

## Compact Tool Kit

by

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### Summary

The oft-repeated chestnut that world cruising is fixing your boat in a series of exotic ports is true, and it implies that a cruising boat should carry a lot of tools to do all that fixing. Over the years we have added more and more tools to the point where I had the tools sorted by type into six large Rubbermaid tool boxes and a four-drawer tool chest. I then discovered that to do almost any project required unstrapping and opening at least half the tool boxes. This created quite a mess and a big clean-up and restowing job when my project was complete. I decided to develop one small tool bag that could do 85 percent of the jobs by itself and most of the other 15 percent hopefully with opening only one of the larger tool boxes.

After two years of tinkering with the contents I have settled on a small tool bag that seems to fit the bill. It has four basic categories of tools: standard mechanical tools (screwdrivers and wrenches), electrical, sewing, and consumables. The tool bag was selected to be compact, easy to carry and stow, while just big enough to fit the necessary tools.



### Standard Mechanical Tools

This category represents a very conventional collection of tools. I did not want to carry a full set of both metric and standard socket wrenches, so the only real learning point was to figure out exactly which box wrenches were needed to fit the bolts on *Hawk*. Our hose

clamps have 7mm nuts, 1/2" and 13mm fits the adjustment screws on our two alternators (and also the mainsail batten tension adjustment bolts), 7/16" fits the Harken Batt Cars, and 12mm fits the bleed screw on the engine. The hex wrenches are the only tools that seem to rust, so I keep them in a ziplock bag sprayed with wd-40. The following tools fall into this category:

Largest flat blade screwdriver that will fit in bag, also used as pry bar  
2 multi blade screwdrivers – large ratchet unit and smaller one with specialty blades  
3 small jewelers' screwdrivers – 2 flat blades (small and tiny) and 1 Philips  
8 ratcheting box wrenches (are these sockets, or open-ended wrenches) – two 7/16", two 1/2", 9/16", 7mm, 12mm, 13mm  
Adjustable crescent wrench  
2 vice grips – needle nose and standard  
2 sets of hex wrenches – metric and standard  
Pipe wrench  
Filter wrench (style with adjustable chain)  
Lineman's pliers with heavy duty wire cutters  
Exacto knife  
Heavy duty scissors

I have tried several of the 'stainless/marine quality' tools but did not find them worth the price premium. I just get the 'best quality' normal tools and clean them after every use with a quick WD40 spray and rub down.

## **Electrical Tools**

After much discussion with electrical component experts and our own experiences we have been convinced that a good crimp connection is the way to go rather than soldering. The key is that it must be A GOOD crimp, which is almost impossible to make with the inexpensive 'auto crimper kits'. It requires a high quality ratchet crimper, which will make a perfect watertight crimp every time. I also use a pair of specialty wire strippers that make a perfect strip to fit the crimp terminals every time. The wire stripper and crimper are both made by Ancor. Both are expensive, around \$60, but worth it to make perfectly trouble free connections. I keep the multimeter in a ziplock bag to prevent the display from being scratched by the other tools. Our toolkit includes the following:

Group photo  
Digital Multimeter  
Ratchet Crimper  
Wire stripper  
Wire cutters

## **Sewing Tools**

The thread we use needs to be quite strong and UV resistant. The Goretex thread (available from Sailrite [www.sailrite.com](http://www.sailrite.com)) meets that bill, and the waxed dental floss also does but in addition holds a knot better. The small needle nose pliers and vice grips are used to put a needle through thick cloth. We carry the following for sewing needs:

- Group photo
- Heavy sailmaker needles
- Normal household sewing needles
- Goretex sewing thread
- Waxed dental floss
- Heavy polyester waxed whipping twine
- Small scissors
- Needle nosed pliers
- Small vice grips
- Lighter
- Sailing Knife
- Fid set

## **Consumables**

We use wire ties on most of our shackles to prevent the pins from vibrating loose, but with two shackles (mainsail tack and anchor) we found the wire ties breaking and now use stainless wire to seize the pins. WD-40 is not much of a lubricant but is a terrific cleaning fluid. While we have many special purpose lubricants and adhesives, we use Lanocote as our general purpose stainless fastener lubricant, blue Loctite as the standard thread lock, and super glue and epoxy (two-part epoxy putty?) as the normal adhesives. Specifically, the following can be found in our toolkit:

- Small assortment of crimps terminals and heat shrink tubing
- Wire ties
- Stainless steel seizing wire (to tie shackles closed)
- Small jar of Lanocote
- WD-40
- Electrical tape
- Rigging tape
- Blue Loctite
- Silicon caulk
- Super glue
- Epoxy

## **Conclusions**

This single small tool kit, along with an 18-volt (brand) ½"vt ½" cordless drill (and carbide bits), allows me to do most common jobs without unpacking any of our big tool boxes, and it is what I initially bring with me when I am invited over to another boat to help with a repair project. Of course, as we get into more complex projects I have to get

out specialty tools like a torque wrench, but the job of unpacking and repacking is still vastly reduced.