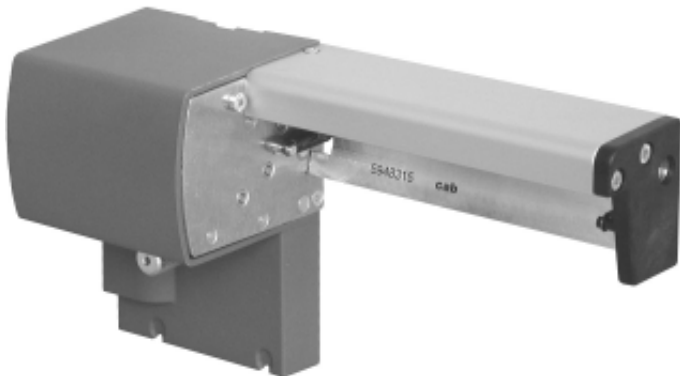![BRADY logo]

Cutter CU4
for Transfer Printer
BP-PR PLUS Series

Operator's Manual

Product Description

The **Cutter CU4** is an optional peripheral device for the printers of the **BP-PR PLUS** Series. With the cutter unit installed, labels or continuous material may be cut when desired.

Cutter options include a choice of: cut after each label, cut after a specific quantity of labels, or cut at the end of a print job.
The cutter is powered and controlled directly by the peripheral port of the printer. For cutter operation, the printer firmware will extend the label for cutting based on specified displacements, then automatically backfeed the label, so that after making a cut, the label strip will be repositioned and ready for printing the next label.

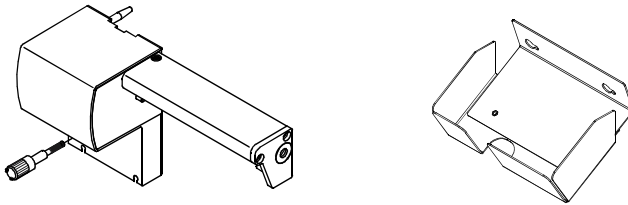An optional **Cutter Tray** is available for the Cutter **CU4**.

Fig. 1   Cutter CU4, Cutter Tray 4

Technical Specification

Cutter

Media width :	up to 4.7in / 120mm
Min. cut length :	0.08 in / 2 mm
Material thickness :	up to 500 g/sqm
Power supply :	peripheral connector of the printer

NOTICE!
The minimum cut length is depending on the media, in particular its adhesive characteristics. Before use tests of the media are recommended. You should test the media too, if the media is very hard or very thin.

The cutters have a durability of more than one million cuts. The blades are self-sharpening. Depending on the type of the cutted material the blades could wear earlier and have to be replaced. Used blades are not designed to be grinded again.

Cutter Tray

for cutter :	CU4
Material width :	up to 4.7in / 120mm
Length of the cut pieces :	up to 3.9in / 100mm
Stack height :	up to 1.4in / 36mm

Safety Instructions

 CAUTION!

- **The printer must be switched off before attaching the cutter!**

- **Risk of injury, particularly during maintenance, the cutter blades are sharp!**

- **The cutter may only be used when it is mounted on the printer!**

- **Do not try to cut any materials which exceed the maximum width or thickness specifications.**

- **Do NOT touch the area of the moving blades!**

Vorsicht drehendes Messer
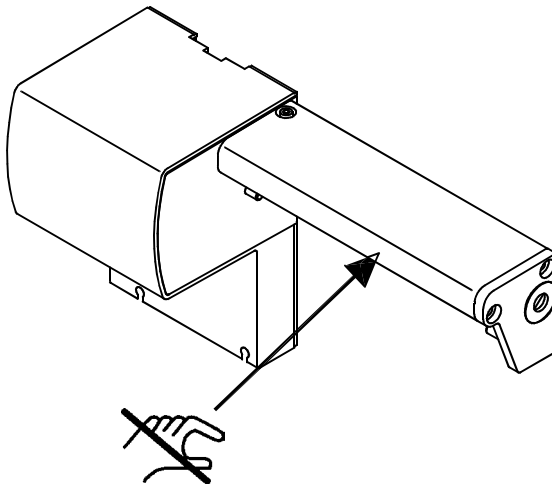Caution rotating knife
Attention lame rotative

Fig. 2   Do NOT touch the blades

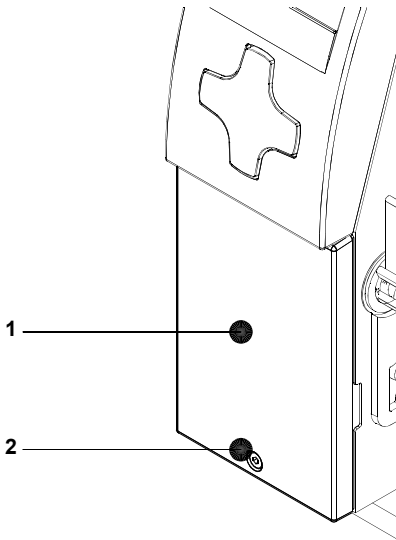## Mounting the Cutter and the Cutter Tray

⚠️ **CAUTION!**
The printer must be switched off before attaching or removing the cutter !
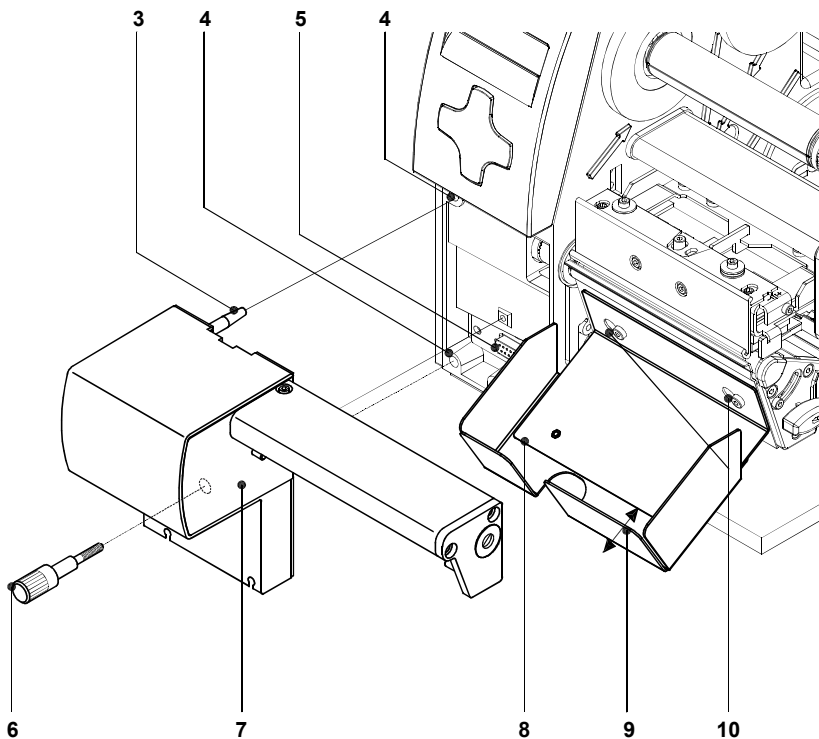
In order to install the cutter, the front cover has to be removed.

The tear-off plate or a dispense plate must remain on the printer, to lead the material through the blades of the cutter.

Fig. 3   Removal of the front cover

1. Turn the printer off. Open the media cover.

2. Loosen the screw (**2**).

3. Remove the front cover (**1**).

Fig. 4   Mounting the cutter and the cutter tray

If you want to operate the cutter without the cutter tray skip to step #8. For using the optional cutter tray, the tray must be mounted before the cutter:

4. Loosen the screws (**10**).
5. Place the cutter tray (**8**) on the screws (**10**) in front of the tear-off plate or the dispense plate and slide it to the left until it stops.
6. Tighten the screws (**10**).
7. The length of the cutter tray (**8**) may be modified by moving the slide (**9**).

Installing the cutter assembly:

8. Insert the pins (**3**) of the cutter (**7**) into the holes (**4**) of the printer. Press the cutter against the printer. That way the plug of the cutter will be connected to the peripheral port (**5**) of the printer.
9. Secure the cutter (**7**) with the screw (**6**).

Printer Configuration

Once the cutter is connected to the printer, the printer will automatically recognize it on turn on. Once the cutter is recognized, the printer can be operated in cut mode. The printer can be configured to suit the individual requirements of cut mode in the „Setup" menu. When the cutter is installed, the „Cutter" menu will appear.

NOTICE!
Pay attention to the detailed instructions for configuration in the Printer's Operator Manual.

1. For setting the cutter parameters select „Setup" -> „Machine param." -> „Cutter".

Setup		
Machine param.		
Parameter	**Meaning**	**Selection**
Cutter		
Cut position	Offset of the cut position relative to the rear label edge Default : **0,0 mm**	+9,9 ... -9,9

Table 1 Cutter parameters

2. Under „Setup" -> „Print parameters" the method for recognizing the start of label and the method of backfeed when using cut mode can be selected.

Setup		
Print parameters		
Parameter	**Meaning**	**Selection**
Label sensor	Method of label sensing Default : **Gap sensor**	Gap sensor Bottom reflect Endless media
Backfeed	Method of backfeed when using the dispense mode or the cut mode Default : **smart**	smart always

Table 2 Parameters „Label sensor" and „Backfeed"

Cut Position

The "Cut position" parameter allows to adjust the distance between the cut position and the rear edge of the label. Cut position with the initial offset value of "0" causes to cut in the middle of the gap between two labels. If the real cut position deviates from the middle of the gap, the amount of the cut offset can be altered in the range from -9.9mm to +9.9mm. If the cut position value is positive, the media will be advanced before it is cut, that means the distance between the cut edge and the rear edge of the label increases.

The setting should be made when first operating the printer and cutter, or when changes that will effect all print jobs sent to the printer.

NOTICE!
Changes to individual print jobs can be accomplished by changing the software settings.

The offset values from „Cut position" and from software are added together for execution. The software value does not replace the „Cut position" value, but temporariliy adjusts it for the current print job.

Label Sensor

For recognizing the start of label the printer offers besides the two standard methods (Gap sensor / Bottom reflect) the setting ''Endless media''. This setting should be used when operating with continuous material in cut mode. That way it is possible to realize the movement forward and the cut after loading the media and then pressing the FEED key (see section ''Modes of Operation'').

Backfeed

In cut mode, the media will be stopped in a position where the leading edge of the following label has already been moved beyond the printhead. The printer can backfeed the label material from its cut position to the printhead. Therefore, the next label can be printed completely.

A backfeed will always be performed if the parameter is set to "always". If the setting is set to "smart", the backfeed will only be performed if the front label is in its cut position and the printer has not yet received all of the data for printing the following label. Otherwise, the print of the second label will be started, but it will only be completed after the first label has been cut.

Media Loading

Load the transfer ribbon as described in the Printer's Operators Manual. Load the label media for cut mode similar to the way it would be loaded for tear-off mode.

Place the media strip between the printhead and the drive roller, so that the beginning of the strip reaches into the cutter.

Operation

The printer is ready for operation when all connections have been made and all materials are loaded correctly.

After loading the media it is necessary to locate top of form by pressing the FEED key. The media will be moved forward and then cut.

NOTICE!
To operate the cutter with continuous material configure the printer under „Setup" -> „Print parameters" -> „Label sensor", the setting „Endless media" has to be selected. Otherwise no cut is carried out.

Locating the top of form is not necessary when the printhead was not opened between print jobs. Even if the printer was powered off between print jobs.

NOTICE!
To operate the cutter the cut mode must be activated in the software!
For direct programming use the C-command (see Programming Manual)!

Once the cutter is mounted on the printer and is ready for operation, the printer can be used in cut mode.

All labels in a print job will be printed without stopping and be cut as chosen in the software: after each label, after a specific quantity of labels, or at the end of a print job.

Cleaning

During operation particles of dust and paper can accumulate inside the cutter. Remove these particles with a soft brush or a vacuum.

When cutting through the label material instead of the label gap remains of adhesive may accumulate on the blades.
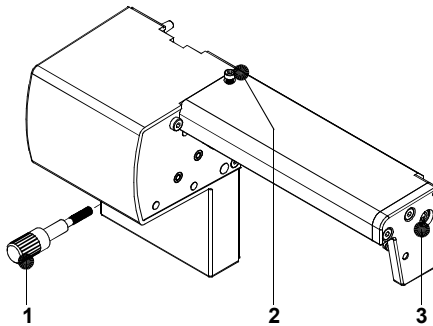If operating in backfeed mode, such remains of adhesive may be deposited on the drive roller as well.
Therefore both, the drive roller and the cutter blades, must be cleaned often.

Fig. 5   Cleaning the cutter

1. Loosen the screw (**1**) and remove the cutter from the printer.
2. For cleaning the drive roller open the print head and remove the media from the printer.
3. For cleaning the circular blade you can turn the axle (**3**) with a screwdriver for slotted head screws (slot width 7mm).

4. Remove all deposits both at the drive roller and the cutter blades with isopropyl alcohol and a soft cloth.

Changing the Blades

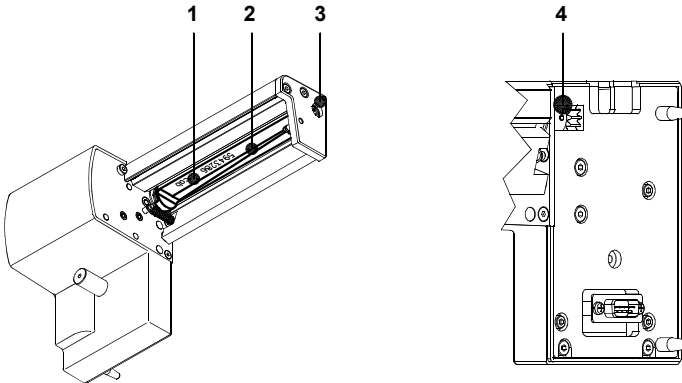1. Turn the printer off and demount the cutter from the printer.
2. Turn the axle (**3**) of the circular blade (**2**) with a screwdriver for slotted head screws (slot width 7mm) so that the inscription (**1**) of the blade points downward.
   In this position the set screw (**4**) on the „gear-wheel circular blade" can be achieved from the rear of the cutter.
   Loosen this set screw (**4**) a few turns.

Fig. 6   Loosen the screws

3. Hang out the spring (**13**) on the bearing plate (**15**) and the linear blade (**11**).

NOTICE!
Attend on the washers (A, B, C) for the blades (2,11) when you demount the bearing plate. The washers could get lost because of theire smallness.

CAUTION!
Always keep the linear knife with one hand (11) in its position and push its axle slightly to the mounting plate (9) of the cutter, because the spring (6) is tense.

4. Unscrew the screws (**8**) and remove the bearing plate (**15**) sideways.
5. Take the circular blade (**2**) out of its bearing (**5**).
   Now you can slacken the spring (**6**) of the linear blade.

If you don't want to change the linear blade you can skip to #9.

6. Take the spring (**6**) and the linear blade (**11**) from the mounting plate (**9**).
7. Insert the axle of the (new) linear blade withe the washer (**B**) in the bearing (**10**) of the mounting plate. (The inscription of the linear blade has to point downwards.)
8. Hang the spring (**6**) without tense on the pins of the mounting plate (**9**) and the linear blade (**11**).
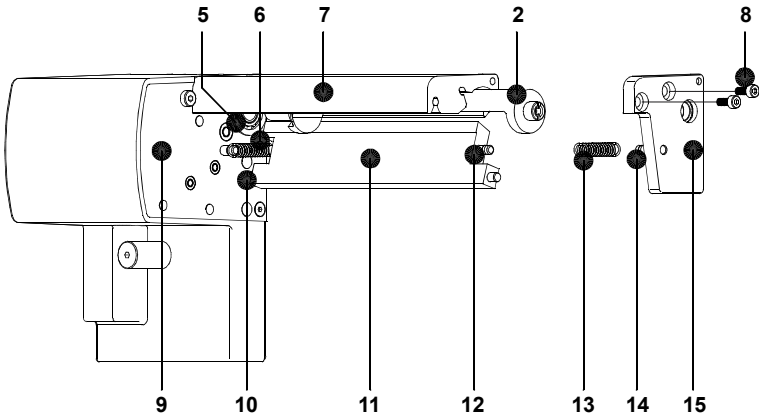
Fig. 7   Changing the circular and the linear blade
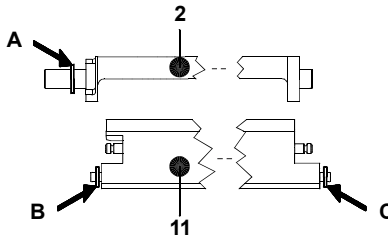
Fig. 8   Washers for axles of the circular and the linear blade

9.   Turn the linear blade (**11**) backwards. The spring (**6**) gets tense.
     Insert the Axle of the (new) circular blade (**2**) with the washer (**A**) in
     the bearing (**5**) of the mounting plate.
10. Place the washer (**C**) on the axle of the linear blade.
11. Hang the spring (**13**) without tense on the pins of the linear blade
     (**12**) and the bearing plate (**14**).
12. Positioning the bearing plate (**14**) on the axles (**2**, **11**). The spring
     (**13**) gets tense.

NOTICE!
**Attend on an accurate position of the bearing plate (15) to the
profile (7) of the cutter. A bad positioning could cause undefined
cutting edges.**

13. Tighten the bearing plate (**15**) with the screws (**8**) at the profile (**7**).
     Keep the bearing plate in position and push it slightly to the profile
     (**7**) during tightening.
14. Tighten the screw set (**4**) of the „gear-wheel circular blade" at the rear
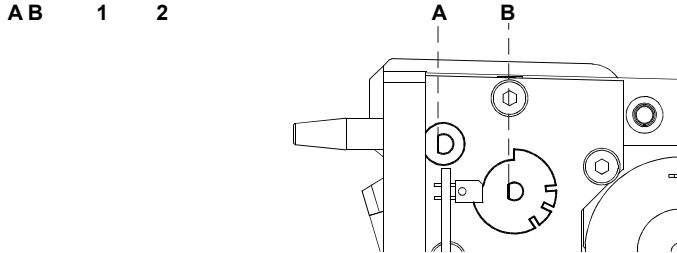   of the printer.

CAUTION!
**Before mounting the cutter the circular blade has to be repositioned
as described in chapter „Adjusting the Circular Blade and the Clock
Wheel".**

Adjusting the Circular Blade and the Clock Wheel

To operate the cutter correctly after cleaning or after changing the blades you have to adjust the axles of the circular blade (**1**) and the clockwheel (**2**) to another.


Fig. 9   Position of the axles of the circular blade and the clock wheel

1. Turn the printer off and remove the cutter.
2. Unscrew the cover (**4**) by loosening the screws (**3**), (**5**) and (**9**, at the rear).
3. Loosen the screw (**8**) about 5 mm from the profile of the cutter.
4. Turn the axle (**7**) of the circular blade with a screwdriver (slot width 7mm) so that the inscription (**4**) of the blade points downward.
    On the axles of the circular blade (**1**) and the clockwheel (**2**) you can find a planar area (**A**, **B**).
    Now or after one or two more full turns of the circular blade the areas (**A**, **B**) both are pointing to the rear of the cutter and the axles are adjusted.
6. Tighten the screw (**8**) for fixing the circular blade.

CAUTION!
If you tight screw (8) too strong, you could damage the screw thread.
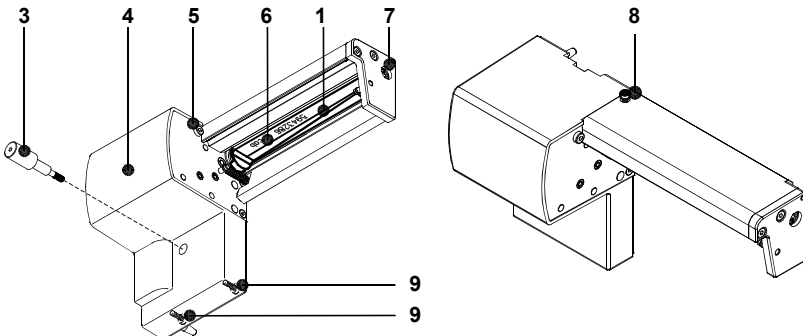
Fig. 10 Adjusting the circular blade to the clock wheel

cab

Gesellschaft für Computer-
und Automations-
Bausteine mbH
Wilhelm-Schickard-Str. 14
D-76131 Karlsruhe

EU - Conformity Declaration

We declare herewith that as a result of the manner in which the machine designated below
was designed, the type of construction and the machines which, as a result have been
brought on to the general market comply with the relevant fundamental regulations of the EU
Rules for Safety and Health. In the event of any alteration which has not been approved by
us being made to any machine as designated below, this statement shall thereby be made
invalid.

Description: Type:
Cutter   **CU 4**

Applied EU Regulations and Norms:

- EC Machinery Regulations   **98/37/EU**
- Machine Safety   EN ISO 12100

- EC Low Voltage Regulations   **73/23/EEC**
- Data and Office Machine Safety   EN 60950-1:2001

- EC Electromagnetic Compatibility
  Regulations   **89/336/EEC**
- Threshold values for the Interference   EN 55022:1998+A1:2000+A2:2003
  of Data Machines   -classA

This declaration is valid only when the cutter is used together with printers of the
BP-PR PLUS series, Manufacturer: cab - Karlsruhe.

Signed for, and on behalf of, the Manufacturer :

cab Produkttechnik Sömmerda
Gesellschaft für Computer-
und Automationsbausteine mbH
99610 Sömmerda

Sömmerda, 10.04.06

Erwin Fascher
Managing Director

BRADY

W.H. Brady
Lindestraat 21
Industriepark C3
9240 Zele Belgium
Tel.: +32 52 457 811
e-mail: support@brady.be

BRADY

Identification Solutions Division
6555 W. Good Hope Road
PO Box 2131
Milwaukee, WI 53201 U.S.A.
Phone: 1-800-537-8791
Fax: 1-800-292-2289