How to patch parachutes with EZ-Patch templates

/// Ver. 7.0

For complete instructions on patching parachutes, see "The Parachute Manual, Volume 1," the FAA's "Parachute Rigger Handbook," or any of the various military rigging handbooks.

The owner's manuals for some parachutes include instructions on patching and other repairs. If such instructions contradict those given here, then follow those in the owner's manual, or use your own discretion.

It's a good idea to first practice with these tools by making a sample patch or two using scrap fabric.

Materials and tools needed

-- EZ-Patch templates

-- Hot knife with standard cutting tip

-- Sewing machine capable of sewing a 301 lockstitch, configured for 9 stitches per inch with nylon E thread. (Some parachutes may require a different thread or stitch.) Be sure thread tension is set correctly and the needle is sharp.)

-- Extra-fine point "Sharpie" marker, ballpoint pen, soft lead pencil, tailor's chalk, or other suitable writing instruments.

-- Suitable work area that includes a table or other smooth flat surface, one that can tolerate a hot knife.

Procedure

1. Plug in your hot knife.

2. Spread the canopy inside-up over the table. With the damaged area centered in the workspace. Smooth out the area to remove wrinkles, making sure the ripstop grid (if applicable) is not distorted. Use shot bags, or other suitable methods to secure the fabric to the table.

3. Select the EZ-Patch template of the most appropriate size. Generally, use the smallest suitable template, but one that completely surrounds the damage. Damage may extend to the very inner edge of the tool, but shouldn't go past it.

4. Use your pen or Sharpie to make the alignment dots on the patch. These only need to be barely visible.

5. Use your hot knife to cut the fabric inside the template from the canopy. First draw it around the *inner* edges of the template and then use it to cut the four corner slits.

6. Leaving the canopy undisturbed, turn your attention to the patch itself. Lay a suitable piece of raw fabric on an available area of the table or other smooth surface that can tolerate a hot knife. Lay the selected template on it.

7. As you did with the canopy, align the edges of the template with the ripstop grid (or the warp and fill of the fabric, if it's not ripstop). Smooth and straighten the fabric underneath the template.

8. Use your pen or Sharpie to make the alignment dots on the patch. (Again, these only need to be barely visible.)

9. Use your hot knife to cut the patch from the fabric, drawing it around the *outside* edges of the template.

10. Returning to the canopy, position it under the presser foot of your sewing machine in preparation for sewing the first edge of the patch to it. Then put the patch in position, using the alignment dots to align the two layers of fabric. (If both sides of the fabric aren't identical -- say it's coated -- be sure the orientation of the patch matches that of the canopy.)

11. Fold the first edge under, using the alignment marks to keep the patch correctly positioned. Sew the first outside edge of the patch, running a single seam about 1/16 inch in from its outside edge. Make standard double-folded corners.

12. Turning the piece, machine sew the remaining three edges of the patch to the canopy, and making standard double-fold corners. Overstitch about 1-1/4 inch.

13. Now it's time to finish the inside edges of the patch. Turn the canopy over and again position the patch neatly under your sewing machine's presser foot. Fold the first inside edge of one side under and then machine sew it, again running one seam about 1/16 inch in from the edge. Repeat this process for the remaining three edges. Overstitch as before.

14. Inspect your work.

15. Collect and count your tools.

17. Unplug your hot knife.

After using EZ-Patch templates a few times, you'll probably develop procedures that are better suited to your preferences and work environment. That is, of course, fine.

More information available at www.ez-patch.com