



Maintenance Guide

Read all instructions and procedures before proceeding with any of the maintenance steps. Only qualified personnel should attempt cooler servicing.

Pre-Season Start-Up

IMPORTANT: Never work on cooler with the electricity turned on. Risk of electrical shock is higher with water in the cooler pan and in the supply lines. Electrical shock is potentially lethal.

1. Proceed with caution. Turn OFF the indoor cooler wall switch. Turn OFF the electrical circuitbreaker supplying power to the cooler. Turning OFF this circuit breaker reduces the chance of the cooler being accidentally turned on indoors.
2. Remove cooler cover. Clean and fold cover and store in cool, dry place. Do not store in humid areas such as laundry room.
3. Where applicable, remove and store slide damper in vertical duct. Automatic opening barometric dampers do not need to be removed.
4. Remove pad frames and place frames on flat surface. Remove old cooler pads and thoroughly clean all mineral deposits, loose debris, and paint from frames. A wire brush may be used.
5. Paint metal pad frames. (Do not paint plastic pad frames.) Use a high quality, rust resistant spray-paint such as Dial's Tan Cooler Paint.
6. Clean water reservoir (cooler pan). Remove all loose debris and mineral deposits. A paint scraper and a wire brush may be needed. CAUTION: For coolers that have original, factory supplied, rust protection on the cooler pan, care must be taken not to damage this protection. Damaging this protection could expose metal and result in premature cooler corrosion.
7. Recoat reservoir to cover all voids and exposed (unprotected) metal areas. (Do not recoat plastic cooler reservoirs.) Use an undercoating that will not prematurely become brittle or crack, such as Dial's Submarine Cooler Coating. A brush-on or aerosol spray coating can be used. Apply undercoating by following coating container directions.
8. Remove belt and check for cracks or excessive wear. Replace if necessary.
9. Check blower bearings by spinning blower pulley by hand. Both the blower pulley and its shaft should freely rotate. If pulley rotates but shaft does not, check tightness of blower pulley set screw. Tighten if necessary and repeat test. If blower shaft does not easily rotate, replace blower bearings.
10. Oil blower bearings by filling each bearing oil cup with a high grade, non-detergent, cooler motor oil, such as Dial's Cooler Oil. Do not use 3-in-1 oil or sewing machine oil.

11. Check blower pulley for straightness. Replace pulley if it is bent or deformed.
12. Check blower shaft for wear at bearing interfaces. Move blower pulley up and down. If any looseness exists, replace shaft.
13. Check blower shaft for excessive end-play. Push and pull on blower pulley. Some end-play is normal. If shaft movement exceeds 1/16 inch, loosen far side shaft collar. Adjust collar position to restrict shaft end-play to less than 1/16 inch.
14. Check blower shaft for straightness. Spin blower pulley by hand. For pulley wobble that exceeds 1/16 inch, replace blower shaft. Wobble can cause excessive noise and vibration.
15. Check motor bearings by spinning motor pulley by hand. Both the motor pulley and its shaft should freely rotate. If pulley rotates but shaft does not, check tightness of pulley shaft set screw. Tighten if necessary and repeat test. If motor shaft is frozen or does not easily rotate, replace motor.
16. Where applicable, oil motor bearings by filling each bearing oil cup with a high grade, non-detergent, cooler motor oil. If oil cups do not exist, the motor has permanently lubricated bearings and no oiling is needed.
17. Check motor pulley for straightness. Replace pulley if it is bent or deformed.
18. Check motor shaft for wear at its bearing interfaces. Move motor pulley up and down. If any looseness exists, replace motor.
19. Check motor shaft for excessive end-play. Push and pull on motor pulley. Some end-play is normal. If shaft movement exceeds 1/16 inch, replace motor.
20. Compare alignment of motor pulley. Motor pulley should be in line with blower pulley. Correct misalignment by moving motor pulley. Misalignment can cause premature failure of pulleys, belt, bearings, shaft, or motor.
21. Check tightness of blower wheel set screws. Also check that blower wheel is centered in blower housing opening.
22. Check water pump bearings. Turn pump impeller by hand. If pump shaft is frozen, or does not rotate freely, replace pump. It is recommended that a replacement pump have thermal overload protection, be equipped with a ground wire, and be made of flame retardant plastic.
23. Check overflow standpipe and drain assembly. Remove nut and drain bushing to examine gasket. Replace gasket if brittle or cracked. Reassemble and make sure standpipe is securely in place.
24. Prior to turning on water and filling reservoir, make sure that any recently applied undercoating has had sufficient time to cure. Coating is ready when it is only slightly tacky. Follow coating container directions. If reservoir is filled with water before coating has cured, some of the coating can become suspended and result in clogging the pump or water distributor system.
25. Check seal of float valve. Water through valve should completely shut off when float is lifted up. If not, replace float to prevent overflowing of water. Where applicable, examine float valve splash shield. Shields prevent water from splashing into ducting, onto motor, etc.
26. Adjust water shut off level of float valve. Set water level to approximately 1/2 inch below top of overflow standpipe. This will allow for water in pads to drain into reservoir after cooler turns off.
27. Test operation of pump. Turn circuit breaker ON. Turn indoor cooler wall switch to Pump Only position. Adequate water flow through distributor tubes should exist. Turn cooler wall switch to OFF position. If adequate water flow does not exist, see Pump Troubleshooting Section in manual.

28. Test operation of blower motor. Turn indoor cooler wall switch to “Vent” position for 1 speed motors, and to both “High Vent” and “Low Vent” positions for 2 speed motors. Verify motor shaft rotation.
29. Turn cooler wall switch to OFF position. Turn circuit breaker OFF. If motor fails to operate properly, see Motor Troubleshooting Section in manual.
30. Reinstall belt onto motor pulley and blower pulley. First place belt on motor pulley and on top half of blower pulley. Then rotate blower pulley by hand until belt fits into pulley groove.
31. Check belt for proper tension. Adjust motor mounting position (on motor mounting bracket) until a 3 pound force deflects the belt 3/4 inch to 1 inch. Excessive belt tension will cause motor bearings and blower bearings to fall prematurely.
32. Examine cooler pads. Old Aspen pads should be replaced. Poly pads can be cleaned or, if needed, replaced. Install cooler pads into frames by covering ENTIRE vented area of each frame. This will ensure that no air passes through voids or holes between frame and pad. Pad thickness also needs to be consistent to provide uniform air cooling.
33. Install frames (with pads) into cooler.
34. Turn circuit breaker ON.

Seasonal Care

In order for evaporative air coolers to provide maximum efficiency and reliability throughout the cooling season, periodic maintenance is required. The frequency of service depends on many factors, primarily the amount of cooler operating time and the local water conditions. As a result, the frequency of cooler seasonal care may vary slightly from what is recommended within this manual.

1. For local water hardness levels that are above average, Aspen pads will need replacement at least once a season, and possibly once a month. Also, poly pads will need a cleaning at least once a season. Always drain cooler reservoir water whenever pads are replaced or cleaned.
2. Weekly draining of cooler reservoir water is strongly recommended. This will reduce the concentration of dissolved solids (scale forming compounds) that build up within the cooler water. Drain reservoir by attaching a garden hose to cooler drain bushing and removing overflow standpipe, or by installing a cooler flush kit. Note: To protect roof shingles, avoid draining reservoir water onto roof.
3. At mid-season, oil blower bearings and motor bearings (where applicable). Use a high grade, non-detergent, cooler motor oil. Do not use 3-in-1 or sewing machine oil.

Winterizing

End of season maintenance (winterizing) will prolong the life of the cooler and its parts. The following steps are recommended to adequately prepare the evaporative cooler for the upcoming winter season.

1. Turn “OFF” water source to cooler.
2. Turn “OFF” indoor cooler wall switch. Turn “OFF” evaporative cooler electrical circuit breaker. Disconnect electrical plugs of motor and pump.

3. Remove belt and store in cool, dry place.
4. Drain cooler water reservoir by attaching a garden hose to cooler drain bushing and remove overflow standpipe. Note: To protect roof shingles, avoid draining reservoir water onto roof.
5. Drain all water out of cooler water supply line to prevent freeze damage.
6. Oil blower bearings and motor bearings (where applicable). Use a high grade, non-detergent cooler motor oil. Do not use 3-in-1 oil or sewing machine oil.
7. Where applicable, reinstall slide damper in vertical duct.
8. Reinstall cooler cover to keep dust out of cooler and insulate house from cold drafts through cooler. NOTE: It is recommended that a heavy grade canvas be used for the cooler cover. It will last longer and will help prevent winter rusting inside the cooler. Winter rusting results when warm house air enters the cooler and causes water condensation on cold metal parts. A canvas cover keeps metal surfaces warmer and also allows any water vapor to “breathe” through the cover.