting instructions.										X		
Safety checks: High limit operation, operating limit operation, low water cutoff, backup low water cutoff, service switches, all additional limits.										X		
Safety checks: Check draft and the stack temperature.										X		
Clean area around equipment.										X		
Fill out log book at the site noting work performed, report deficiencies.										X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer’s recommendations for all service and maintenance procedures.

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RESIDENTIAL COAL BOILER	D3025 130 PM8											
MAINTENANCE PROCEDURES*	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**
Checked with operation or area personnel for deficiencies.	X									X		
Check operating controls. Check low water cutoff. Verify stoker controls and stoker timing.	X									X		
Check relief valve operation.	X									X		
Remove ash and observe condition of ash. Adjust grate timer if necessary. (Note: Perform as a PM function; however, PHMC staff will perform this function as needed)	X									X		
Examine fire bed. Look for clinkers and remove if necessary. (Note: Perform as a PM function; however, PHMC staff will perform function weekly)	X									X		
Roller Chains or Augur: Lubricate with recommended oil. For chain drives, take up slack.	X									X		
Flue Pipe: Check for leakage around seams and reseal if necessary.	X									X		
Flue Pipe: Check flue passages and smoke pipe. Clean as needed. Clean primary heat exchanger sections through inspections doors or removable panels. Brush heat exchanger sections and vacuum.	X									X		
Check for fines accumulation in the burner chamber. (Note: This is daily PM function performed by the operator, but should be part of the PM service.)	X									X		
Check draft. Adjust according to manufacturer's instructions	X									X		
Drive Belt: Check belt condition. Replace or adjust tension.	X									X		
Start coal fire, if not already firing. Check for properly adjusted fire according to manufacturer's instructions.	X									X		
Fire Box: Clean and inspect fire box.				X								
Clean ashes from ash pit. Vacuum.				X								
During the summer, the ash pit door and fire door should be left open to circulate air through the furnace to remove dampness and prevent corrosion.				X								
Fill out log book at the site noting work performed, report deficiencies.	X			X						X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer’s recommendations for all service and maintenance procedures.

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CLOSED CIRCUIT COOLING TOWER - D3035 110 PM1	Seasonal Start-Up and Shut-Down Procedures, Listed Below*											
MAINTENANCE PROCEDURES	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**
Check with operation or area personnel for deficiencies	X	X	X	X	X	X	X	X	X	X	X	X
Clean pan strainer - monthly or as needed	X	X	X	X	X	X	X	X	X	X	X	X
Coupling/Shaft - Inspect flex elements and hardware for tightness, proper torque & crack/deterioration - monthly	X			X			X			X		
Clean and flush pan* - quarterly or as needed	X			X			X			X		
Check bleed off valve to make sure it is operative	X	X	X	X	X	X	X	X	X	X	X	X
Lubricate pump and pump motor according to manufacturer's instruction				X								
Check operating level in pan and adjust float valve if necessary	X	X	X	X	X	X	X	X	X	X	X	X
Check water distribution system and spray pattern	X	X	X	X	X	X	X	X	X	X	X	X
Check discharge damper, damper operator, and linkages for smooth operation.	X			X			X			X		
Check drift eliminators	X			X			X			X		
Check the fan blades for cracks, missing balancing weights, and vibrations	X			X			X			X		
Lubricate fan shaft bearings every 1,000 hours or quarterly	X			X			X			X		
Lubricate fan motor bearings - see mfg.'s instructions. Typically for non-sealed bearings, every 2-3 years				X								
Check belt tension and adjust	X	X	X	X	X	X	X	X	X	X	X	X
Inspect and grease sliding motor base				X								
Check fan screens, inlet louvers, fans and dry cooler coil (WDW only). Remove any dirt or debris.	X	X	X	X	X	X	X	X	X	X	X	X
Inspect and clean protective finish - annually. M Galvanized: scrape and coat with ZRC M. Stainless: clean and polish with a stainless steel cleaner.				X								
Check water quality for biological contamination. Clean unit as needed and contact a water treatment company for recommended water treatment program*	X			X			X			X		
Electronic Water Level Controller - Inspect junction box for loose wiring and moisture - semi-annually	X			X			X			X		
Electronic Water Level Controller - Clean probe ends of scale build-up	X			X			X			X		
Electronic Water Level Controller -Clean inside the standpipe				X								
Solenoid Make-up Valve - Inspect and clean valve of debris - as needed				X			X					
Vibration Switch (mechanical) - Inspect enclosure for loose wiring and moisture - one month after start-up and monthly	X	X	X	X	X	X	X	X	X	X	X	X
Vibration Switch - Adjust the sensitivity - during start-up and annually				X								
Sump Sweeper· Piping - Inspect and clean piping of debris - semi-annually				X						X		
Water Level Indicator - Inspect and clean - annually				X								

SEASONAL START-UP	SEASONAL SHUT-DOWN
1. Clean and remove any debris, such as leaves and dirt from the air inlets.	1. The evaporative cooling unit cold water basin should be drained
2. Flush the cold water basin (with the strainer screens in place) to remove any sediment or dirt	2. The cold water basin should be flushed and cleaned with the suction strainer screens
3. Remove the strainer screen, clean **and reinstall.**	3. The suction strainer screens should be cleaned and re installed.
4. Check mechanical float valve to see if it operates freely.	4. The cold water basin drain should be left open.
5. Inspect water distribution system nozzles and clean as required. Check for proper orientation.	5. The fan shaft bearings and motor base adjusting screws should be lubricated. This
6. Check to ensure drift eliminators are securely in place and in the proper orientation.	6. The make-up water supply, overflow and drain lines, as well as the recirculating
7. Adjust fan belt tension as required. See "Fan Belt Adjustment" section.	7. The finish of the unit should be inspected. Clean and refinish as required.
8. Lubricate fan shaft bearings prior to seasonal start-up.	8. The fan bearings and motor bearings need to be turned at least once a month by
9. Turn the fan(s) by hand to insure it turns freely without obstructions.	9. Closed Circuit Coolers only If the recommended minimum fluid flows thru the heat
10. Visually inspect the fan blades. Blade clearance should be approximately 3/8" (1/4" minimum) from tip of	
11. If any stagnant water remains in the system including "dead legs" in the piping, the unit must be	
12. Manually fill the cold water basin up to the overflow connection.	
13. For closed circuit coolers, fill the heat exchanger coil with the specified fluid and "burp" air from the	

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COOLING TOWER - D3035 110 PM2	Seasonal Start-Up and Shut-Down Procedures, Listed Below*											
MAINTENANCE PROCEDURES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operation or area personnel for deficiencies	X	X	X	X	X	X	X	X	X	X	X	X
Clean pan strainer - monthly or as needed	X	X	X	X	X	X	X	X	X	X	X	X
Coupling/Shaft - Inspect flex elements and hardware for tightness, proper torque & crack/deterioration - monthly	X			X			X			X		
Clean and flush pan* - quarterly or as needed	X			X			X			X		
Check bleed off valve to make sure it is operative	X	X	X	X	X	X	X	X	X	X	X	X
Lubricate pump and pump motor according to manufacturer's instruction				X								
Check operating level in pan and adjust float valve if necessary	X	X	X	X	X	X	X	X	X	X	X	X
Check water distribution system and spray pattern	X	X	X	X	X	X	X	X	X	X	X	X
Check discharge damper, damper operator, and linkages for smooth operation.	X			X			X			X		
Check drift eliminators	X			X			X			X		
Check the fan blades for cracks, missing balancing weights, and vibrations	X			X			X			X		
Lubricate fan shaft bearings every 1,000 hours or quarterly	X			X			X			X		
Lubricate fan motor bearings - see mfg.'s instructions. Typically for non-sealed bearings, every 2-3 years				X								
Check belt tension and adjust	X	X	X	X	X	X	X	X	X	X	X	X
Inspect and grease sliding motor base				X								
Check fan screens, inlet louvers, fans and dry cooler coil (WDW only). Remove any dirt or debris.	X	X	X	X	X	X	X	X	X	X	X	X
Inspect and clean protective finish - annually.				X								
Check water quality for biological contamination. Clean unit as needed and contact a water treatment company for recommended water treatment program*	X			X			X			X		
Electronic Water Level Controller - Inspect junction box for loose wiring and moisture - semi-annually	X			X			X			X		
Electronic Water Level Controller - Clean probe ends of scale build-up	X			X			X			X		
Electronic Water Level Controller -Clean inside the standpipe				X								
Solenoid Make-up Valve - Inspect and clean valve of debris - as needed				X			X					
Vibration Switch (mechanical) - Inspect enclosure for loose wiring and moisture - one month after start-up and monthly	X	X	X	X	X	X	X	X	X	X	X	X
Vibration Switch - Adjust the sensitivity - during start-up and annually				X								
Sump Sweeper· Piping - Inspect and clean piping of debris - semi-annually				X						X		
Water Level Indicator - Inspect and clean - annually				X								

SEASONAL START-UP	SEASONAL SHUT-DOWN
1. Clean and remove any debris, such as leaves and dirt from the air inlets.	1. The evaporative cooling unit cold water basin should be drained
2. Flush the cold water basin (with the strainer screens in place) to remove any sediment or dirt	2. The cold water basin should be flushed and cleaned with the suction strainer screens in place.
3. Remove the strainer screen, clean **and reinstall.**	3. The suction strainer screens should be cleaned and re installed.
4. Check mechanical float valve to see if it operates freely.	4. The cold water basin drain should be left open.
5. Inspect water distribution system nozzles and clean as required. Check for proper orientation.	5. The fan shaft bearings and motor base adjusting screws should be lubricated. This should also be performed if the unit is going to sit idle prior to initial start-up.
6. Check to ensure drift eliminators are securely in place and in the proper orientation.	6. The make-up water supply, overflow and drain lines, as well as the recirculating pump and pump piping up to the overflow level must be heat traced and insulated to account for any residual water.
7. Adjust fan belt tension as required. See "Fan Belt Adjustment" section.	7. The finish of the unit should be inspected. Clean and refinish as required.
8. Lubricate fan shaft bearings prior to seasonal start-up.	8. The fan bearings and motor bearings need to be turned at least once a month by hand. This can be accomplished by making sure the unit's disconnect is tagged and locked out, and grasping the fan assembly, rotating it several turns.
9. Turn the fan(s) by hand to insure it turns freely without obstructions.	
10. Visually inspect the fan blades. Blade clearance should be approximately 3/8" (1/4" minimum) from tip of blade to the fan cowl. The fan blades should be securely tightened to the fan hub.	
11. If any stagnant water remains in the system including "dead legs" in the piping, the unit must be disinfected prior to the fans being energized. Please refer to ASHRAE Guideline 12-2000 and CTI Guideline WTP-148 for more information.	
12. Manually fill the cold water basin up to the overflow connection.	

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AIR-COOLED CHILLER	D3035 130 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check unit for proper operation, excessive noise or vibration.	X			X			X			X		
Run system diagnostics test.	X			X			X			X		
Check oil level in sight glass (if present) for each compressor circuit. Add oil as necessary.	X			X			X			X		
Check superheat and sub cooling temperatures.	X			X			X			X		
Check liquid line sight glass if present.	X			X			X			X		
Check coil and refrigerant pressures.	X			X			X			X		
Check contactors, sensors and mechanical safety limits.	X			X			X			X		
Inspect condenser fans. Manually spin fans to check bearings and fan balance.	X			X			X			X		
Clean condenser coil.	X			X			X			X		
Check electrical wiring and connections; tighten loose connections.	X			X			X			X		
Inspect plumbing and valves for leaks; adjust as necessary.	X			X			X			X		
Check evaporator and condenser for corrosion.	X			X			X			X		
Clean chiller and surrounding area.	X			X			X			X		
Electrical Heat Tracing Tape-check maintenance procedure as per Manufacturer's recommendations.	X			X			X			X		
Fill out log book at the site noting work performed, report deficiencies.	X			X			X			X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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CONDENSING UNIT OR HEAT PUMP UNIT	D3035 220 PM1											
MAINTENANCE PROCEDURES*	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**
Checked with operation or area personnel for deficiencies.	X			X			X			X		
Check unit for proper operation, excessive noise or vibration.	X			X			X			X		
Check controls for proper operation.	X			X			X			X		
Pressure wash coils and fans with coil cleaning solution. **Use low pressure setting. Set spray pattern to "fan" instead of "stream" to avoid damaging fins.**				X						X		
Check refrigerant pressure. Add refrigerant, if necessary, by evacuating the existing refrigerant then weighing in the correct charge.				X						X		
Check electrical wiring and connections; tighten loose connections.				X						X		
Inspect shaft bearings and motor bearings. Lubricate as recommended by the manufacturer				X						X		
Inspect fan(s) or blower(s) for bent blades or imbalance; adjust as necessary.	X			X			X			X		
Inspect piping and valves for leaks; tighten connections as necessary.	X			X			X			X		
Clean area around equipment.	X			X			X			X		
Fill out log book at the site noting work performed, report deficiencies.	X			X			X			X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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WATER-TO-WATER HEAT PUMP	D3035 240 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Checked with operation or area personnel for deficiencies.	X			X			X			X		
The Unit Control Processor (UPC) provides diagnostics and system status. CHECK THE UPC FOR STATUS/DIAGNOSTICS BEFORE TURNING POWER OFF. All stored info will be lost when the main power is turned OFF. Follow manufacturer's test procedures.	X			X			X			X		
Check unit for proper operation, excessive noise or vibration.	X			X			X			X		
Check controls for proper operation. Verify smooth operation of valves and valve actuators.	X			X			X			X		
Check electrical wiring and connections; tighten loose connections.	X			X			X			X		
Check strainers within inlet piping (if present). Clean debris.	X			X			X			X		
Unit performance: Check hydronic piping inlet and outlet temperatures and pressures while the unit is operating for at least 10 minutes.	X			X			X			X		
Unit heat exchanger: Keep all air out of the water or antifreeze solution.	X			X			X			X		
Unit heat exchanger: Keep the system under pressure at all times. Closed loop systems must have positive static pressure or air vents may draw air into the system.	X			X			X			X		
Unit heat exchanger: If the installation is in an area with a known high mineral content in the water, it is best to establish with the owner a periodic maintenance schedule for checking the water-to-refrigerant heat exchanger on a regular basis. Should periodic cleaning be necessary, use standard cleaning procedures. Generally, the more water flowing through the unit, the less chance there is for scaling. Low GPM flow rates produce higher temperatures through the heat exchanger. To avoid excessive pressure drop and the possibility of metal erosion, do not exceed GPM flow rate as shown on the specification sheets for each unit.	X			X			X			X		
Inspect piping and valves for leaks; tighten connections as necessary.	X			X			X			X		
Clean area around equipment.	X			X			X			X		
Fill out log book at the site noting work performed, report deficiencies.	X			X			X			X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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DUCT COIL	D3044 110 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Checked with operation or area personnel for deficiencies.	X			X			X			X		
Filters: replace filters, check filter switch, and wipe section clean.	X			X			X			X		
Coils: Clean all coils to include direct exchange (DX) refrigerant coils, hot water coils, steam coils, and chilled water coils.	X			X			X			X		
Clean strainers ahead of hot water, chilled water, and steam coils. If a steam trap is present, verify operation of the trap.	X			X			X			X		
Verify smooth operation of coil valves and valve actuators.	X			X			X			X		
Clean condensate pan (if present). Check condensate line for dirt and debris. Clean line as needed.				X			X			X		
Hot gas reheat coil (if present): Check operation of hot gas reheat coil. Clean if necessary. Inspect heat pump liquid line receivers for leaks. Verify operation of face and bypass dampers.				X			X			X		
Electric heating coil (if present): Check heat element operation, inspect elements for cleanliness, inspect & tighten electrical connections	X			X			X			X		
Electrical Panel: Check fuses, electrical connections, operation sequence, contactor operation.	X			X			X			X		
Inspect piping and valves for leaks; tighten connections as necessary.	X			X			X			X		
Clean area around equipment.	X			X			X			X		
Fill out log book at the site noting work performed, report deficiencies.	X			X			X			X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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DX COOLING OR HEAT PUMP COIL	D3044 110 PM2											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Checked with operation or area personnel for deficiencies.	X			X			X			X		
Filters: replace filters, check filter switch, and wipe section clean.	X			X			X			X		
Coils: Clean direct exchange (DX) refrigerant coil.	X			X			X			X		
Clean condensate pan. Check condensate line for dirt and debris. Clean line as needed.				X			X			X		
Inspect piping and valves for leaks; tighten connections as necessary.	X			X			X			X		
Clean area around equipment.	X			X			X			X		
Fill out log book at the site noting work performed, report deficiencies.	X			X			X			X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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AIR HANDLER	D3045 110 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Checked with operation or area personnel for deficiencies.	X			X			X			X		
Filters: replace filters, check filter switch, and wipe section clean.	X			X			X			X		
Coils: Clean all coils that may be at the air handler to include direct exchange (DX) refrigerant coils, hot water coils, steam coils, and chilled water coils.	X			X			X			X		
Clean strainers ahead of hot water, chilled water, and steam coils. If a steam trap is present, verify operation of the trap.	X			X			X			X		
Clean condensate pan (if present). Check condensate line for dirt and debris. Clean line as needed.				X			X			X		
Hot gas reheat coil (if present): Check operation of hot gas reheat coil. Clean if necessary. Inspect heat pump liquid line receivers for leaks. Verify operation of face and bypass dampers.				X			X			X		
Blower Section: Check impellers for debris and movement, belt tension and condition, condition of bearings. Follow manufacturer's instructions regarding lubrication. Periodic oiling may not be recommended, as it will result in dirt accumulating in the excess oil and cause eventual motor failure.	X			X			X			X		
Economizer (if present): Verify operation of damper actuator. Check/tighten damper linkages. Verify smooth operation of economizer dampers. Verify minimum outdoor air damper position. Locate outdoor air damper even if economizer is not present. Verify that outdoor air damper closes tightly when in UNOCCUPIED MODE. Verify operation of barometric relief damper.	X			X			X			X		
Verify smooth operation of coil valves and valve actuators.	X			X			X			X		
Electric heating coil (if present): Check heat element operation, inspect elements for cleanliness, inspect & tighten electrical connections	X			X			X			X		
Electrical Panel: Check fuses, electrical connections, operation sequence, contactor operation.	X			X			X			X		
Inspect piping and valves for leaks; tighten connections as necessary.	X			X			X			X		
Clean area around equipment.	X			X			X			X		
Fill out log book at the site noting work performed, report deficiencies.	X			X			X			X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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FILTRATION UNIT	D3045 110 PM2											
MAINTENANCE PROCEDURES*	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**
Checked with operation or area personnel for deficiencies.	X			X			X			X		
Filters: replace pre-filters, check filter switch, and wipe section clean.	X			X			X			X		
Filters: replace high efficiency filters as recommended by the manufacturer and/or differential pressure reading, check filter switch, and wipe section clean.							X					
Dampers (if present): Verify operation of damper actuator. Check/tighten damper linkages. Verify smooth operation of dampers. Verify that outdoor air damper closes tightly when in UNOCCUPIED MODE.	X			X			X			X		
Blower Section: Check impellers for debris and movement, belt tension and condition, condition of bearings. Follow manufacturer's instructions regarding lubrication. Periodic oiling may not be recommended, as it will result in dirt accumulating in the excess oil and cause eventual motor failure.	X			X			X			X		
Electrical Panel: Check fuses, electrical connections, operation sequence, contactor operation.	X			X			X			X		
Clean area around equipment.	X			X			X			X		
Fill out log book at the site noting work performed, report deficiencies.	X			X			X			X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer’s recommendations for all service and maintenance procedures.

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BUILT-UP ROOFTOP AIR HANDLER WATER-TO-AIR HEAT PUMP WITH ENERGY RECOVERY	D3045 110 PM3											
MAINTENANCE PROCEDURES*	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**
Checked with operation or area personnel for deficiencies.	X			X			X			X		
The Heat Pump Management Controller provides diagnostics and system status. CHECK THE MANAGEMENT CONTROLLER FOR STATUS/DIAGNOSTICS BEFORE TURNING POWER OFF. Follow manufacturer's test procedures.	X			X			X			X		
Dampers (Exhaust, Outdoor Air, Recirculation, Heat Wheel Bypass, Face/Bypass at Hot Gas Reheat Coil) Test according to manufacturer's procedure. Verify operation of damper actuators. Check/tighten damper linkages. Verify smooth operation. Verify minimum outdoor air damper position. Verify that outdoor air damper closes tightly when in UNOCCUPIED MODE.	X			X			X			X		
Check unit for proper operation, excessive noise or vibration.	X			X			X			X		
Compressors: Check for leaks. Conduct amperage checks to insure that amp draw is no more than 10% greater than indicated on the serial plate data.	X			X			X			X		
Water Coils: Generally water coil maintenance is not needed for closed loop systems.	X			X			X			X		
Refrigeration Cycle/Section: check refrigeration lines, moisture (sight glass), To maintain sealed circuit integrity, do not install service gauges unless unit operation appears abnormal. Reference the operating charts for pressures and temperatures. Verify that air and water flow rates are at proper levels before servicing the refrigerant circuit.	X			X			X			X		
Hot gas reheat: Check operation of hot gas reheat coil. Clean if necessary. Inspect heat pump liquid line receivers for leaks. Verify operation of face and bypass dampers.				X			X			X		
Unit Electrical Panel: Check fuses, electrical connections, operation sequence, contactor operation.	X			X			X			X		
Fan Variable Frequency Drives (Supply, Return, Exhaust, Relief, Heat Wheel) Verify operation	X			X			X			X		
Check controls for proper operation.	X			X			X			X		
Pressure wash coils and fans with coil cleaning solution. Take care not to damage fins.	X			X			X			X		
Check electrical wiring and connections; tighten loose connections.	X			X			X			X		
Clean condensate drain pan.	X			X			X			X		
Lubricate motor bearings.	X			X			X			X		
Lubricate shaft bearings	X			X			X			X		
Supply and Return Fan Variable Frequency Drives: Verify operation	X			X			X			X		
Inspect fan(s) or blower(s) for bent blades or imbalance; adjust as necessary.	X			X			X			X		
Check belt(s)-replace belt(s) if needed, and adjust for proper tension and/or alignment, if applicable.	X			X			X			X		
Atomizing humidifier: Verify operation, including pattern of spray nozzles in supply manifold. Clean nozzles as necessary.	X									X		
Replace filters	X			X			X			X		
Inspect piping and valves for leaks; tighten connections as necessary.	X			X			X			X		
Ultraviolet light: Verify operation. Clean lamp. Check electrical connections.	X			X			X			X		
Energy Recovery Cassette - Drive: Inspect drive. Rotor bearings are permanently lubricated and require no additional maintenance. Inspect rotor for signs of damage, dirt or contamination buildup. Check to ensure all fasteners are secure.	X			X			X			X		
Energy Recovery Cassette - Seals: Inspect seals. Ensure a positive seal between the rotor faces and metallic frame structure. Seals should be intact and only lightly contact the cassette. Replace if wear is present. Inspect to ensure there is a good seal between the metallic structure of the cassette and interconnecting ductwork.	X			X			X			X		
Energy Recovery Cassette - Rotor: If pressure drop >1.25 x new, clean rotor	X			X			X			X		
Energy Recovery Cassette - Rotor: If pressure drop < 95% of new. Perform measurement of performance and troubleshoot. Refer to manual.	X			X			X			X		
Clean area around equipment.	X			X			X			X		
Fill out log book at the site noting work performed, report deficiencies.	X			X			X			X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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BUILT-UP AIR HANDLER WITH ENERGY RECOVERY	D3045 110 PM4											
MAINTENANCE PROCEDURES*	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**
Checked with operation or area personnel for deficiencies.	X			X			X			X		
Dampers (Exhaust, Outdoor Air, Recirculation, Heat Wheel Bypass, Face/Bypass at Hot Gas Reheat Coil) Test according to manufacturer's procedure. Verify operation of damper actuators. Check/tighten damper linkages. Verify smooth operation. Verify minimum outdoor air damper position. Verify that outdoor air damper closes tightly when in UNOCCUPIED MODE.	X			X			X			X		
Check unit for proper operation, excessive noise or vibration.	X			X			X			X		
Water Coils: Generally water coil maintenance is not needed for closed loop systems.	X			X			X			X		
Unit Electrical Panel: Check fuses, electrical connections, operation sequence, contactor operation.	X			X			X			X		
Fan Variable Frequency Drives (Supply, Return, Exhaust, Relief, Heat Wheel) Verify operation	X			X			X			X		
Check controls for proper operation.	X			X			X			X		
Pressure wash coils and fans with coil cleaning solution. Take care not to damage fins.	X			X			X			X		
Check electrical wiring and connections; tighten loose connections.	X			X			X			X		
Clean condensate drain pan.	X			X			X			X		
Lubricate motor bearings.	X			X			X			X		
Lubricate shaft bearings	X			X			X			X		
Supply and Return Fan Variable Frequency Drives: Verify operation	X			X			X			X		
Inspect fan(s) or blower(s) for bent blades or imbalance; adjust as necessary.	X			X			X			X		
Check belt(s)-replace belt(s) if needed, and adjust for proper tension and/or alignment, if applicable.	X			X			X			X		
Atomizing humidifier: Verify operation, including pattern of spray nozzles in supply manifold. Clean nozzles as necessary.	X									X		
Replace filters	X			X			X			X		
Inspect piping and valves for leaks; tighten connections as necessary.	X			X			X			X		
Ultraviolet light: Verify operation. Clean lamp. Check electrical connections.	X			X			X			X		
Energy Recovery Cassette - Drive: Inspect drive. Rotor bearings are permanently lubricated and require no additional maintenance. Inspect rotor for signs of damage, dirt or contamination buildup. Check to ensure all fasteners are secure.	X			X			X			X		
Energy Recovery Cassette - Seals: Inspect seals. Ensure a positive seal between the rotor faces and metallic frame structure. Seals should be intact and only lightly contact the cassette. Replace if wear is present. Inspect to ensure there is a good seal between the metallic structure of the cassette and interconnecting ductwork.	X			X			X			X		
Energy Recovery Cassette - Rotor: If pressure drop >1.25 x new, clean rotor	X			X			X			X		
Energy Recovery Cassette - Rotor: If pressure drop < 95% of new. Perform measurement of performance and troubleshoot. Refer to manual.	X			X			X			X		
Clean area around equipment.	X			X			X			X		
Fill out log book at the site noting work performed, report deficiencies.	X			X			X			X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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PACKAGED ENERGY RECOVERY	D3045 110 PM5											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Checked with operation or area personnel for deficiencies.	X			X			X			X		
Dampers (Exhaust, Outdoor Air, Recirculation, Heat Wheel Bypass, Face/Bypass at Hot Gas Reheat Coil) Test according to manufacturer's procedure. Verify operation of damper actuators. Check/tighten damper linkages. Verify smooth operation. Verify minimum outdoor air damper position. Verify that outdoor air damper closes tightly when in UNOCCUPIED MODE.	X			X			X			X		
Check unit for proper operation, excessive noise or vibration.	X			X			X			X		
Unit Electrical Panel: Check fuses, electrical connections, operation sequence, contactor operation.	X			X			X			X		
Fan Variable Frequency Drives: Verify operation, if present (supply, return, exhaust, relief, heat wheel)	X			X			X			X		
Check controls for proper operation.	X			X			X			X		
Wash coils (if present) and fans with coil cleaning solution. Take care not to damage fins.	X			X			X			X		
Check electrical wiring and connections; tighten loose connections.	X			X			X			X		
Clean condensate drain pan.	X			X			X			X		
Lubricate motor bearings.	X			X			X			X		
Lubricate shaft bearings	X			X			X			X		
Inspect fan(s) or blower(s) for bent blades or imbalance; adjust as necessary.	X			X			X			X		
Check belt(s)-replace belt(s) if needed, and adjust for proper tension and/or alignment, if applicable.	X			X			X			X		
Replace filters	X			X			X			X		
Energy Recovery Cassette - Drive: Inspect drive. Rotor bearings are permanently lubricated and require no additional maintenance. Inspect rotor for signs of damage, dirt or contamination buildup. Check to ensure all fasteners are secure.	X			X			X			X		
Energy Recovery Cassette - Seals: Inspect seals. Ensure a positive seal between the rotor faces and metallic frame structure. Seals should be intact and only lightly contact the cassette. Replace if wear is present. Inspect to ensure there is a good seal between the metallic structure of the cassette and interconnecting ductwork.	X			X			X			X		
Energy Recovery Cassette - Rotor: If pressure drop >1.25 x new, clean rotor	X			X			X			X		
Energy Recovery Cassette - Rotor: If pressure drop < 95% of new. Perform measurement of performance and troubleshoot. Refer to manual.	X			X			X			X		
Clean area around equipment.	X			X			X			X		
Fill out log book at the site noting work performed, report deficiencies.	X			X			X			X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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FAN COIL UNITS	D3045 120 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operating or area personnel for deficiencies.	X			X			X			X		
Check heating/cooling coil unit while operating (based on season).	(X)			(X)			(X)			(X)		
Remove access panel and vacuum inside of unit and coils.				X						X		
Check coils and piping for leaks, damage and corrosion; repair as necessary.	X			X			X			X		
Lubricate blower shaft and fan motor bearings.				X						X		
Clean coil, drip pan, and drain line with solvent.				X						X		
Replace filters	X			X			X			X		
Check that access panel(s) are closed.	X			X			X			X		
Check operation after maintenance.				X						X		
For steam heating: check steam trap for proper operation.	X									X		
Clean strainer ahead of steam trap.	X									X		
For hot water heating: clean strainer for hot water	X									X		
For chilled water: clean strainer for chilled water				X			X					
For electric coil units, check electrical connections. Check amp draw of elements.	X									X		
Clean area	X			X			X			X		
Fill out log book at the site noting work performed, report deficiencies.	X			X			X			X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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VAV BOX WITH REHEAT COIL	D3045 160 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Checked with operation or area personnel for deficiencies.				X						X		
Check unit for proper operation, excessive noise or vibration.				X						X		
Open/Close control box access				X						X		
Check that electrical connections are in place and tight.				X						X		
Tighten arm on motor output shaft.				X						X		
Cycle VAV actuator while watching for proper operation. Verify that blades fully open and close.				X						X		
Cycle hot water valve actuator while watching for proper operation. Verify that valve fully opens and closes.				X						X		
Lubricate actuator linkage and damper blade pivot points.				X						X		
Replace or clean filters, if present				X						X		
Inspect piping and valves for leaks; tighten connections as necessary.				X						X		
Clean area around equipment.				X						X		
Fill out log book at the site noting work performed, report deficiencies.				X						X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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VAV BOX	D3045 160 PM2											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Checked with operation or area personnel for deficiencies.				X						X		
Check unit for proper operation, excessive noise or vibration.				X						X		
Open/Close control box access				X						X		
Check that electrical connections are in place and tight.				X						X		
Tighten arm on motor output shaft.				X						X		
Cycle VAV actuator while watching for proper operation. Verify that blades fully open and close.				X						X		
Lubricate actuator linkage and damper blade pivot points.				X						X		
Clean area around equipment.				X						X		
Fill out log book at the site noting work performed, report deficiencies.				X						X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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FIRE AND SMOKE DAMPERS	D3045 170 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Checked with operation or area personnel for deficiencies.										X		
Inspect access door. Replace as required.										X		
Clean out debris/dirt blown against damper.										X		
Remove fusible link and check that blades operate freely.										X		
Lubricate pivot points.										X		
Replace fusible link.										X		
Fill out log book at the site noting work performed, report deficiencies.										X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures

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INLINE AND CENTRIFUGAL EXHAUST FANS	D3045 220 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operating or area personnel for deficiencies.				X						X		
Start and stop fan with local switch.				X						X		
Check controls and unit for proper operation.				X						X		
Check motor and fan shaft bearings for noise, vibration, overheating; lubricate bearings.				X						X		
Replace belts and check for proper tension, and alignment, if applicable; adjust as required.				X						X		
Check blower intake or exhaust dampers, lubricate; if applicable.				X						X		
Check electrical wiring and connections; tighten loose connections.				X						X		
Clean fan and surrounding area.				X						X		
Fill out log book at the site noting work performed, report deficiencies.				X						X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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ROOF AND WALL-MOUNTED EXHAUST FANS	D3045 220 PM2											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operating or area personnel for deficiencies.				X						X		
Start and stop fan with local switch.				X						X		
Check controls and unit for proper operation.				X						X		
Check motor and fan shaft bearings for noise, vibration, overheating; lubricate bearings.				X						X		
Replace belts and check for proper tension, and alignment, if applicable; adjust as required.				X						X		
Check blower intake dampers, lubricate; if applicable.				X						X		
Check electrical wiring and connections; tighten loose connections.				X						X		
Clean fan and surrounding area.				X						X		
Fill out log book at the site noting work performed, report deficiencies.				X						X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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CENTRIFUGAL PUMP	D3045 410 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check for proper operation of pump.				X						X		
Check controls and unit for proper operation.				X						X		
Check for leaks on suction and discharge piping, seals, packing glands, etc.; make minor adjustments as required.				X						X		
Check pump and motor operation for excessive vibration, noise and				X						X		
Check alignment of pump and motor; adjust as necessary.				X						X		
Check electrical wiring and connections; tighten loose connections.				X						X		
Lubricate pump and motor.				X						X		
Clean exterior of pump, motor and surrounding area.				X						X		
Fill out log book at the site noting work performed, report deficiencies.				X						X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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CONDENSATE PUMP - AC or FURNACE	D3045 410 PM2											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operating personnel for any deficiencies.				X						X		
Clean out debris from pump intake. Clean out dirt and debris from reservoir.				X						X		
Clean out any dirt and debris in condensate lines												
Check for proper operation of pump.				X						X		
Check electrical plug, cord, and connection.				X						X		
Inspect pump body for corrosion; prime and paint as necessary.				X						X		
Check for leaks on suction and discharge piping, seals, packing glands, etc.; make minor adjustments as required.				X						X		
Lubricate pump and motor as required.				X						X		
Check pump and motor operation for excessive vibration and noise.				X						X		
Return pump to reservoir and check float switch for proper operation.				X						X		
Fill out log book at the site noting work performed, report deficiencies.				X						X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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HEAT EXCHANGER	D3045 600 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Checked with operation or area personnel for deficiencies.	X			X			X			X		
Filters: replace filters, check filter switch, and wipe section clean.	X			X			X			X		
Check pressure and temperature gauges for proper operation.	X			X			X			X		
Clean strainers ahead of hot water, chilled water, and steam heat exchangers. If a steam trap is present, verify operation of the trap.	X			X			X			X		
Verify smooth operation of heat exchanger, valves, and valve actuators.	X			X			X			X		
Inspect piping and valves for leaks; tighten connections as necessary.	X			X			X			X		
Inspect for ripped, torn, and deteriorated insulation. Replace as necessary.	X			X			X			X		
Clean area around equipment.	X			X			X			X		
Fill out log book at the site noting work performed, report deficiencies.	X			X			X			X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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WINDOW AC UNIT	D3051 110 PM1											
MAINTENANCE PROCEDURES*	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**
Checked with operation or area personnel for deficiencies.				X			X					
The unit control processor (if present) provides diagnostics and system status. CHECK THE CONTROL PROCESSOR FOR STATUS/DIAGNOSTICS BEFORE TURNING POWER OFF, in case all stored info could be lost when the main power is turned OFF. Follow manufacturer's test procedures.				X			X					
Check controls for proper operation.				X			X					
Check unit for proper operation, excessive noise or vibration.				X			X					
Filters: clean or replace filters, check filter switch, and wipe section clean.				X			X					
Check evaporator and condenser coils, clean if necessary. **If cleaning coil with a pressure washer, use low pressure setting. Set spray pattern to "fan" instead of "stream" to avoid damaging fins.**				X			X					
Electrical Panel: Check fuses, electrical connections, operation sequence, contactor operation.				X			X					
Check electrical wiring and connections; tighten loose connections.				X			X					
Clean condensate drain. Inspect condensate drain line (if present). Clean if necessary.				X			X					
Inspect condensate pump (if present). Verify operation. Clean, as necessary. Remove any dirt and debris from condensate line.												
Inspect unit for leaks. Tighten connections as necessary.				X			X					
Clean area around equipment.				X			X					
Fill out log book at the site noting work performed, report deficiencies.				X			X					
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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PACKAGED DEHUMIDIFIER	D3051 110 PM2											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Checked with operation or area personnel for deficiencies.	X			X			X			X		
The unit control processor provides diagnostics and system status. CHECK THE CONTROL PROCESSOR FOR STATUS/DIAGNOSTICS BEFORE TURNING POWER OFF, in case all stored info could be lost when the main power is turned OFF. Follow manufacturer's test procedures.	X			X			X			X		
Check controls for proper operation.	X			X			X			X		
Check unit for proper operation, excessive noise or vibration.	X			X			X			X		
Filters: replace filters, check filter switch, and wipe section clean.	X			X			X			X		
Check evaporator coil, clean if necessary. **If cleaning coil with a pressure washer, use low pressure setting. Set spray pattern to "fan" instead of "stream" to avoid damaging fins.**	X			X			X			X		
Dehumidification: Check operation of the dehumidification cycle. Check defrost cycle if applicable.	X			X			X			X		
Electrical Panel: Check fuses, electrical connections, operation sequence, contactor operation.	X			X			X			X		
Check electrical wiring and connections; tighten loose connections.	X			X			X			X		
Clean condensate drain pan/receptacle. Inspect condensate drain line. Clean if necessary.	X			X			X			X		
Inspect condensate pump (if present). Verify operation. Clean, as necessary. Remove any dirt and debris from condensate line.												
Inspect unit for leaks. Tighten connections as necessary.	X			X			X			X		
Clean area around equipment.	X			X			X			X		
Fill out log book at the site noting work performed, report deficiencies.	X			X			X			X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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UNIT HEATERS	D3055 110 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operating or area personnel for deficiencies.	X									X		
Check coil while unit is operating.										X		
Inspect, clean and adjust thermostat										X		
Clean coils. Vacuum electric heating coils.	X									X		
Check fan and motor for vibration and noise; lubricate bearings (if not permanently lubricated type)	X									X		
Check electrical wiring and connections; tighten loose connections.	X									X		
Check heater operation through complete cycle or up to ten minutes.	X									X		
For hot water or steam systems: check coils and piping for leaks, damage and corrosion; repair as necessary.	X									X		
For steam heating: check steam trap for proper operation.	X									X		
Clean strainer ahead of steam trap.										X		
For hot water heating: clean strainer for hot water										X		
Clean area	X									X		
Fill out log book at the site noting work performed, report deficiencies.	X									X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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GAS UNIT HEATER	D3055 110 PM2											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operating or area personnel for deficiencies.	X									X		
Inspect, clean and adjust thermostat	X									X		
Check fan and motor for vibration and noise; lubricate bearings (if not permanently lubricated type)	X									X		
Check combustion blower operation.	X									X		
Check combustion blower housing for lint and debris and clean as necessary	X									X		
Check electrical wiring and connections; tighten loose connections.	X									X		
Check heater operation through complete cycle or up to ten minutes.	X									X		
Clean and check heater combustion chamber, burner and burner controls.	X									X		
Check for proper operation of primary controls. Check and adjust thermostat.	X									X		
Safety checks: Check draft in smoke hood (if present) and the stack temperature.	X									X		
Check heater operation through complete cycle or up to 10 minutes.	X									X		
Clean flue and barometric damper, check damper for proper operation, adjust as required.	X									X		
Check gas supply pressure to unit. Check for leaks in the gas supply line.	X									X		
Clean area.	X									X		
Fill out log book at the site noting work performed, report deficiencies.	X									X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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GAS-FIRED RADIANT HEATING	D3055 110 PM3											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Checked with operation or area personnel for deficiencies.										X		
At the beginning of the heating season,check the gas, electrical, thermostat connections, tubing, venting, suspensions and										X		
Verify no storage or useof flammable objects, liquids or vapors near the heating system. Immediately remove these items										X		
Verify the clearances to combustibles. No hanging anything from, or placing anything on, the heaters. Make sure nothing is lodged underneath the reflector, in between the tubes or in the decorative or protective grilles (if included with select models). Immediately remove objects in violation of the clearances to combustibles.										X		
Reflectors must not touch tube. Make sure there is no dirt, sagging, cracking or distortion. Do not operate if there is sagging, cracking or distortion. Make sure reflectors are correctly overlapped. Clean outside surface with a damp cloth.										X		
Vent Pipe: Venting must be intact. Using a flashlight, look for obstructions, cracks on the pipe or gaps in the sealed areas or corrosion. The area must be free of dirt and dust. Remove any carbon deposits or scale using a wire brush.										X		
Outside Air Inlet: Inlet must be intact. Look for obstructions, cracks on the pipe or gaps in the sealed areas or corrosion. The area must be free of dirt and dust. Clean and reinstall as required.										X		
Tubes: Make sure there are no cracks. Make sure tubes are connected and suspended securely. Make sure there is no dirt, sagging, bending or distortion. Clean or replace as required.										X		
Gas Line: Check for gas leaks										X		
Combustion Chamber Window: Make sure it is clean and free of cracks or holes. Clean or replace as required.										X		
Clean and check burner motor, blower and oil as required. Replace fan belt and check tension. Check electronic burner										X		
Blower Scroll, Wheel and Motor: Compressed air or a vacuum cleaner may be used to clean dust and dirt.										X		
Burner Head and Orifice: Clear of obstructions. (Even spider webs will cause problems). Carefully remove any dust and debris from the burner.										X		
Electrode: Replace if there are cracked ceramics, excessive carbon residue, or erosion of the electrode. The electrode gap should be 1/8" (3 mm).										X		
Thermostat or Sensor: There should be no exposed wire or damage to the thermostat or sensor.										X		
Suspension Points: Make sure the heater is hanging securely. Look for signs of wear on the chain or ceiling.										X		
Filter: Check for dirt or dust. Clean or replace as required.										X		
Decorative and Protective Grille: The grille must be securely attached. Check that side reflector extensions are installed correctly and secured in place if necessary. (Decorative grille only.) Make sure shield is installed correctly and secured in										X		
Vacuum Pump (fan): With pump operating, check for excessive vibration or noise. Vibration is usu- ally a sign that the impeller is out of balance. Turn off the system, insure power is shut off and remove the inlet plate. Check the shaft seal and replace it if worn or missing. **With the Power off**: Check the inlet and outlet of the pump for blockage or excessive soot and clean as necessary. Check boots for cracking or deterioration and replace if necessary. If a condensate trap is installed, check the condition of the trap and the drain line attached. **Note: the condensate trap**										X		
Safety Labels: Product safety signs or labels should be replaced by the product user when they are no longer legible. Please										X		
Wall tag: If wall tag is present, make sure it is legible and accurate. Please contact Roberts-Gordon LLC or your ROBERTS										X		
Inspect piping and valves for leaks; tighten connections as necessary.										X		
Clean area around equipment.										X		
Fill out log book at the site noting work performed, report deficiencies.										X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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ELECTRIC HEATER - WALL MOUNTED	D3055 110 PM4											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operating or area personnel for deficiencies.	X									X		
Check coil while unit is operating.										X		
Inspect, clean and adjust thermostat										X		
Clean coils. Vacuum electric heating coils.	X									X		
Check fan and motor for vibration and noise; lubricate bearings (if not permanently lubricated type)	X									X		
Check electrical wiring and connections; tighten loose connections.	X									X		
Clean area	X									X		
Fill out log book at the site noting work performed, report deficiencies.	X									X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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ELECTRIC RADIANT HEATER	D3055 110 PM5											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operating or area personnel for deficiencies.	X									X		
Check heating element while unit is operating.	X									X		
Inspect, clean and adjust thermostat	X									X		
Clean housing	X									X		
Check electrical wiring and connections; tighten loose connections.	X									X		
Clean area	X									X		
Fill out log book at the site noting work performed, report deficiencies.	X									X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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ELECTRIC BASEBOARD HEATER	D3055 110 PM6											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operating or area personnel for deficiencies.	X									X		
Inspect, clean and adjust thermostat	X									X		
Vacuum electric heating coils.										X		
Check housing for damage	X									X		
Check electrical wiring and connections; tighten loose connections.	X									X		
Clean area	X									X		
Fill out log book at the site noting work performed, report deficiencies.	X									X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures

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THRU-WALL PACKAGED GAS HEAT-ELECTRIC AC	D3055 110 PM7											
MAINTENANCE PROCEDURES*	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**
Checked with operation or area personnel for deficiencies.	X			X			X			X		
Check unit for proper operation, excessive noise or vibration.	X			X			X			X		
Check controls for proper operation.	X			X			X			X		
Pressure wash coils and fans with coil cleaning solution. **Use low pressure setting. Set spray pattern to "fan" instead of "stream" avoid damaging fins.**				X			X					
Check electrical wiring and connections; tighten loose connections.				X						X		
Clean condensate drain pan.				X			X					
If required, lubricate shaft bearings and motor bearings.				X						X		
Inspect fan(s) or blower(s) for bent blades or imbalance; adjust as necessary.	X			X			X			X		
Replace or clean filters	X			X			X			X		
Check heater operation through complete cycle or up to ten minutes.	X									X		
Clean and check heater combustion chamber, burner and burner controls.	X									X		
Check for proper operation of primary controls. Check and adjust thermostat.	X									X		
Check gas supply pressure to unit. Check for leaks in the gas supply line.	X									X		
Check for proper discharge of flue gases. Check combustion blower, if present. Check for obstructions at flue-gas termination.	X									X		
Inspect piping and valves for leaks; tighten connections as necessary.	X									X		
Clean area around equipment.	X			X			X			X		
Fill out log book at the site noting work performed, report deficiencies.	X			X			X			X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures

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HIGH EFFICIENCY GAS-FIRED FURNACE	D3055 122 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operation or area personnel for deficiencies.	X									X		
Clean Furnace-remove panels and clean interior of furnace, air intake and supply chambers. Clean, check and adjust automatic louvers, check panels and gaskets for air leaks and seal as necessary.	X									X		
Replace air filters semi-annually if heating only (quarterly if evaporator coil present).	X			(X)			(X)			X		
Inspect electrical disconnect for proper function. Repair or replace as necessary.	X									X		
Inspect external wiring for damage.	X									X		
Inspect gas supply line and manual shut-off for leaks	X									X		
Inspect supply blower for bent blades or imbalance; adjust as necessary.	X									X		
Check unit for proper operation, excessive noise or vibration.	X									X		
Check belt and replace, if needed. Adjust for proper tension and/or alignment, if applicable.	X									X		
Inspect gas valve and check for proper manifold gas pressure Adjust as needed.	X									X		
Inspect ignition system and safety controls. Clean and adjust as needed.	X									X		
inspect control box, associated controls, wiring and connections.	X									X		
Check combustion blower operation.	X									X		
Check combustion blower housing for lint and debris and clean as necessary	X									X		
Inspect burner assembly - clean as needed.	X									X		
Inspect heat exchanger - clean as needed.	X									X		
Inspect flue system—check for proper attachment to the furnace, any dislocated sections, and for signs of corrosion. Check for blockage and obstructions at exterior termination. Replace if necessary.	X									X		
Check condensate piping. Clean debris. Check for leaks.	X									X		
Inspect airflow system (ductwork)—check for leaks and repair as needed.	X									X		
Inspect evaporator coil, drain pan and condensate drain lines as applicable. Clean as needed.	X									X		
Clean area.	X									X		
Fill out log book at the site noting work performed, report deficiencies.	X									X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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GAS-FIRED FURNACE	D3055 122 PM2											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Clean Furnace-remove side panels and clean interior of furnace, air intake and supply chambers. Clean, check and adjust automatic louvers, check panels and gaskets for air leaks and seal as necessary.										X		
Inspect supply blower for bent blades or imbalance; adjust as necessary.	X									X		
Check unit for proper operation, excessive noise or vibration.	X									X		
Check belt and replace, if needed. Adjust for proper tension and/or alignment, if applicable.	X									X		
Inspect gas valve and thermo-sensing elements.												
Replace all air filters.	X									X		
Clean and check furnace combustion chamber, burner and burner controls.										X		
Check for proper operation of primary controls. Check and adjust thermostat.										X		
Safety checks: Check draft in smoke hood (if present) and the stack temperature.	X									X		
Check furnace operation through complete cycle or up to 10 minutes.										X		
Clean furnace flue and barometric damper, check damper for proper operation, adjust as required.										X		
Check gas supply pressure to unit. Check for leaks in the gas supply line.										X		
Clean area.										X		
Fill out log book at the site noting work performed, report deficiencies.										X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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OIL-FIRED FURNACE	D3055 122 PM3											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Clean Furnace-remove side panels and clean interior of furnace, air intake and supply chambers. Clean, check and adjust automatic louvers, check panels and gaskets for air leaks and seal as necessary.										X		
Inspect supply blower for bent blades or imbalance; adjust as necessary.	X									X		
Check unit for proper operation, excessive noise or vibration.	X									X		
Check belt and replace, if needed. Adjust for proper tension and/or alignment, if applicable.	X									X		
Replace all air filters in air filter chamber.	X									X		
Clean and check furnace combustion chamber, burner and burner controls.										X		
Replace oil nozzle.										X		
Check gap and alignment of electrodes. Clean electrodes if necessary. Replace electrodes if worn or pitted.	X									X		
Replace oil filter canister.										X		
Clean furnace flue and barometric damper, check damper for proper operation, adjust as required.										X		
Check oil pump supply pressure to nozzle.										X		
Perform burner test and record efficient percent CO2, draft stack degree F and smoke. Make all necessary air, gas and oil adjustments in order to achieve highest efficiency possible.										X		
Clean and check burner motor, blower and oil as required. Check electronic burner ignition.	X									X		
Check fuel level in tank. Check oil tank for the presence of water.										X		
Clean area.										X		
Fill out log book at the site noting work performed, report deficiencies.										X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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GAS DUCT FURNACE - NO BLOWER	D3055 122 PM4											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Clean Furnace-remove side panels and clean interior of furnace, air intake and supply chambers. Clean, check and adjust automatic louvers, check panels and gaskets for air leaks and seal as necessary.										X		
Inspect gas valve and thermo-sensing elements. Check for proper manifold gas pressure. Adjust as needed.										X		
Replace all air filters (if present).	X									X		
Clean and check furnace combustion chamber, burner and burner controls.										X		
Check for proper operation of primary controls. Check and adjust thermostat.										X		
Safety checks: Check draft in smoke hood (if present) and the stack temperature.	X									X		
Check furnace operation through complete cycle or up to 10 minutes.										X		
Clean furnace flue and barometric damper, check damper for proper operation, adjust as required.										X		
Check gas supply pressure to unit. Check for leaks in the gas supply line.										X		
Clean area.										X		
Fill out log book at the site noting work performed, report deficiencies.										X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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ELECTRIC FURNACE	D3055 122 PM5											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Clean Furnace-remove side panels and clean interior of furnace, air intake and supply chambers. Clean, check and adjust automatic louvers, check panels and gaskets for air leaks and seal as necessary.										X		
Inspect supply blower for bent blades or imbalance; adjust as necessary.	X									X		
Check unit for proper operation, excessive noise or vibration.	X									X		
Check belt and replace, if needed. Adjust for proper tension and/or alignment, if applicable.	X									X		
Replace all air filters.	X									X		
Check for proper operation of primary controls. Check and adjust thermostat.										X		
Electric heating coil: Check heat element operation, inspect elements for cleanliness, inspect & tighten electrical connections	X									X		
Check furnace operation through complete cycle or up to 10 minutes.										X		
Electrical Panel: Check fuses, electrical connections, operation sequence, contactor operation.										X		
Clean area.										X		
Fill out log book at the site noting work performed, report deficiencies.										X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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RESIDENTIAL COAL FURNACE	D3055 122 PM6											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Checked with operation or area personnel for deficiencies.	X									X		
Replace filters.	X									X		
Check operating controls. Verify operation of HIGH LIMIT, FAN ON, and FAN OFF. Verify stoker controls and stoker timing.	X									X		
Remove ash and observe condition of ash. Adjust grate timer if necessary. (Note: Perform as a PM function; however, PHMC staff will perform this function as needed)	X									X		
Examine fire bed. Look for clinkers and remove if necessary. (Note: Perform as a PM function; however, PHMC staff will perform function weekly)	X									X		
Roller Chains or Augur: Lubricate with recommended oil. For chain drives, take up slack.	X									X		
Flue Pipe: Check for leakage around seams and reseal if necessary.	X									X		
Flue Pipe: Check flue passages and smoke pipe. Clean as needed. Clean primary heat exchanger sections through inspections doors or removable panels. Brush heat exchanger sections and vacuum.	X									X		
Check for fines accumulation in the burner chamber. (Note: This is daily PM function performed by the operator, but should be part of the PM service.)	X									X		
Check draft. Adjust according to manufacturer's instructions	X									X		
Drive Belt: Check belt condition. Replace or adjust tension.	X									X		
Start coal fire, if not already firing. Check for properly adjusted fire according to manufacturer's instructions.	X									X		
Fire Box: Clean and inspect fire box.				X								
During the summer, the ash pit door and fire door should be left open to circulate air through the furnace to remove dampness and prevent corrosion.				X								
Fill out log book at the site noting work performed, report deficiencies.	X			X						X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer’s recommendations for all service and maintenance procedures.

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CRITICAL ENVIRONMENT UNIT - AIR COOLED	D3055 230 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Checked with operation or area personnel for deficiencies.	X			X			X			X		
The unit control processor provides diagnostics and system status. CHECK THE CONTROL PROCESSOR FOR STATUS/DIAGNOSTICS BEFORE TURNING POWER OFF, in case all stored info could be lost when the main power is turned OFF. Follow manufacturer's test procedures.	X			X			X			X		
Check controls for proper operation.	X			X			X			X		
Check unit for proper operation, excessive noise or vibration.	X			X			X			X		
If an economizer is present. Verify operation of damper actuator. Check/tighten damper linkages. Verify smooth operation of economizer dampers. Verify minimum outdoor air damper position. Verify that outdoor air damper closes tightly when in UNOCCUPIED MODE. Verify operation of barometric relief damper.	X			X			X			X		
Filters: replace filters, check filter switch, and wipe section clean.	X			X			X			X		
Blower Section: Check impellers for debris and movement, belt tension and condition, condition of bearings. Replace belts as needed.	X			X			X			X		
Compressor: check oil levels, leaks.	X			X			X			X		
Remote air cooled condenser option, if present: clean coil, tighten motor mounts, check bearings, and supports for refrigerant lines. **If cleaning coil with a pressure washer, use low pressure setting. Set spray pattern to "fan" instead of "stream" to avoid damaging fins.**	X			X			X			X		
Remote air cooled condensing unit option, if present: clean coil, tighten motor mounts, check bearings, and supports for refrigerant lines. **If cleaning coil with a pressure washer, use low pressure setting. Set spray pattern to "fan" instead of "stream" to avoid damaging fins.**	X			X			X			X		
Reheat: Check reheat element operation, inspect elements for cleanliness, inspect & tighten electrical connections	X			X			X			X		
Refrigeration Cycle/Section: check refrigeration lines, moisture (sight glass), suction pressure, head pressure, discharge pressure, thermostatic exp valve, hot-gas bypass valve.	X			X			X			X		
Dehumidification: Check operation of the dehumidification cycle.	X			X			X			X		
Steam Generating Humidifier: check canister for deposits, check condition of steam hoses, check water make-up valve for leaks, inspect and tighten electrical connections.	X			X			X			X		
Electrical Panel: Check fuses, electrical connections, operation sequence, contactor operation.	X			X			X			X		
Check electrical wiring and connections; tighten loose connections.	X			X			X			X		
Clean condensate drain pan.	X			X			X			X		
Inspect piping and valves for leaks; tighten connections as necessary.	X			X			X			X		
Clean area around equipment.	X			X			X			X		
Fill out log book at the site noting work performed, report deficiencies.	X			X			X			X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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GAS-FIRED ROOFTOPS	D3055 240 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Checked with operation or area personnel for deficiencies.	X			X			X			X		
The UPC (Unit Control Processor) provides diagnostics and system status. CHECK THE UPC FOR STATUS/DIAGNOSTICS BEFORE TURNING POWER OFF. All stored info will be lost when the main power is turned OFF. Follow manufacturer's test procedures.	X			X			X			X		
Test UEM (Unit Economizer Module) according to manufacturer's test procedure. Verify operation of damper actuator. Check/tighten damper linkages. Verify smooth operation of economizer dampers. Verify minimum outdoor air damper position. Verify that outdoor air damper closes tightly when in UNOCCUPIED MODE. Verify operation of barometric relief damper.	X			X			X			X		
Check unit for proper operation, excessive noise or vibration.	X			X			X			X		
Check controls for proper operation.	X			X			X			X		
Pressure wash coils and fans with coil cleaning solution. **Use low pressure setting. Set spray pattern to "fan" instead of "stream" avoid damaging fins.**				X						X		
Check electrical wiring and connections; tighten loose connections.				X						X		
Clean condensate drain pan.				X						X		
Lubricate shaft bearings and motor bearings.				X						X		
Inspect fan(s) or blower(s) for bent blades or imbalance; adjust as necessary.	X			X			X			X		
Check belt(s)-replace belt(s) if needed,and adjust for proper tension and/or alignment, if applicable.	X			X			X			X		
Replace filters	X			X			X			X		
Inspect piping and valves for leaks; tighten connections as necessary.	X			X			X			X		
Inspect gas valve and check for proper manifold gas pressure. Adjust as needed.	X									X		
Inspect ignition system and safety controls. Clean and adjust as needed.	X									X		
inspect control box, associated controls, wiring and connections.	X									X		
Check combustion blower operation.	X									X		
Check combustion blower housing for lint and debris and clean as necessary	X									X		
Inspect burner assembly - clean as needed.	X									X		
Inspect heat exchanger - clean as needed.	X									X		
Check for blockage and obstructions at flue termination. Replace if necessary.	X									X		
Clean area around equipment.	X			X			X			X		
Fill out log book at the site noting work performed, report deficiencies.	X			X			X			X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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COOLING ONLY ROOFTOP	D3055 240 PM2											
MAINTENANCE PROCEDURES*	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**
Checked with operation or area personnel for deficiencies.	X			X			X			X		
The UPC (Unit Control Processor) provides diagnostics and system status. CHECK THE UPC FOR STATUS/DIAGNOSTICS BEFORE TURNING POWER OFF. All stored info will be lost when the main power is turned OFF. Follow manufacturer's test procedures.	X			X			X			X		
Test UEM (Unit Economizer Module) according to manufacturer's test procedure. Verify operation of damper actuator. Check/tighten damper linkages. Verify smooth operation of economizer dampers. Verify minimum outdoor air damper position. Verify that outdoor air damper closes tightly when in UNOCCUPIED MODE. Verify operation of barometric relief damper.	X			X			X			X		
Check unit for proper operation, excessive noise or vibration.	X			X			X			X		
Check controls for proper operation.	X			X			X			X		
Pressure wash coils and fans with coil cleaning solution. **Use low pressure setting. Set spray pattern to "fan" instead of "stream" avoid damaging fins.**				X						X		
Check electrical wiring and connections; tighten loose connections.				X						X		
Clean condensate drain pan.				X						X		
Lubricate shaft bearings and motor bearings.				X						X		
Inspect fan(s) or blower(s) for bent blades or imbalance; adjust as necessary.	X			X			X			X		
Check belt(s)-replace belt(s) if needed, and adjust for proper tension and/or alignment, if applicable.	X			X			X			X		
Replace filters	X			X			X			X		
Inspect piping and valves for leaks; tighten connections as necessary.	X			X			X			X		
Clean area around equipment.	X			X			X			X		
Fill out log book at the site noting work performed, report deficiencies.	X			X			X			X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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DUCTLESS SPLIT-SYSTEM HEAT PUMP (INDOOR & OUTDOOR UNITS)	D3055 310 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Checked with operation or area personnel for deficiencies.	X			X			X			X		
Check unit for proper operation, excessive noise or vibration.	X			X			X			X		
Check controls for proper operation.	X			X			X			X		
Outdoor Unit: Pressure wash coils and fans with coil cleaning solution. **Use low pressure setting. Set spray pattern to "fan" instead of "stream" to avoid damaging fins.**				X						X		
Check refrigerant pressure. Add refrigerant if necessary by evacuating the existing refrigerant then weighing the correct recharging amount.				X						X		
Check electrical wiring and connections; tighten loose connections.				X						X		
Indoor Unit: Clean coil and condensate drain pan. Check drain pipe and clean.				X						X		
Inspect shaft bearings and motor bearings. Lubricate as recommended by the manufacturer				X						X		
Inspect fan(s) or blower(s) for bent blades or imbalance; adjust as necessary.	X			X			X			X		
Indoor Unit: Check blower operation and alignment	X			X			X			X		
Replace or clean filters	X			X			X			X		
Inspect piping and valves for leaks; tighten connections as necessary.	X			X			X			X		
Clean area around equipment.	X			X			X			X		
Fill out log book at the site noting work performed, report deficiencies.	X			X			X			X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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WATER-TO-AIR HEAT PUMP	D3055 320 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Checked with operation or area personnel for deficiencies.	X			X			X			X		
Filters: replace filters, check filter switch, and wipe section clean.	X			X			X			X		
Clean direct exchange (DX) refrigerant coil. Clean condensate pan. Check condensate line for dirt and debris. Clean as needed.	X			X			X			X		
Hot gas reheat coil, if present: Check operation of hot gas reheat coil. Clean if necessary. Inspect heat pump liquid line receivers for leaks. Verify operation of face and bypass dampers.				X			X			X		
Blower Section: Check impellers for debris and movement, belt tension and condition, condition of bearings. Follow manufacturer's instructions regarding lubrication. Periodic oiling may not be recommended, as it will result in dirt accumulating in the excess oil and cause eventual motor failure.	X			X			X			X		
If an economizer is present. Verify operation of damper actuator. Check/tighten damper linkages. Verify smooth operation of economizer dampers. Verify minimum outdoor air damper position. Verify that outdoor air damper closes tightly when in UNOCCUPIED MODE. Verify operation of barometric relief damper.	X			X			X			X		
Compressor: Check oil levels in semihermetic units, check for leaks. Conduct amperage checks to insure that amp draw is no more than 10% greater than indicated on the serial plate data.	X			X			X			X		
Water Coil: Generally water coil maintenance is not needed for closed loop systems.	X			X			X			X		
Electric heating coil (if present): Check heat element operation, inspect elements for cleanliness, inspect & tighten electrical connections	X			X			X			X		
Refrigeration Cycle/Section: check refrigeration lines, moisture (sight glass), To maintain sealed circuit integrity, do not install service gauges unless unit operation appears abnormal. Reference the operating charts for pressures and temperatures. Verify that air and water flow rates are at proper levels before servicing the refrigerant circuit.	X			X			X			X		
Electrical Panel: Check fuses, electrical connections, operation sequence, contactor operation.	X			X			X			X		
Inspect piping and valves for leaks; tighten connections as necessary.	X			X			X			X		
Clean area around equipment.	X			X			X			X		
Fill out log book at the site noting work performed, report deficiencies.	X			X			X			X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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CRITICAL ENVIRONMENT UNIT - WATER COOLED	D3055 320 PM2											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Checked with operation or area personnel for deficiencies.	X			X			X			X		
The unit control processor provides diagnostics and system status. CHECK THE CONTROL PROCESSOR FOR STATUS/DIAGNOSTICS BEFORE TURNING POWER OFF, in case all stored info could be lost when the main power is turned OFF. Follow manufacturer's test procedures.	X			X			X			X		
Check controls for proper operation.	X			X			X			X		
Check unit for proper operation, excessive noise or vibration.	X			X			X			X		
If an economizer is present. Verify operation of damper actuator. Check/tighten damper linkages. Verify smooth operation of economizer dampers. Verify minimum outdoor air damper position. Verify that outdoor air damper closes tightly when in UNOCCUPIED MODE. Verify operation of barometric relief damper.	X			X			X			X		
Filters: replace filters, check filter switch, and wipe section clean.	X			X			X			X		
Blower Section: Check impellers for debris and movement, belt tension and condition, condition of bearings. Replace belts as needed.	X			X			X			X		
Compressor: check oil levels, leaks.	X			X			X			X		
Water Coil: Generally water coil maintenance is not needed for closed loop systems.	X			X			X			X		
Reheat: Check reheat element operation, inspect elements for cleanliness, inspect & tighten electrical connections	X			X			X			X		
Refrigeration Cycle/Section: check refrigeration lines, moisture (sight glass), suction pressure, head pressure, discharge pressure, thermostatic exp valve, hot-gas bypass valve.	X			X			X			X		
Dehumidification: Check operation of the dehumidification cycle.	X			X			X			X		
Steam Generating Humidifier: check canister for deposits, check condition of steam hoses, check water make-up valve for leaks, inspect and tighten electrical connections.	X			X			X			X		
Electrical Panel: Check fuses, electrical connections, operation sequence, contactor operation.	X			X			X			X		
Check electrical wiring and connections; tighten loose connections.	X			X			X			X		
Clean condensate drain pan.	X			X			X			X		
Inspect piping and valves for leaks; tighten connections as necessary.	X			X			X			X		
Clean area around equipment.	X			X			X			X		
Fill out log book at the site noting work performed, report deficiencies.	X			X			X			X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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AIR COMPRESSOR, RECIPROCATING	D3095 118 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operating personnel for any deficiencies.	X			X			X			X		
Perform operation check of compressor system and adjust as required.	X			X			X			X		
Replace compressor oil.	X			X			X			X		
Check electrical connections.	X			X			X			X		
Clean cylinder cooling fins and air cooler on compressor.	X			X			X			X		
Check tension, condition, and alignment of V-belts; adjust as necessary.	X			X			X			X		
Check low pressure cut in and high pressure cut out switches.	X			X			X			X		
Drain moisture from air storage tank and check low pressure cut-in; while draining, check discharge for indication of interior corrosion.	X			X			X			X		
Clean air intake filter on air compressor(s); replace if necessary.	X			X			X			X		
Clean oil and water trap.	X			X			X			X		
Check indicating lamps or gauges for proper operation if appropriate; replace burned out lamps or repair/replace gauges.	X			X			X			X		
Check operation of pressure relief valve.	X			X			X			X		
Check for leaks on discharge piping, in isolation valves (seals, packing glands, etc.)	X			X			X			X		
Lubricate pump and motor as required.	X			X			X			X		
Check pump(s) and motor(s) operation for proper operation, including excessive vibration, noise and overheating. Lubricate motor.	X			X			X			X		
Refrigerated dryer: Check refrigerant pressure during operation of unit. Add refrigerant, if necessary, by evacuating the existing refrigerant then weighing in the correct charge. Check oil level and add as necessary.	X			X			X			X		
Refrigerated dryer: Check unit for proper operation, excessive noise or vibration.	X			X			X			X		
Refrigerated dryer: Clean pre-cooling coils and condenser coils. Check fans, motors, lubricate motors(s).	X			X			X			X		
Refrigerated dryer: Check and drain air separators and strainers in air supply line. Clean strainers.	X			X			X			X		
Clean area around equipment.	X			X			X			X		
Fill out log book at the site noting work performed, report deficiencies.	X			X			X			X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.

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ELECTRODE STEAM HUMIDIFIER	D3095 210 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operating or area personnel for deficiencies.	X									X		
Steam humidifier control software monitors the performance of the cylinder and indicates when a cylinder is full of scale and no longer able to achieve full output. Regular maintenance should be performed on the steam humidifier at least once a year, and whenever the cylinder is replaced. Follow manufacturer's instructions regarding safety, shut-down, canister installation, and start-up.	X									X		
Drain valve: Inspect and clean, if necessary - refer to manufacturer's instructions.	X									X		
Inlet valve: Remove and clean the inlet valve strainer.	X									X		
Drain cup: Inspect and clean, if necessary	X									X		
Fill cup and hoses: Inspect and clean, if necessary	X									X		
Steam lines: Inspect the steam and condensate hoses in the humidifier for cracks, and check that they are fastened securely. Replace cracked hoses.	X									X		
Water line: Inspect the water hoses for cracks, and check that they are fastened securely. Replace cracked hoses. Clean the water filter in the supply line.	X									X		
Power: Inspect all cables for damage and insulation breakdown. Replace damaged cables. Make sure that all cables are securely properly.	X									X		
Main electrical contactor(s): At least once every 5 years, replace the main electrical contactor(s) (K1). Refer to the instructions that come with the replacement contactors.	X									X		
Clean area	X									X		
Fill out log book at the site noting work performed, report deficiencies.	X									X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer’s recommendations for all service and maintenance procedures.

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EMERGENCY GENERATOR	D5095 210 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Check with operating personnel for any deficiencies.	X	X	X	X	X	X	X	X	X	X	X	X
Check engine oil level; add as required.	X	X	X	X	X	X	X	X	X	X	X	X
Change engine oil and oil filter.	X	X	X	X	X	X	X	X	X	X	X	X
Check electrical connections.	X	X	X	X	X	X	X	X	X	X	X	X
Check battery charge and electrolyte specific gravity, add water as required; check terminals for corrosion, clean as required.	X	X	X	X	X	X	X	X	X	X	X	X
Check tension, condition, and alignment of V-belts; adjust as necessary.	X	X	X	X	X	X	X	X	X	X	X	X
Check that crank case heater is operating.	X	X	X	X	X	X	X	X	X	X	X	X
Check engine air filter; change as required.	X	X	X	X	X	X	X	X	X	X	X	X
Check wiring, connections, switches, etc.; adjust as required.	X	X	X	X	X	X	X	X	X	X	X	X
Check spark plug or injector nozzle condition; service or replace as required.	X	X	X	X	X	X	X	X	X	X	X	X
Perform 30 minute generator test run; check for proper operation.	X	X	X	X	X	X	X	X	X	X	X	X
Check fuel level with gauge pole, add as required.	X	X	X	X	X	X	X	X	X	X	X	X
Wipe dust and dirt from engine and generator.	X	X	X	X	X	X	X	X	X	X	X	X
Clean area around equipment.	X	X	X	X	X	X	X	X	X	X	X	X
Fill out log book at the site noting work performed, report deficiencies.	X	X	X	X	X	X	X	X	X	X	X	X
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer’s recommendations for all service and maintenance procedures.

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WALK-IN COOLER or FREEZER WITH EXTERNAL CONDENSER	E1095 380 PM1											
MAINTENANCE PROCEDURES*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Checked with operation or area personnel for deficiencies.				X						X		
Check unit for proper operation, excessive noise or vibration.				X						X		
Clean condenser coils, fans, and intake screens; lubricate motor.				X						X		
Check refrigerant pressure during operation of unit. Add refrigerant, if necessary, by evacuating the existing refrigerant then weighing in the correct charge. Check oil level and add as necessary.				X						X		
Check electrical wiring and connections; tighten loose connections.				X						X		
Inspect shaft bearings and motor bearings. Lubricate as recommended by the manufacturer				X						X		
Inspect door gaskets for damage and proper fit; adjust gaskets as required and lubricate hinges.				X						X		
Check starter panels and controls for proper operation, burned or loose contacts, and loose connections.				X						X		
Clean evaporator coils, evaporator drain pan, blowers, fans, motors, and drain piping; lubricate motors(s).				X						X		
Inspect fan(s) or blower(s) for bent blades or imbalance; adjust as necessary.	X			X			X			X		
Inspect piping and valves for leaks; tighten connections as necessary.	X			X			X			X		
Clean area around equipment.	X			X			X			X		
Fill out log book at the site noting work performed, report deficiencies.	X			X			X			X		
REMARKS:- (Inspecting Technician should point out defects noted)												

* Comply with the manufacturer's recommendations for all service and maintenance procedures.