

Building A Bucket

Swamp Cooler/Evaporative Cooler



SWAMPCOOLERKITS.COM

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Swamp Coolers have been around for a VERY LONG time. Egyptians used the exact same principals to cool themselves that are in place today. Things haven't changed much since 3150 BC other than we now have the most versatile tool known to mankind (other than the invention of the wheel and hot dogs)..... **THAT'S RIGHT ... A 5 GALLON BUCKET!!!!**

Your interest in making a swamp cooler out of a bucket makes great use of a generic and widely available footprint that is both easy to transport, durable and doesn't use a lot of energy.

"Think outside the bucket"

When building your bucket cooler try and use existing resources whenever possible as it reduces impact on our planets resources and just flat makes you feel good as a person when all is said and done.

There are lots of ways to build a bucket style swamp cooler. What you should take away the most from this document are the basic principles of how an evaporative cooler works. Be creative and fine tune the bucket cooler for your specific needs.

"Remember Safety"

KEEP SAFETY IN MIND! Throughout your project you will be working with tools that can and will hurt you if used improperly.

At the end of your project you will be hooking your cooler up to a battery. Make sure you know the condition of the battery and how to safely work around one. This document does **NOT** address battery safety concepts. The assumption is that you know what you are doing when it comes to a battery. Batteries can be **VERY** dangerous so we can't stress this point enough.

Quoting a Wise Man:

"Before we use any power tools, let's take a moment to talk about shop safety. Be sure to read, understand, and follow all the safety rules that come with your power tools. Knowing how to use your power tools properly will greatly reduce the risk of personal injury. And remember this: there is no more important safety rule than to wear these — safety glasses."

Norm Abram, "The New Yankee Workshop"

"GLOAT"

Don't forget to show this thing off when you are done. You put your hard work into this project and you deserve a pat on the back!

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STEP 1 – GATHER UP THOSE PARTS – Before you start your project make sure you have everything (or a version of everything) from the Material List. Also, make sure to have all the tools needed as well.

MATERIAL LIST

QTY 1 – 5 gallon bucket



QTY 1 – 5 gallon bucket lid - Note: If you purchase the type of bucket lid that has a gasket on it make sure to remove the plastic tear ring that goes completely around the lower part of the lid. If you don't you will have one heck of a time getting the lid off and will likely break your bucket in the process. The plastic ring has been removed from the picture below.



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QTY 1 – Computer Fan with good CFM (Cubic Feet Per Minute) The Computer Fan below pushes 154cfm (Cubic Feet a Minute) which would be sized for an area slightly over 7' long by 7' wide by 6 ½' tall. The fan shown in the pictures below are model #AFC1212DE. 1.60 Amps. eBay is a great source for these fans.



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QTY 6 –Wire connectors – The wire used in the project is 18 AWG. These connectors work pretty good. You only need 6 of these... not 6 packages.



QTY 1 - Electrical Tape



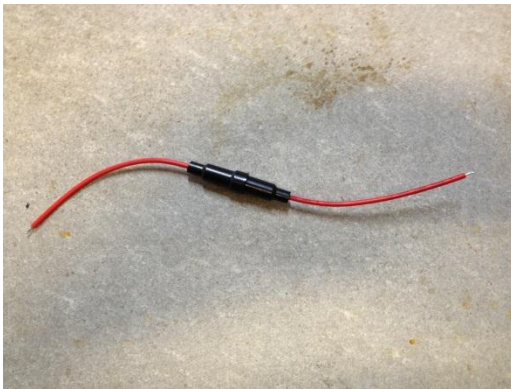
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QTY 1 – 12 Volt Battery to Lighter Socket Extension Cord (Battery Alligator Clips and Wire). The one pictured below can be found at Harbor Freight.



QTY 1 – 18 AWG Inline fuse holder – Check eBay for these.



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QTY 4 – #8 x 2 “ Carriage Bolts and Nuts. You will need 4 sets of bolts and nuts for your project.... Not 4 packages.



QTY 8 - #8 Washers. You only need 8 single washers total for your project.... Not 8 packages.



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STEP 2 – **cut the Hole in the top of the Bucket Lid.** Use the 3” ABS Connector as a template and center it on the Bucket Lid. Trace the **INNER** circle of the Connector using a Sharpie or Marker. Remove the Connector from the lid. You should end up with a circle like the one shown below.



Use a Box Cutter and cut out the circle following your marked line. (TIP - The easiest way to cut into the lid using the Box Cutter is to make plunge cuts rather than trying to trace the circle.) Stay to the inside of your marker line. You should end up with what is shown below.



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STEP 3 – GLUE THE 3” ABS Connector to the top of the Bucket Lid. The 3” ABS Connector will be used to attach ducting to your cooler. Using a 3” Connector gives you the ability to use either 3” hard ABS Pipe or 4” flexible dryer vent as your ducting.

Take a small piece of 80 grit sandpaper and thoroughly sand the surface of the Bucket Lid where the coupling will be glued and the end of the Coupling that will go on the Bucket Lid. Without using sandpaper your coupling will not stick to the bucket lid. A large percentage of buckets and bucket lids are made from **polyethylene based plastics**. These are so chemical resistant that modern science has not invented a solvent glue to bond these plastics. Using sandpaper gives a strong enough bond for what you need.



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Mix up your epoxy following manufacturer instructions and glue the 3" ABS Connector over the hole you cut on the TOP of your bucket as shown below. Apply glue to both the Bucket Lid and the Coupling.



Place a book or something on the top of the Connector as shown below and wait for it to dry. Check the instructions on your epoxy for dry times



This is the level of detail you can expect by purchasing the complete How to Guide.

Our complete Guide is around 40 pages.

Visit us at www.swampcoolerkits.com for all of our options.

Don't feel like building it yourself?

We can do most of it for you when you buy our DIY Kit.... Or we can do all of it for you with our Ready To Use Cooler.

Thanks again and Stay Cool my friends!