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MASTERCOOL MMB12 Owner's Manual

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540005	Pump



MOBILE MASTERCOOL
MODEL MMB10 • MMB12 • MMB14 • MMB16 • MMPC12

OWNER'S GUIDE

Read This First!

CAUTION

Read all instructions carefully before setting up and operating this unit!
This manual was designed to provide you with important information
needed to setup, operate, maintain, and troubleshoot your cooler.
Failure to follow these instructions may damage and/or impair its
operation and void the warranty.



LISTED

AdobeAir, Inc.

500 South 15th Street • Phoenix, Arizona 85034
www.AdobeAir.com • www.MobileMasterCool.com

INTRODUCTION

Evaporative cooling works on the principle of heat absorption by moisture evaporation. Simply put, heat is removed from the air as water evaporates. You feel this principle in action when you step out of a swimming pool or shower and feel immediately cooler as water evaporates from the surface of your skin.

Your evaporative cooler works on the same principle. Hot outside air is pulled through water-saturated pads, where the air is cooled by evaporation and then discharged from the cooler.



WARNINGS AND SAFETY RULES

WARNING...

To reduce the risk of electric shock, fire or injury:

- Read instructions and labels carefully.
- Always unplug the electric cord to your cooler before you work on the cooler.
- Your cooler will run on 120 Volt AC, 60 Hz (cycle) current only.
- Plug into three-prong grounded GFCI protected electrical receptacle only.
- Do not operate if plug or cord are damaged in any way.
- Do not step on or roll over power cord with heavy or sharp objects.
- Do not operate unit unless all panels are securely in place.
- Remove the plug from the electrical receptacle by pulling on the plug and not the cord.
- Test the GFCI receptacle or breaker monthly to ensure it is functioning properly.
- Do not operate near open containers of flammable liquids or gases.
- Never wash your cooler cabinet with a garden hose; water may harm the motor and pump.
- If the unit is damaged or it malfunctions, do not continue to operate it. Refer to the warranty or troubleshooting section, www.MobileMasterCool.com or call AdobeAir customer service department at (602) 257-0060.

SETUP INSTRUCTIONS

TOOLS REQUIRED TO SET UP

- 7/16" Open End Wrench
- 7/16" Box End Wrench
- 6" Crescent Wrench
- 1/4" Nut Driver

Unpacking the Mobile MasterCool. The unit is shipped with the molded plastic tray not attached. Remove the plastic tray from the carton and then remove the cooler from the carton.

Installing the wheels. Some models ship with the wheels already attached to the cabinet bottom. If wheels are not attached then locate the wheels inside of the cooler and attach them to the cabinet bottom using the bolts included.

Attaching the plastic tray. Remove the side pad frames from the cooler by lifting them up and out of the cooler cabinet. Locate the parts bag in the cooler and attach the tray top using the nuts and bolts provided.

Installing the drain bushing and plug. If it is not already installed refer to Figure 1 and install the drain bushing and cap through the hole provided in the bottom of the cooler.

Installing the float valve and adapter. Refer to Figure 2 and attach the float to the side leg of the cooler using the hole provided. The garden hose adapter attaches to the brass inlet fitting on the float valve. Verify that the hose washers are properly in place.

Connecting to water. Move the cooler to an area where it can be filled with water and drained. The cooler should be located on level ground. Connect to a water supply using a commercial grade garden hose (supplied by customer) connected to the adapter on the float valve and turn on the water. Verify water tight connections by visually examining both the float / hose connection and the drain plug.



CAUTION: Water inlet pressure should be limited to a maximum 105 PSI or an inline pressure regulator should be installed.

Adjusting the water level. Refer to Figure 3 and set the water height as shown by adjusting the float.

Check belt tension. This applies only to models with belt drive construction. Check belt tension (Figure 4) by pushing downward on it. Proper tension will allow deflection 1/2" to 3/4". To adjust belt tension, loosen bolt in slot of motor support bracket, adjust to proper tension and retighten bolt.

Connecting to a power supply. Plug the grounded plug directly into a 120 volt AC 60 Hz grounded GFCI protected electrical power supply. Note: improper voltage will burn out the motor and pump windings and will void the warranty.

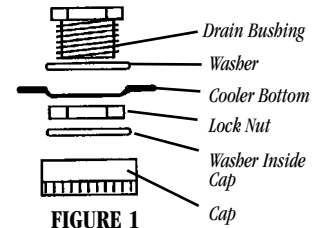


FIGURE 1

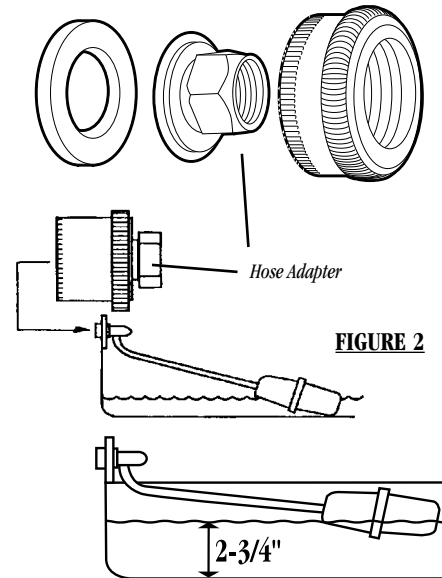


FIGURE 2

FIGURE 3

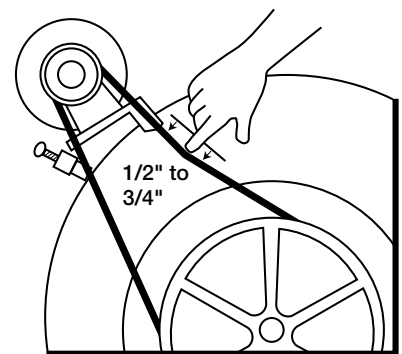


FIGURE 4

LOCATION OF COOLER

Always make sure the unit is operated on a level surface. When using the cooler indoors, the best location for it is near a partially opened window or door where hot outdoor air can be drawn into the unit. The Mobile MasterCool is portable but use caution when rolling the unit to avoid splashing and spilling of water. Cool air can best be directed through the space by using a partly opened window or door, ideally one that is situated on the opposite side of the space from the cooler. This allows the cooled air to be moved through the space and exhausted back outdoors which is critical to proper operation of the cooler.

OPERATING INSTRUCTIONS

If your model has locking casters, make sure the two locking casters have been locked to prevent the cooler from moving before turning on the fan.

Turn on the water supply to the cooler. The hose connection to the float valve provides an automatic method of refilling the water supply as water is evaporated.

For best results, turn the pump on a few minutes before turning on the blower fan. This allows the cooling pads to pre-wet for best efficiency.

Whenever possible operate the blower fan at low speed for maximum cooling. When cooling is not required you can operate the unit as a fan only by turning on the blower fan and leaving the pump turned off.



CAUTION Do Not Operate The Unit With Pads Or Grille Removed.

REGULAR MAINTENANCE

Periodic Drying of Pads. For best results allow pads to dry after each operation by turning off the pump 15 minutes before turning off the fan blower motor.

Periodic Draining of Sump. The entire water sump should be drained at least once weekly to reduce mineral build-up. The failure to regularly drain the entire water sump will greatly increase the mineral deposits and reduces the expected life of the cooling pads. This could result in early replacement of the pads at the owner's expense.

Lubrication. The pump and fan blower motors do not require lubrication. For belt driven blower wheel models only, the blower shaft bearings need periodic lubrication. The oil cups on the blower shaft bearings should be filled with a good grade SAE20W or 30W oil when necessary. Under normal use, oiling is required every three months of operation. DO NOT OVER OIL.

Cleaning Water Pump. See Figures 5 and 6. Disassemble and clean the water pump as follows.

- Disconnect power supply to the cooler.
- Access the pump by lifting the pad frames up and out of the cooler. Remove pump from cooler.
- To prevent breakage, carefully release the four snap-out tabs and lift impeller base plate from the pump body.
- Use a mild detergent solution and wash all deposits from the inside around the impeller and impeller base plate.
- Spin the impeller to dislodge any foreign material. Rinse and reinstall impeller base plate.
- Reinstall pump into the cooler.



CAUTION Unplug the electrical cord to the cooler before attempting to work on or service the cooler.

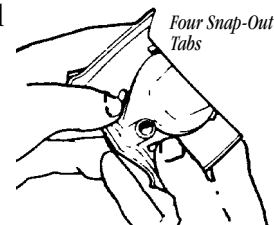


FIGURE 5

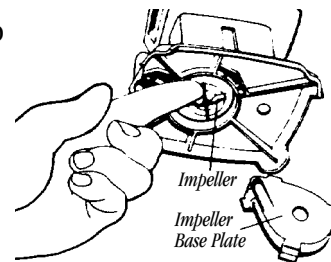


FIGURE 6



CAUTION

Do not allow the pump to fall over and become submerged in the water. Water will damage the pump motor.

COOLING PAD MAINTENANCE

Periodic draining of the pump will help reduce the build-up of calcium deposits on the pad and pad frame. Periodic cleaning of the pads will also help increase the life of the pads and the cooling performance of the cooler. Do not attempt to clean the pads while they are installed in the pad frames or in the cooler. They must be completely removed from the cooler (see Cooling Pad Replacement on this page) and then can be hosed off and lightly brushed to remove or reduce the calcium build-up. Pads must be replaced, though, if the calcium build-up starts to completely block air passages through the pad.

COOLING PAD REPLACEMENT

The cooling pads should be changed at least every two years. Check and clean them at the beginning of the season and clean and reverse them in the middle of the season. The pads may need to be replaced more frequently depending on local conditions and the maintenance schedule followed.

Replace or reverse cooling pads as follows:

Remove pad frames from the cooler by lifting them up and outward. Place pad frame on a flat surface and remove the two plastic rivets securing the assembly. Using a flat screw driver, pry up the rivet heads until they pop out or you can grab them (See figure 7). Slide the pad retainer out of the groove in the pad and out of the pad frame (See figure 8). Remove the pad by lifting up and sliding the pad out of the bottom groove (See figure 9). Lift out the distribution media and the water deflector (See figure 10 and 11). Use a mild detergent and wash dirt and build-up from the pad frame. Do not use a wire brush or scouring pad. Rinse the pad frame with clean water and, if reversing the existing cooling pad, rinse the pad with fresh water to remove as much deposit build-up as possible. Replace the water deflector and the distribution media in reverse order of removal. Lay new cooling pads in frame (or rotate old pads and lay in frame). Remember that the media should be placed in the frame starting at the bottom ensuring the edge of the pad frame fits snugly into the slot on the bottom of the pad. Push the pad down into place. Slide the pad retainer under the flanges of the pad frame.

Carefully push on the pad so that the pad retainer slides into the groove (arrow in figure 12) in the pad. Replace plastic rivets by lining up the holes and pushing the rivets in place.

Pre-soak the pad and re-install the pad frame into the cooler.

Start the pump and make sure that water flows properly through the pad.

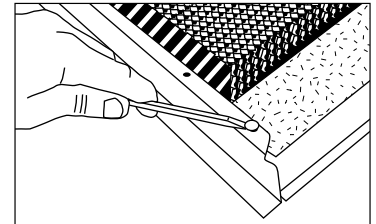


FIGURE 7

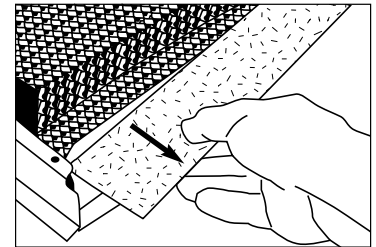


FIGURE 8

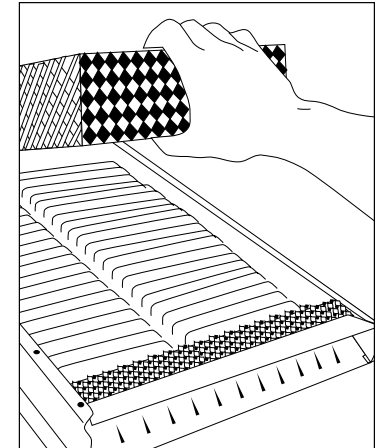


FIGURE 9

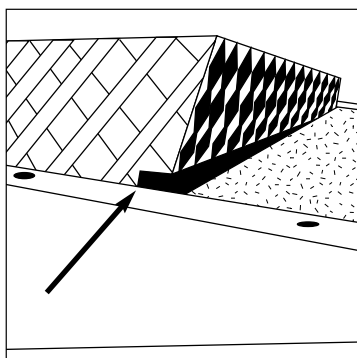


FIGURE 12

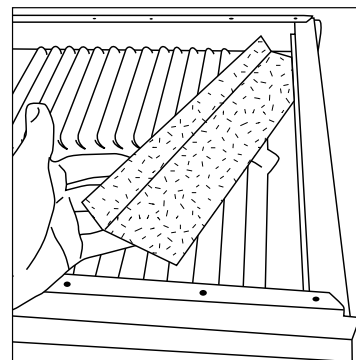


FIGURE 11

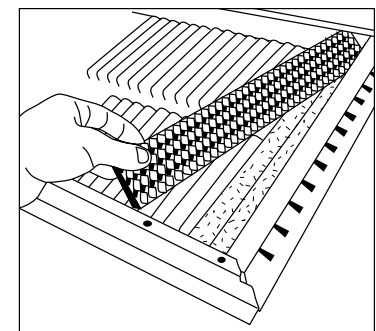


FIGURE 10

TROUBLESHOOTING

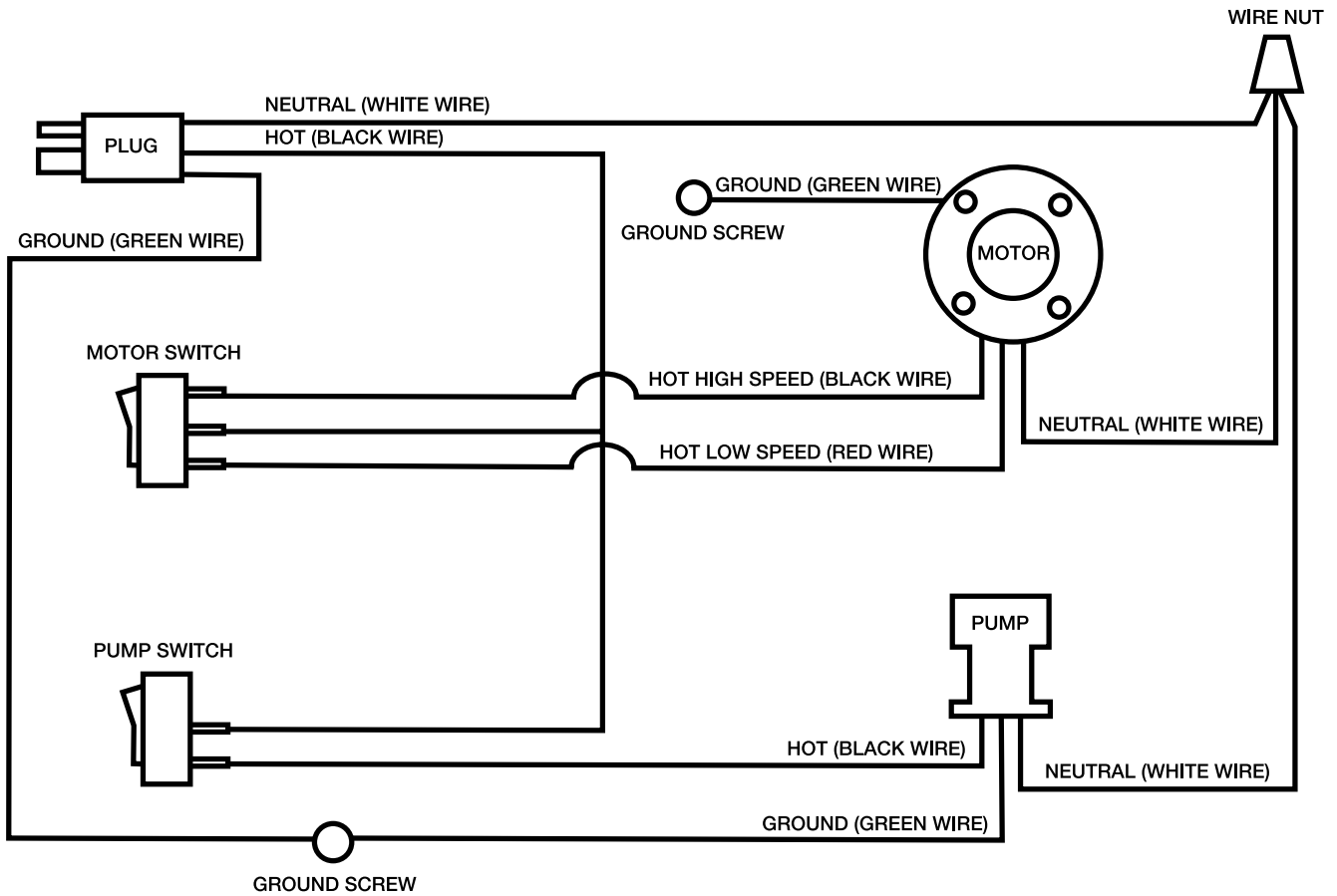
The following troubleshooting guide is intended to address the most common symptoms and is by no means exhaustive. If symptoms persist, call a qualified serviceman. Only a certified electrician should complete electrical work. Turn off all power to the cooler before attempting to troubleshoot any of the following symptoms.

SYMPTOM	POSSIBLE CAUSES	REMEDY
Unit fails to start or deliver air	1. No electrical power to unit A. Fuse blown B. Circuit breaker tripped C. GFCI tripped D. Cord(s) unplugged or damaged 2. Motor overheated and/or frozen 3. Belt too loose, too tight, or broken (Belt driven models only)	1. Check power A. Replace fuse* B. Reset breaker* C. Reset GFCI* D. Plug in cord(s) or replace if damaged <i>*If condition persists, call electrician</i> 2. Replace motor 3. Adjust tension or replace
Unit starts but air delivery inadequate	1. Insufficient air exhaust 2. Insufficient water – pad not wet A. Cooling pads plugged B. Dry streaks on pads C. Large dry spots on pads D. Pump not working E. Loose water connections 3. Belt too loose (Belt driven models only)	1. Open windows or doors 2. Check water distribution system A. Clean or replace pads B. Check water level C. Make sure cooler is level B. Clean or replace pump E. Check for leaks and correct 3. Adjust tension or replace
Water draining from cooler	1. Float arm improperly adjusted 2. Seat in float valve leaking 3. Drain bushing/cap not tight	1. Adjust float to proper level 2. Replace float valve 3. Tighten fitting and/or cap
Musty or unpleasant odor	1. Stale or stagnant water in sump 2. Pads mildewed or clogged 3. Pads not completely wet before cooler is turned on	1. Drain, flush and clean sump 2. Replace pads 3. Turn on pump before starting fan
Knocking, shaking or rattling sounds	1. Loose parts 2. Blower wheel loose or rubbing	1. Check and tighten where needed 2. Inspect and adjust, or replace
Water droplets in the discharge air stream	1. Too much water delivered to the cooling pads 2. Outdoor humidity level is too high or it is raining	1. Make sure pads are properly positioned in the pad frames and that the unit is level. If necessary, reduce the flow of water to the pads by tightening the screw on the hose restrictor clamp found on the pump discharge hose. 2. Use cooler as a fan only (turn pump off) or discontinue use of cooler until outdoor humidity level drops.

NOTE

Do not use cooler cleaners, cooler treatments, or other additives in this evaporative cooler. The use of any of these products will void your warranty and may impair the life of your evaporative cooler.

WIRING DIAGRAM





MODEL MMB10, MMB12, MMB14, MMB16 AND MMPC12 1-YEAR LIMITED WARRANTY

AdobeAir, Inc., Phoenix, Arizona, extends this limited warranty to the original purchaser of a Mobile MasterCool Evaporative Cooler operated under normal conditions within the continental United States.

I. One Year Coverage applies to all components and accessories furnished by AdobeAir. At our option, we will exchange or repair any part which fails due to non-conformance of material or workmanship during the first year from the date of initial purchase.

II. What this warranty does not cover:

a. This warranty does not cover any failure or damage resulting from unauthorized modification or service; or from the use of products or replacement parts other than those from AdobeAir; including, but not limited to, motors and pumps.

b. This warranty does not cover any damage or malfunction unless caused by a non-conformance in material or workmanship. Damage or malfunction which is not covered by this warranty includes, but is not limited to, water damage to the motor, abuse, misuse, alteration, improper installation / maintenance / operation, and transportation damage.

c. Mineral accumulations, dirt, and dust on the pad are not defects and are excluded from this warranty. Refer to the Owners manual supplied with your cooler for maintenance instructions to help minimize these conditions.

d. This warranty does not cover the cost of a service call at the site of installation to diagnose cause of trouble, the cost of labor to install the part, or mileage allowance to or from the site. AdobeAir does not pay freight or postage on any exchange.

e. This warranty does not cover evaporative coolers installed and operated outside the continental United States.

III. Do not use cooler cleaners, cooler treatments, or other additives in this evaporative cooler. The use of any of these products will void your warranty and may impair the life of your evaporative cooler.

IV. To obtain service under this warranty, contact the dealer where you purchased your evaporative cooler. As a final step, if you cannot locate your dealer, contact Customer Service, AdobeAir, Inc., 500 South 15th Street, Phoenix, AZ 85034. Include your name, address and ZIP code, the model number and serial number of your evaporative cooler, date of installation and a description of your problem, or call 602-257-0060 or visit www.AdobeAir.com.

This warranty is the only warranty extended by AdobeAir to suppliers and/or purchasers of this evaporative cooler. AdobeAir disclaims all other warranties, express or implied, that arise by the operation of the law, except that implied warranties of merchantability or fitness for a particular purpose are limited to the duration of the warranty period. AdobeAir shall not be liable for any incidental or consequential damage which may have resulted from any alleged breach or warranty.

Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the limitations or exclusions stated above may not apply to you.

This warranty gives you specific legal rights and you may have other rights, which vary from state to state.

Since AdobeAir, Inc., follows a policy of continuous product improvement; it reserves the right to change design and specification without prior notice or liability.