

Discover Mechanical Engineering

Utility Knife Safety Guidelines

D. Gonzalez-Diaz, Evan Hostetler et al.

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1 How to use the utility knife

1. Always inspect the tool before using it. The blade must be sharp.
2. If the blade is dull (it's taking multiple passes to cut the cardboard), snap the blade as show in the following pictures

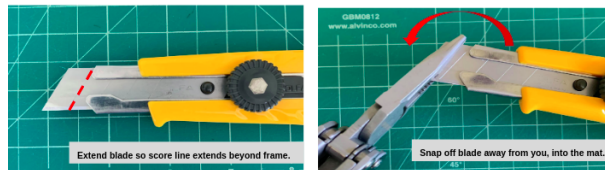


Figure 1: Snapping the blade safely

3. Always cut with the first score line on the blade within the metal rail and with the rotary ratchet locked down.

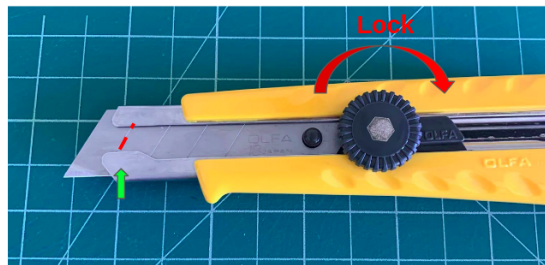


Figure 2: Prepare the utility knife to cut

4. Use the ruling on your cutting mat to align parts and help maintain straight lines marking and cutting.



Figure 3: Align the straight edge with the cutting mat

5. When cutting, track blade down the metal straight edge. Your blade should make a 30-45 degree angle with the material. Apply force evenly on the ruler to prevent movement from the cardboard, and **be mindful of your fingers when cutting!** Cut slowly and firmly, applying even force. You should be able to cut through the cardboard in one pass.



Figure 4: Cut at an 30-45 degree angle and press

2 Safety Tips

1. Use the knife as it was intended. Don't use it to pry or turn screws.
2. When positioning and using the knife, ensure the cutting path is not in the direction of your body or other hand.
3. Keep the blade covered(retracted) when not in use or when in storage.
4. Discard used blades in an appropriate container.

3 What do do in case of an injury

1. In case of an injury in your hand/finger:
 - (a) **Clean the wound.** Gently clean the cut by wiping away blood or dirt with little water and diluted antibacterial liquid soap.
 - (b) **Treat with antibiotic ointment.** Carefully apply an over-the-counter (OTC) antibiotic cream, such as bacitracin, to minor cuts. If the cut is deep or wide, go to the ER.
 - (c) **Cover the wound.** Cover the cut with an adhesive dressing or other sterile, compressive dressing. Don't wrap the finger too tightly so that blood flow is completely cut off.
 - (d) **Elevate the finger. Try to keep the injured figure above your heart as much as possible until the bleeding stops.**
 - (e) **Apply pressure.** Hold a clean cloth or bandage securely around the finger. Gentle pressure in addition to elevation may be needed to stop the bleeding.
2. When it's recommended to seek **emergency help**:
 - (a) The cut reveals deep layers of skin, subcutaneous fat, or bone.
 - (b) The edges of the cut can't be gently squeezed together because of swelling or the size of the wound.
 - (c) The cut is across a joint, having possibly injured ligaments, tendons, or nerves.
 - (d) The laceration continues to bleed for more than 20 minutes, or it simply won't stop bleeding with elevation and pressure.

4 References

1. <https://www.youtube.com/watch?v=zM-w5VPW40Y>
2. <https://ehs.yale.edu/sites/default/files/files/utility-knives.pdf>
3. <http://safety.ucanr.edu/files/235577.pdf>
4. <https://www.healthline.com/health/cut-fingerhome-treatment>