Olfa® Rotary Cutter, Model RTY-2/G: A Technical Description

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1 General Description of the Olfa® Rotary Cutter

The Olfa® rotary cutter (Model RTY-2/G) is a hand-held mechanical device with a single rolling razor blade used to cut fabric and sewing patterns. Primary users of the Olfa® rotary cutter are sewers, quilters and crafters. This model of Olfa® rotary cutter is the company's most popular size and the cutter features a durable handle with a blade cover for safety. The device is preferred to scissors due to its superior speed and accuracy.

The cutter's rolling razor blade is used to cut fabric and paper into shapes, strips and pieces. It is designed for both right- and left-handed use. It is often used in conjunction with a cutting mat and an extra wide ruler. The cutting mat and ruler are not part of this technical description.

The Olfa® rotary cutter ranges in price from $17.00 to $21.00 and comes with a lifetime warranty. The tungsten steel blades are easily replaced when necessary and range in cost from $6.50 to 9.00 per blade.

The Olfa® rotary cutter measures 17.7 cm in length with the blade covered (see **Figure 1**) and 17.5 cm (see **Figure 2**) in length with the blade exposed.

Figure 1: Olfa® Rotary Cutter (blade covered)
Top of Device

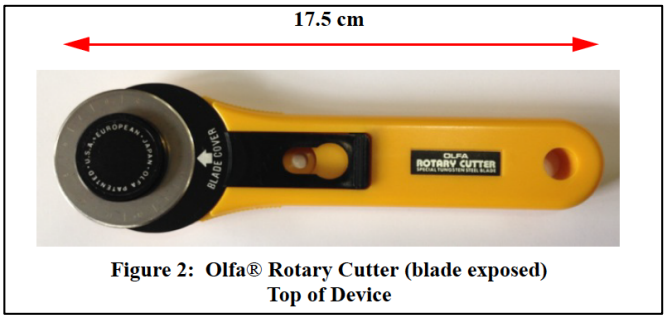

Figure 2: Olfa® Rotary Cutter (blade exposed)
Top of Device

The blade end of the device is 5 cm wide and the opposite (handle) end of the device is 2.7 cm wide. It is approximately 1.5 cm in height (see **Figure 3**).

A note about orientation: **Figures 1** and **2** show the top of the device. **Figure 3** shows the side and **Figure 4** shows the bottom of the device.

Figure 3: Olfa® Rotary Cutter
Side of Device to Reveal Height

Figure 4: Olfa® Rotary Cutter
Bottom of Device

2 Main Components of the Olfa® Rotary Cutter

The Olfa® rotary cutter is comprised of the rotary cutter base and the blade assembly (see **Figure 5**). The rotary cutter base consists of a rigid, plastic yellow handle and a sliding black plastic blade cover. The blade assembly is made up of a tungsten steel razor blade and metal and plastic components to attach the blade to the base. These components of the rotary cutter are described in detail in sections 2.1 and 2.2.

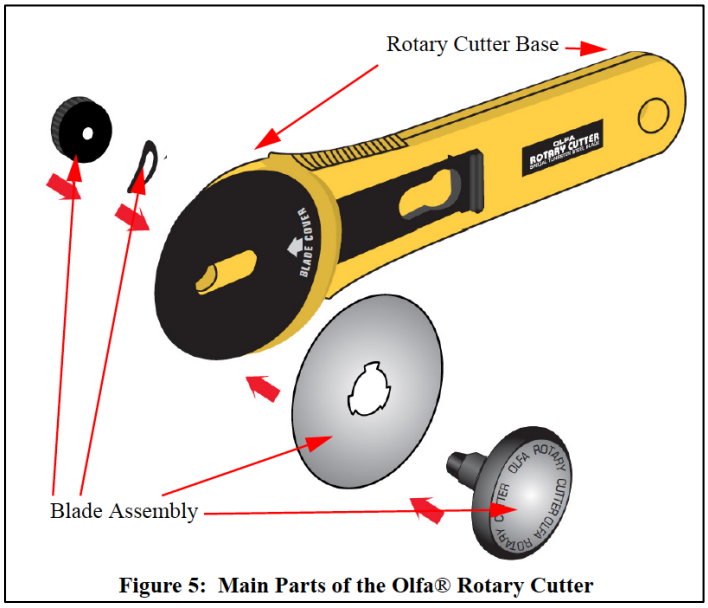

Figure 5: Main Parts of the Olfa® Rotary Cutter

2.1 Main Part # 1: Rotary Cutter Base

The Olfa® rotary cutter base is 17 cm long can be further broken down into two sub-parts: the yellow handle and the black blade cover (see **Figure 6**).

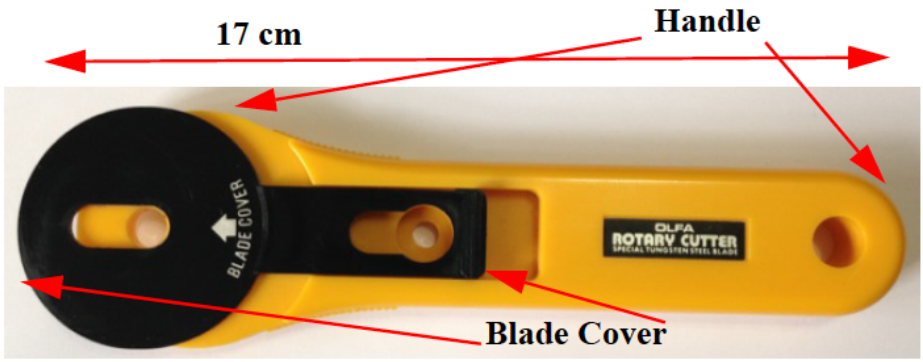

Figure 6: Sub-parts of the Rotary Cutter Base

2.1.1 Handle

The handle allows the user to grip and drive the tool. It is made of durable plastic and measures 16 cm in length with the blade cover retracted and 17 cm with the blade cover extended. It is 1.5 cm high at its thickest and 0.4 cm at its thinnest. The thickest end is the part held by the user. The thinnest part is the rounded end where the blade attaches (see **Figure 7**).

The handle has a smooth finish until it fans out, at which point there are integrated grooves along either edge to prevent finger slippage. The grooved section measures 2.7 cm in width and grooves are approximately 0.1 cm apart (see **Figure 7**).

Figure 7: Olfa® Rotary Cutter
Side of Device to Reveal Height and Integrated Grooves on the Handle

The rounded end is shaped to accommodate the circular blade and its 4.5 cm diameter. There is a 0.9 cm circular hole in the rounded end of the cutter's base. This hole holds the parts that secure the blade in place (see **Figure 8**).

There is a recessed hole in the middle of the handle that is used for attaching accessories sold separately and not discussed in this technical description. This hole is approximately 1 cm in

diameter on the top side of the handle and 0.5 cm in diameter on the bottom side of the handle (see **Figure 8**).

A third hole in the handle allows the user to attach a cord or wire for hanging the device when storing. It is 1 cm in diameter (see **Figure 8**).

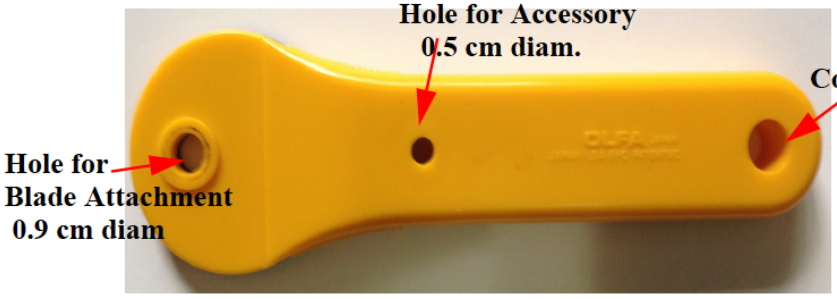

Figure 8: Bottom of Device to Reveal Holes

There is a channel in the top of the handle that holds the sliding blade cover. The channel is 4.5 cm long, 1.8 cm wide and 0.7 cm deep.

2.1.2 Blade Cover

The black plastic blade cover serves as a safety mechanism to keep the razor blade covered when the device is not in use. It slides along the handle's channel (see section **2.1.1**). To cover the blade, the blade cover is pushed along the channel to reveal the recessed part of the handle. To expose the blade, the cover is pushed to hide the recessed part of the handle. The retractable blade cover is an important safety feature of the device.

The blade cover is 9.2 cm long and has a circular base for the blade that is 4.8 cm in diameter. The slider is 1.8 cm wide and 4.4 cm long (See **Figure 9**).

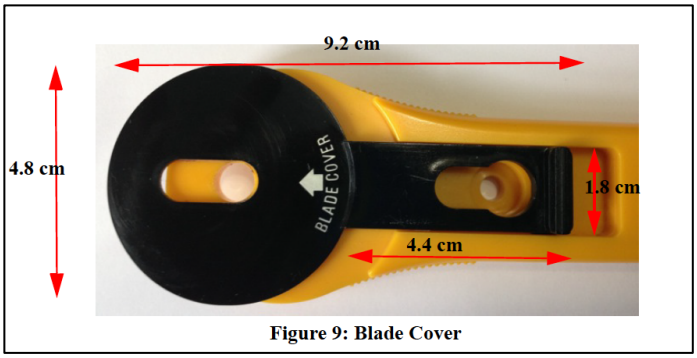

Figure 9: Blade Cover

2.2 Main Part #2: Blade Assembly

The blade assembly is made up of the razor blade and the parts that attach it to the rotary cutter base.

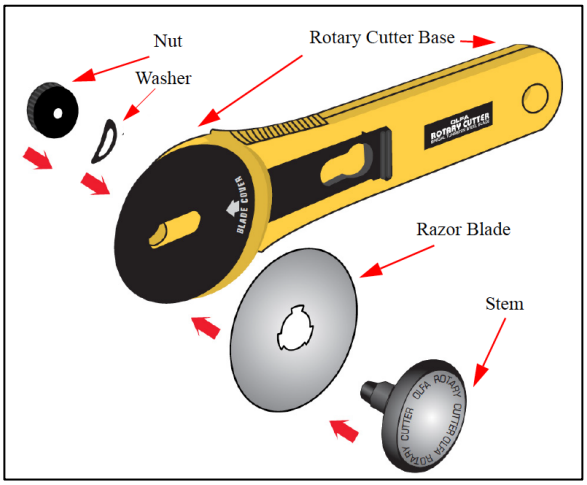

Figure 10: Components of the Blade Assembly

Figure 10 above comes from an Olfa® document illustrating how to replace the razor blade and shows a breakdown of the parts. Specifically: the nut, the washer, the razor blade and the stem.

2.2.1 Nut

The nut (see **Figure 11**) is a fastening device that is used to fasten the stem to the rotary cutter base. It can be seen on the bottom of the handle when the rotary cutter is fully assembled. It is 1.3 cm in diameter with a hole in its center measuring 0.6 cm. Its edges are ridged, allowing for a better grip when tightening or loosening. The interior hole is threaded to aid in fastening of the nut to the stem.

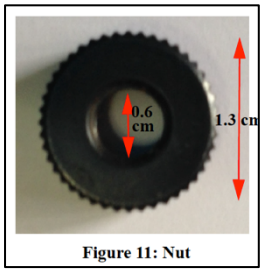

Figure 11: Nut

2.2.2 Washer

The washer (see **Figure 12**) is a thin plate (less than 0.1 cm) with a hole in the middle that is used to distribute the load of the nut. The hole in the middle is shaped like a rectangle with rounded edges. The washer is 1.3 cm in diameter. The hole is approximately 1 cm wide and 0.6 cm high. The washer is slightly curved, much like the brim of a cowboy hat.

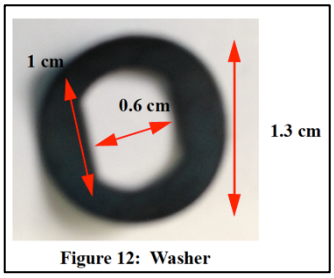

Figure 12: Washer

2.2.3 Razor Blade

The Olfa® rotary cutter's blade (see **Figure 13**) is made of high quality tungsten carbide tool steel for "unparalleled sharpness and superior edge retention", as per the company website. It has a diameter of 4.5 cm with a notched circular hole in the center. That hole is approximately 0.8 cm in diameter. The edge of the razor blade is beveled on both sides to produce a sharp edge.

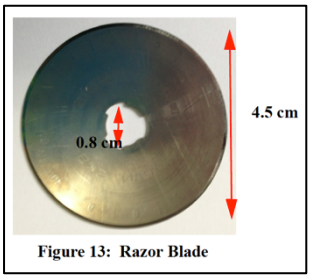

Figure 13: Razor Blade

2.2.4 Stem

The stem is a 2.5 cm circular disc (see **Figure 14**) with a partially threaded bit (as in drill bit) attached to its center (see **Figure 15**). It serves to cover the blade and, in conjunction with the washer and nut, attach the blade to the rotary cutter base. The disc is 0.4 cm thick and made of durable plastic. The bit is 1.5 cm in length, 0.5 cm in diameter and made of metal.

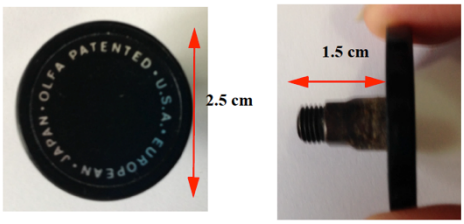

Figure 14: Circular Disc / Top View of Stem (on left)
Bit / Side View of Stem (on right)

3 How to Use the Olfa® Rotary Cutter and Value to User

The paragraphs below describe how to use the Olfa® rotary cutter and present aspects of value to the user.

3.1 Cycle of Operation

The Olfa® rotary cutter is used as follows: first, the fabric being cut is placed as flatly and smoothly as possible on a cutting mat. Second, a wide ruler is placed on the fabric's cutting line to guide the blade and ensure accuracy. The blade cover is slid towards the user to expose the blade. Then, the user's dominant hand is wrapped around the handle and thumb placed on the integrated grooves. The rotary cutter is positioned on top of fabric at the point on the cutting line that is closest to the body. The blade is set alongside the guiding ruler. Next, the dominant hand pushes the rotary cutter away from the body while gently and firmly pressing down into the fabric. The non-dominant hand presses firmly on the ruler. Care is taken to keep fingers away from the blade as it rolls and cuts. When the blade reaches the end of the cutting line, the device is lifted and the fabric is cut. The blade cover is slid back into place for safety.

3.2 Value to User

The Olfa® Company introduced the first rotary cutter in 1979. The Olfa® rotary cutter is faster and more accurate than scissors as a cutting tool. This device is credited with helping to fuel a revival in quilting in the late 1970s-early 1980s. Other companies have developed their own rotary cutters but the Olfa® is still the leading brand.

The original Olfa® rotary cutter came in one size: 45 mm diameter (Note: measurements are cited in mm because the products are marketed as such; other measurements in this document are in cm). Today, Olfa® offers three more sizes with 18-, 28- and 60 mm diameter blades. Olfa® also offers replacement tungsten steel blades with decorative edges, including pinking and scalloped blades.

For avid sewers, quilters and crafters the Olfa® rotary cutter described in this document and other sizes and types of rotary cutters available are indispensable tools. They are efficient, accurate, easy to use and portable.

References

www.olfablades.com

http://www.equilters.com/library/tips-hows/rotarycutters.html

http://www.youtube.com/watch?v=24niAZnwT-Q