QLS™

CU-30, CS-40, CTS-45
Operation & Setup Guide

Limited Warranty

QuickLabel® Systems warrants the cutting blade of the CS-40 or CTS-45 Cutter-Stacker and the CU-30 Cutter from the date of original purchase for one million cuts when using 7-point card stock. Other materials are subject to verification.

QuickLabel® Systems warrants all other portions of the CS-40 or CTS-45 Cutter-Stacker and the CU-30 Cutter against defects in materials or workmanship for a period of one year from the date of original purchase. If you discover a defect, QuickLabel® Systems will, at its option, repair or replace this product at no additional charge except as set forth below. Repair parts and replacement parts will be furnished on an exchange basis and will be either reconditioned or new. All replaced parts become the property of QuickLabel® Systems.

This warranty does not apply if the product has been damaged by accident, abuse, misuse, or misapplication, or has been modified without the written permission of QuickLabel® Systems.

To obtain warranty services, call (401) 828-4000 for information. QuickLabel® Systems is not responsible for your product if it is lost or damaged in transit.

QuickLabel® Systems makes no warranty, either express or implied, with respect to this product's fitness for a particular purpose.

Canadian Emissions Requirements

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le present appareil numérique n'emet pas de bruits radioelectriques depassant les limites applicables aux appareils numériques de la class A prescrites dans le Règlement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada.

FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Shielded cables must be used with this unit to ensure compliance with the Class A FCC limits.

WARNING

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the operation guide, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Trademarks

QuickLabel® is a registered trademark of Astro-Med, Inc.

CU-30 Cutter

CS-40 / CTS-45 Cutter-Stacker

The CU-30 Cutter and the CS-40 and CTS-45 Cutter-Stackers are designed for use with QuickLabel Systems' QLS-Series printers:

- The CU-30 automatically cuts tags, tickets, care tags, etc. as they emerge from the printer, then drops them in a collector bin or basket.

  The CU-30 can handle tag sizes from $3/_8$ inch long by 1 inch wide to 22 inches long by $4^5/_8$ inches wide.

- The CS-40 and CTS-45 automatically cut and neatly stack tags, tickets, care tags, etc. as they emerge from the printer.

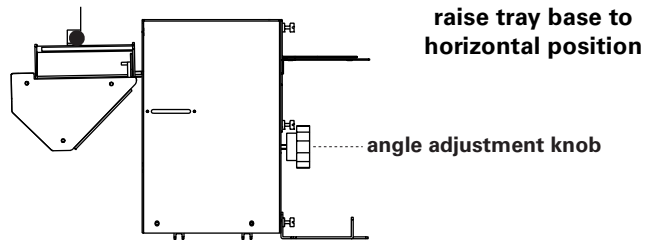 The CS-40 and CTS-45 can handle tag sizes from $3/_4$ inch long by $1^1/_2$ inches wide to 5 inches long by $4^5/_8$ inches wide.

This guide instructs you in setting up the cutter-stacker or cutter for use with one of the QLS-Series printers and in procedures for maintaining the unit's optimal performance.
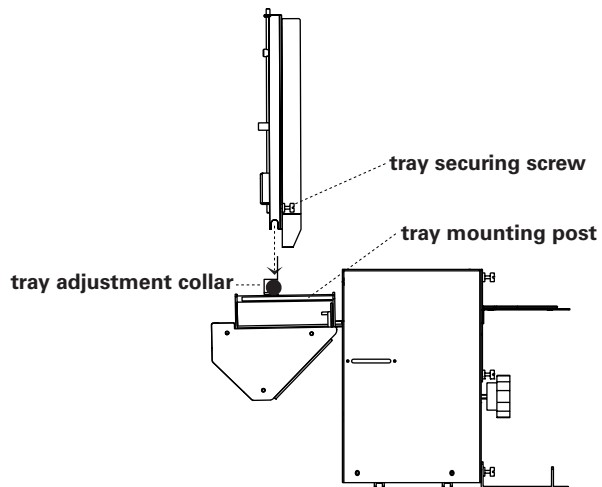
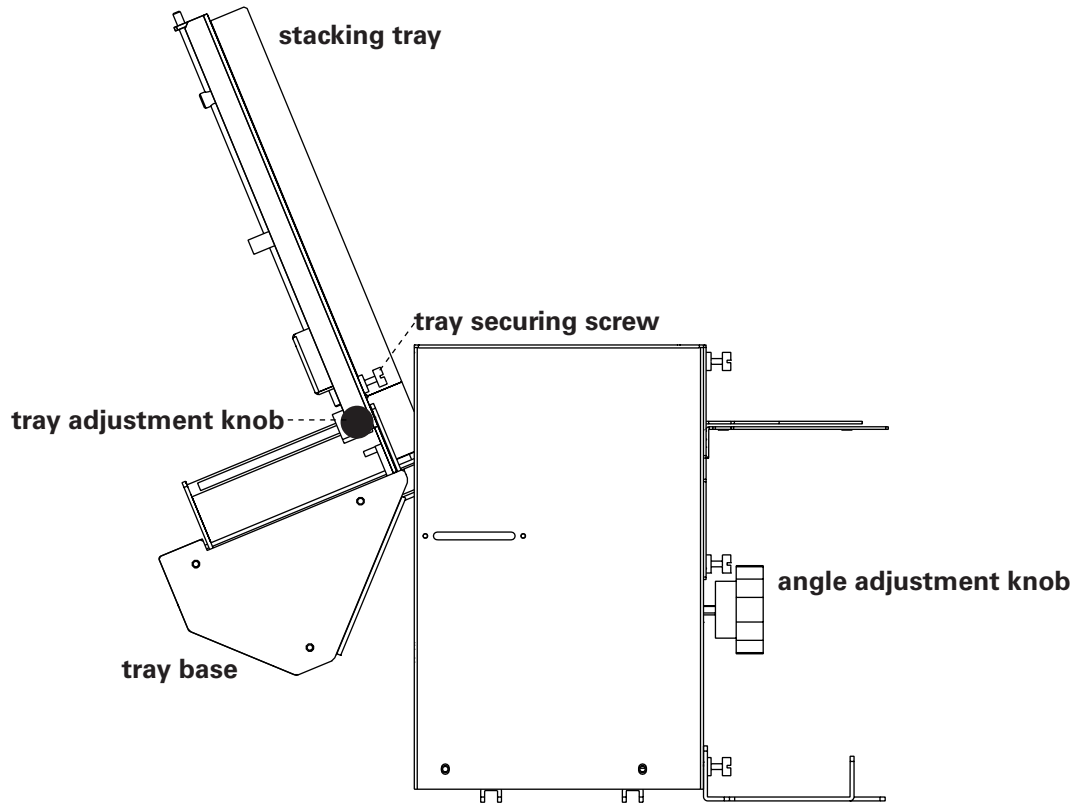## Setting up the stacker (CS-40 and CTS-45 only)

Using the stacker portion of the CS-40/CTS-45 Cutter-Stacker requires that you attach the stacking tray to the stacker base and correctly position the stacker for the size tags to be cut.

1   Turn the tray-angle adjustment knob counterclockwise to fully raise the tray base. This will simplify attaching the stacking tray to the base.

raise tray base to horizontal position

angle adjustment knob

2   Slide the stacking tray onto the two tray adjustment collars on the stacking-tray mounting posts. Secure the tray by pressing in and tightening the two thumb screws on the front of the tray.

tray securing screw

tray mounting post

tray adjustment collar

stacking tray

tray securing screw

tray adjustment knob

angle adjustment knob

tray base

3 Turn the angle adjustment knob clockwise to lower the stacking tray.

4 Using the two tray adjustment knobs, adjust the position of the stacking tray for the cut tag length.

The stacking tray should be positioned so that cut, stacked tags are stopped at least 5 mm ($\frac{1}{8}$ inch) above the cutter-stacker's belt drive roller. The objective is to allow each tag to pass under the previous tag to build a neat stack from the bottom up.

After adjusting the position of the stacking tray, observe the formation of the stack as tags are printed and cut. Adjust the angle of the tray for best performance.
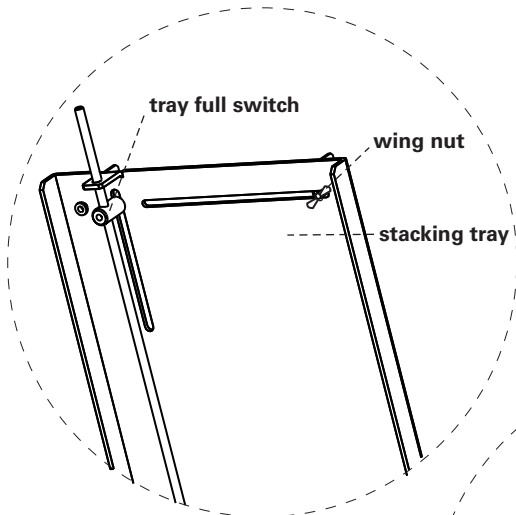
5 Position the adjustable tray guide to help ensure that accumulating tags form a neatly stacked column.

Only one of the tray guides is adjustable. It attaches to the tray with a removable wing nut located behind the width-adjustment slot.

The adjustable guide needs to be positioned so that the guides are narrower at the top and wider at the bottom. This will cause the accumulating cut tags to form a neat stack. How narrow the tray guides should be at the top and how wide they should be at the base of the tray is relative to the width of the tags being cut.
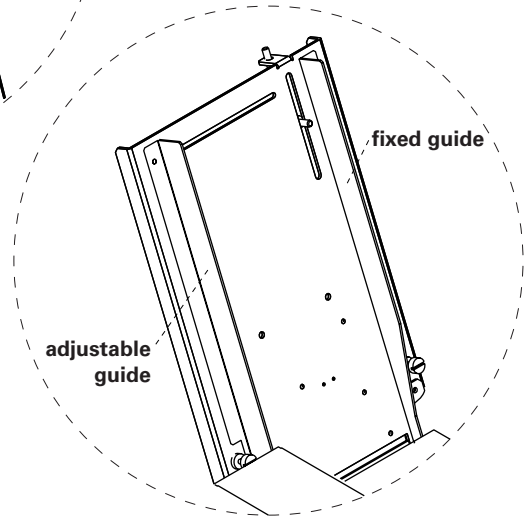
The distance between the tops of the tray guides should be only slightly wider than the width of the tags.

The distance between the bottoms of the tray guides should be wider than the tags and slightly wider than the distance between the tops of the guides.

tray full switch

wing nut

stacking tray

Adjust tray guide with the wing nut located behind the width-adjustment slot

Rear of Stacking Tray
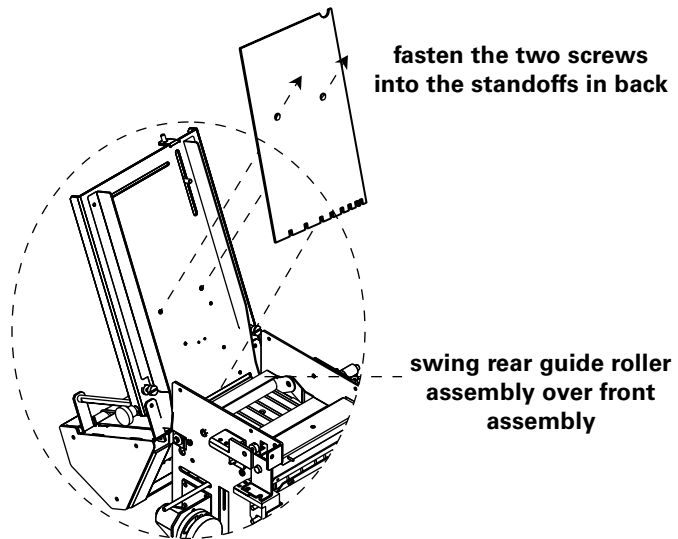
fixed guide

adjustable guide

Front of Stacking Tray

Cutting short tags

If you will be cutting and stacking tags that are 1 inch long or less, the tags will not stop above the cutter-stacker's belt drive roller and the tags will not form a neat stack. To allow the short tags to stack properly, you should install the Short-Tag Adaptor Plate that was included with your cutter. This plate will correctly position the tags for stacking.

1 Slip the Adaptor Plate onto the front of the stacking tray, making sure the bottom of the plate rests over the edge of the white plastic comb-like guide at the bottom of the stacking tray.
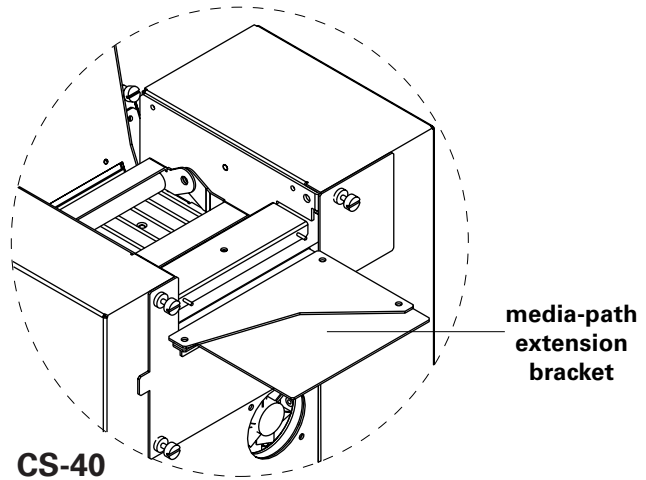

fasten the two screws into the standoffs in back

swing rear guide roller assembly over front assembly

2 Align the two standoffs on the plate with the corresponding holes in the stacking tray. Use a Phillips screwdriver and two screws to fasten the Adaptor Plate to the stacking tray from the back.

3 Lift the guide roller assembly nearest the stacking tray and swing it over the front guide roller assembly.
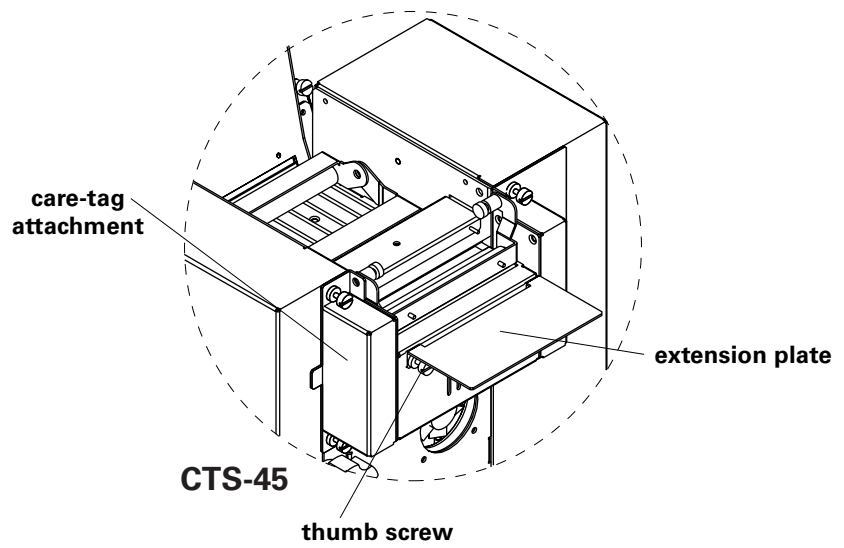
Assembing the CU-30, CS-40, or CTS-45

The set-up procedure given below applies to the CS-40/CTS-45 Cutter-Stacker and the CU-30 Cutter. The illustrations for this procedure show a cutter-stacker.
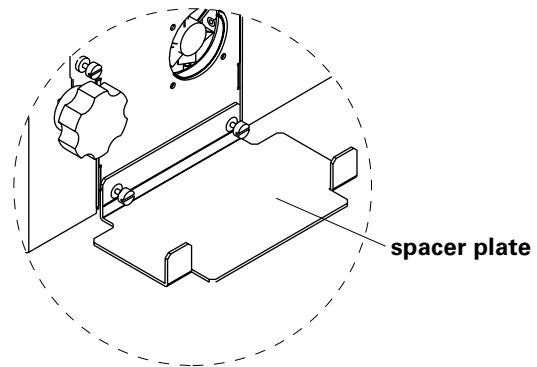
1 With four thumb screws, install the media-path extension bracket on your CU-30 Cutter or CS-40 Cutter-Stacker.

media-path extension bracket

CS-40

The CTS-45 has a care-tag attachment instead of the extension bracket. With two thumb screws (located beneath the plate), install the media-path extension plate onto the CTS-45's care-tag attachment.
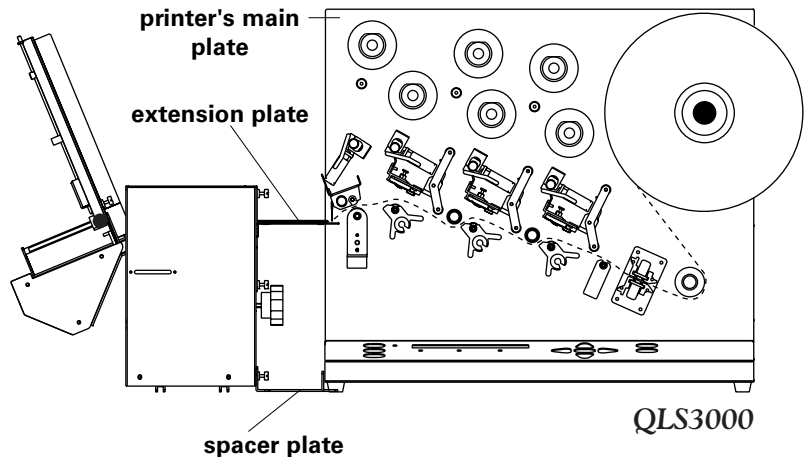
care-tag attachment

extension plate

CTS-45

thumb screw

2 With two thumb screws, install the spacer plate at the base of the CU-30 Cutter or CS-40/CTS-45 Cutter-Stacker.

spacer plate

Setting up the cutter unit with the printer

After the cutter or cutter-stacker has been properly assembled, it must be properly positioned and connected to the printer, and the media must be properly threaded through the printer and into the cutter. The printer's software should be set to enable the cutter.

1 Ensure that the printer has been set up as described in the *QLS-Series Operation and Setup Guide*.

2 Ensure that the cutter and printer are placed on the same sturdy, level surface.

3 Place the cutter at the front of the printer, with the spacer plate against the front of the printer.

4 Align the media-path extension bracket (or the care-tag extension plate on the CTS-45) with the tag path as they emerge from the printer. Gently push the unit back until the spacer plate is against the printer and the extension plate is fully against the printer's main plate.

printer's main plate

extension plate

spacer plate

QLS3000

5 Using the 9-pin serial cable provided, connect the cutter's serial D-shell interface to the printer's UTILITY port.

6 Apply power to the printer.

7 Ensure that the cutter is enabled in the printer's software:

   a) On the printer's keypad, press the MENU pushbutton.

   b) Select the Mode submenu.

   c) Use the arrow keys to choose Enabled, then press SELECT again.

8 Press the Form Feed/Advance pushbutton on the printer's keypad.

9 Feed the tag media between the plates of the media extension bracket on the CU-30 or CS-40.

   When feeding media from the printer into the CU-30 or CS-40, the media should be advanced no more than an inch or two between the extension bracket plates. The actions of the printer automatically feed the tag media into the cutter-stacker.

   Feed the tag media over the extension plate and travel roller and beneath the static brush on the CTS-45.

   Ensure that no tag media is under the cutter blade when power is applied to the cutter-stacker.
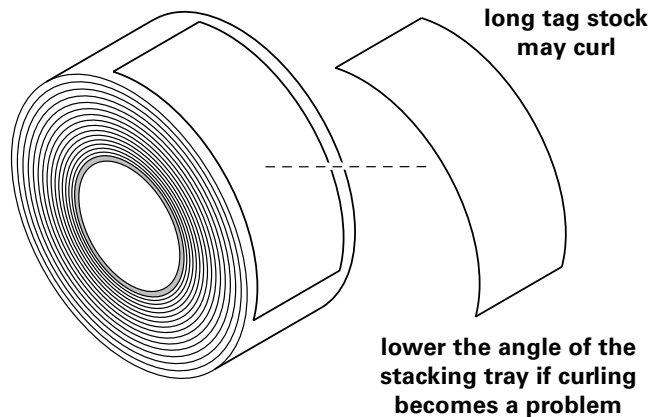
10 Apply power to the cutter-stacker.

Cutter-stacker adjustments and tag stock

Tag stock can vary significantly in size, length, and weight. Consequently, certain types of stock may require adjustments in order to stack properly:

- As tags are printed and the tag stock is drawn more from the center of the media supply roll, the tag stock may have a tendency to curl.

    The longer the tag stock, the greater the tendency to curl as the stock is drawn from the supply roll. If the tag stock becomes curled, stacking problems can result.

    If necessary, slightly lower the angle of the stacking tray to compensate for the curl of the stock. Turn the tray-angle adjustment knob clockwise to lower the tray.

long tag stock may curl

lower the angle of the stacking tray if curling becomes a problem

- If heavy tag stock is used and tags accumulate in the stacking tray, the weight of the stacked tags may cause problems.

  The weight may cause tags to press against the stacker's drive belts resulting in marred tags. The weight may also cause the drive belts to slip or stop.
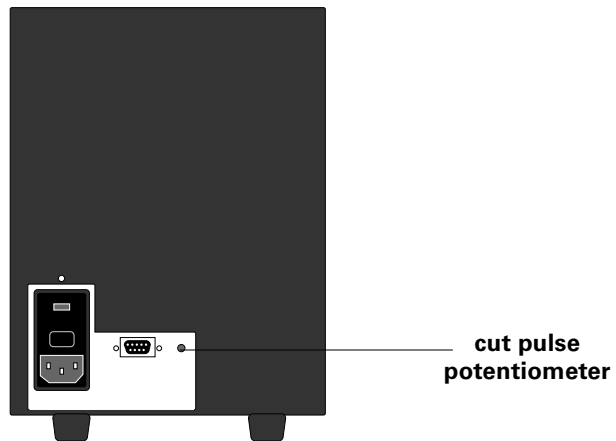
  If necessary, lower the angle of the stacking tray to compensate for the weight of the stock. Turn the tray-angle adjustment knob clockwise to lower the tray.

- When printing tags that are wider than $4^5/_8$ inches (117.5 mm), remove the adjustable tray guide.

- Five-inch (127-mm) wide tags must have a minimum length of $2^1/_2$ inches (63.5 mm).

Adjusting the cut-pulse potentiometer

The timing of the cut pulse is adjusted at the factory and should not need any immediate attention. If cut-pulse timing should come out of adjustment, cutter-blade action may become erratic. Use the procedure below if the timing of the cutter blade should come out of adjustment.

1 Locate the cut-pulse trim potentiometer access beside the cutter's serial D-shell connector.

2 With the cutter running, insert a thin, flat-head screwdriver into the trim potentiometer access.

**cut pulse
potentiometer**

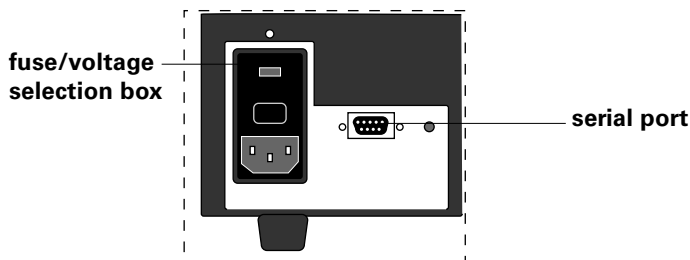**3** If the cutter is missing cuts, turn the potentiometer counterclockwise until it begins double-cutting. Then turn clockwise until it is single-cutting, then turn clockwise again one full revolution.

4 If the cutter is making extra cuts, turn the potentiometer clockwise until it is single-cutting. Then turn clockwise again one full revolution.
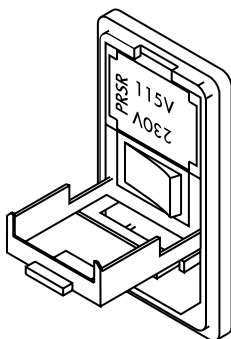
When the cutter blade has been brought into full adjustment, cutting action will be regular and consistent.
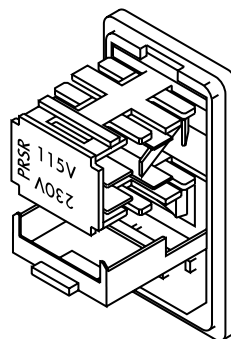
Changing fuses/voltage selection

1   Turn off and unplug the cutter or cutter-stacker.

2   Locate the fuse/voltage selection box beside the cutter's serial communications connection.

fuse/voltage selection box

serial port

3   Insert a small Flat-head screwdriver along the top edge of the fuse/voltage selection box to pop off the box's cover. Pull out the fuse block.
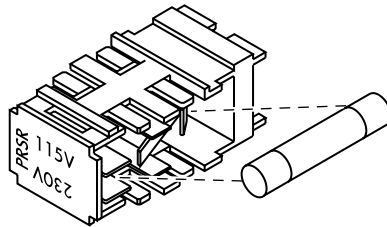
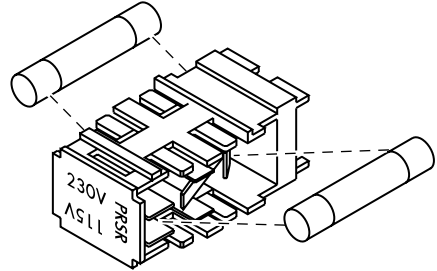**open the fuse/voltage selection box**

pull out the fuse block

4 Replace the fuse(s). At 115V, one fuse is required, inserted in the right side of the fuse block. At 230V, two fuses are required, inserted on both sides of the fuse block. Refer to the screening on the unit for the proper fuse rating.

North American (115VAC)   **European (230VAC)**

insert one fuse for
American configuration

insert two fuses for
European configuration

WARNING

For continued protection against the risk of fire, replace fuses only with fuses of the same type and rating.

5 Slide the fuse block back into the fuse/voltage selection box.

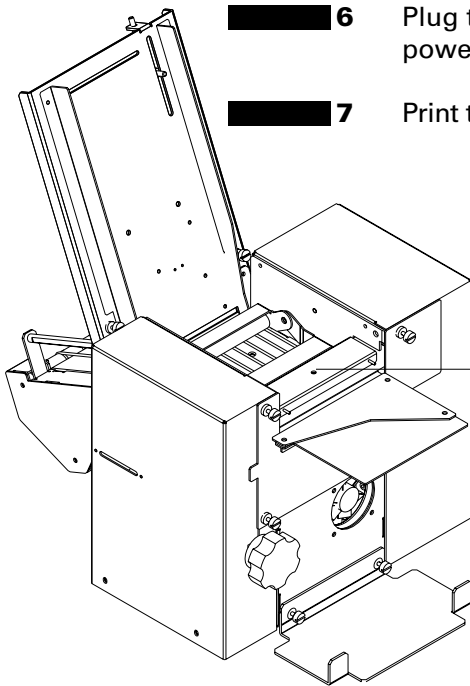**6** Close the cover to the fuse/voltage selection box.

Clearing a cutter-blade jam

Follow the procedure below to clear a paper jam from the cutter mechanism.

1 Turn off power to the cutter or cutter-stacker.

2 Unplug the cutter or cutter-stacker.

3 Locate and remove the single Phillips screw that secures the cutter-blade cover.

See the illustration below.

4 Carefully remove all or as much as possible of the jammed tag media.

5 Reattach the cutter-blade cover with its Phillips screw.

6 Plug the cutter or cutter-stacker in and reapply power to the unit.

7 Print tags to determine if the jam has been cleared.

**remove Phillips screw
to remove cutter-blade cover
and clear a cutter-blade jam**

Replacing the cutter blade

The functional life of the cutter blade used in the CU-30 Cutter and CS-40/CTS-45 Cutter-Stacker is specified at one million cuts. To ensure proper operation of the cutter unit, cutter blades that have become dull must be periodically replaced. The frequency with which the cutter blade must be replaced is determined by how much the cutter unit is used and by the application in which the unit is used.

NOTE

The CU-30 Cutter and CS-40/CTS-45 Cutter-Stacker were not designed to cut labels with adhesive backing. The adhesive will build up in the cut blade and quickly dull the edge.
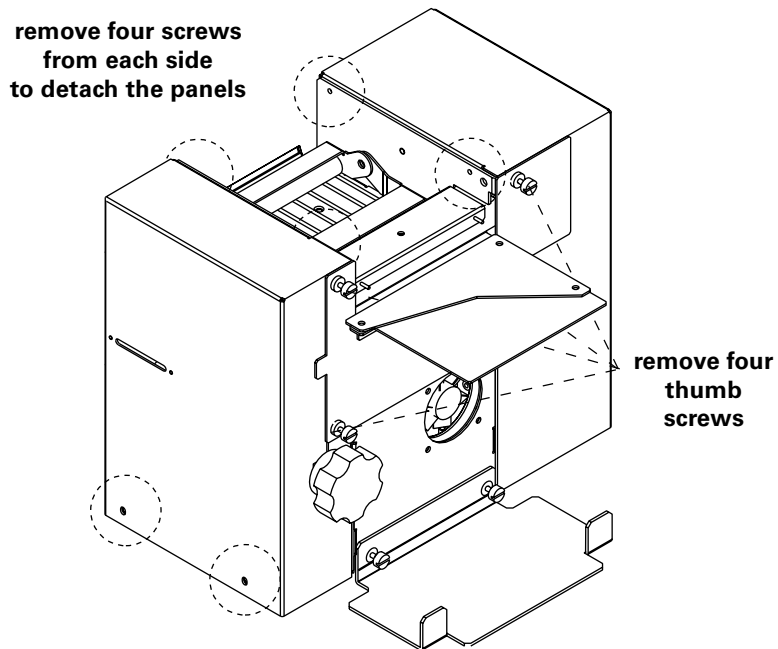
WARNING

Always shut off and unplug the cutter unit before performing any step of the cutter-blade assembly replacement procedure. Never disassemble the cutter unit or expose the cutter blade without ensuring that the unit has been shut off and unplugged.

Removing the side panels and front attachment

1 Shut off and unplug the cutter or cutter-stacker.

2 Locate and remove the four Phillips screws that secure each exterior side panel of the unit.

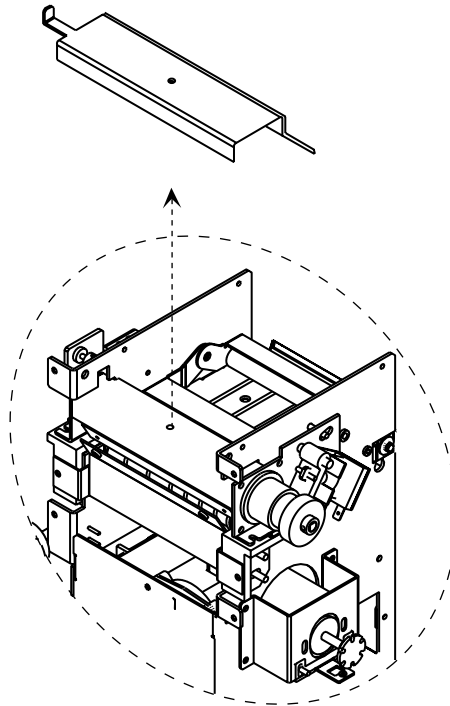Two screws attach to the outside bottom; two attach to the inside top.

**remove four screws
from each side
to detach the panels**

**remove four
thumb
screws**

3 Remove the extension bracket from the front of the CU-30 or CS-40 or the care-tag attachment from the CTS-45 by turning the four thumb screws that hold the parts in place.
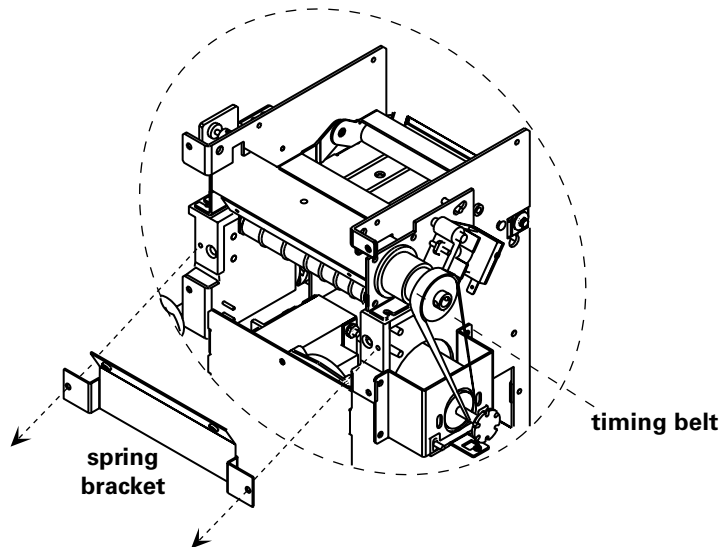
The care-tag attachment also has an internal wire connection. Gently lower the attachment, taking care not to pull on the wire or disengage it from the cutter.

Replacing the cutter-blade assembly

1   Orient the cutter unit so that its power-connect side faces you.

2   Remove the single Phillips screw that secures the cutter blade cover. Remove the cutter-blade cover and set it aside.

3 Remove and set aside the spring bracket held by two Phillips screws on the front of the cutter.
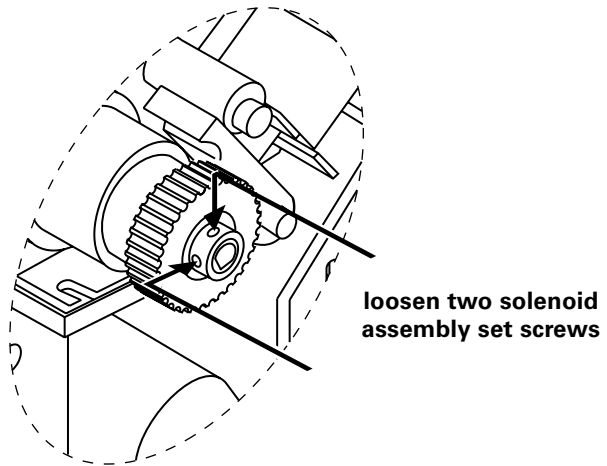

4 Locate the timing belt that runs between the solenoid assembly and main motor.

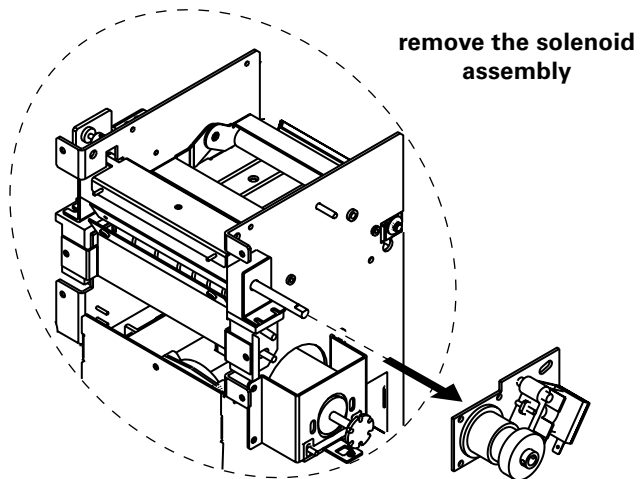**5** Slip the timing belt off of the solenoid hub and main motor hub.

It is only necessary to remove the belt from the two hubs. It is not necessary to completely detach and remove the timing belt from the cutter unit.
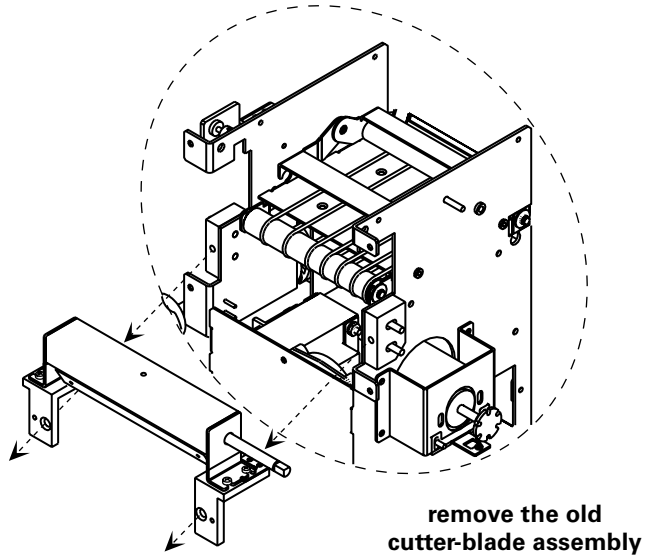
6 With an Allens wrench, loosen the two set screws that secure the solenoid assembly to the cutter-blade shaft.

loosen two solenoid assembly set screws

7 Slide the solenoid assembly off of the cutter-blade shaft. You can leave the electrical connections to the solenoid attached.

remove the solenoid assembly

8 Remove the two Flat-head screws that secure the cutter-blade assembly to the cutter.

remove the old cutter-blade assembly

9 Remove the four Phillips screws that secure the cutter blade to the support blocks.

remove the cutter-blade attachment screws

cutter blade

support blocks

10 Attach the new cutter blade to the support blocks using the four Phillips screws removed in step 9.
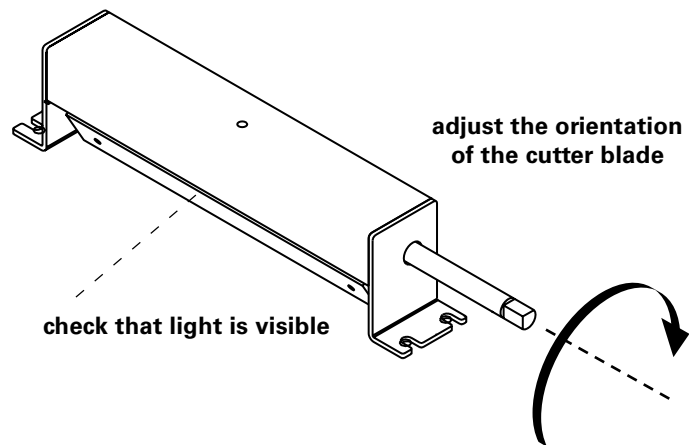
Ensure that the cutter blade is against the two locating brackets on the support blocks.

11 Position the replacement cutter-blade assembly for installation and reattach the assembly to the cutter using the two Flat-head screws that were removed in step 8.

Ensure that the cutter-blade assembly is straight and that the assembly's cutting action is linear.

12 Adjust the position of the cutter blade by rotating the cutter-blade shaft until the blade is lifted so that you can clearly view daylight beneath the blade.

adjust the orientation of the cutter blade

check that light is visible

This adjustment is necessary to ensure that the cutting edge of the blade will have maximum momentum when cutting begins. The more momentum the cutting blade has, the greater its ability to sever the tag stock when making its initial cuts.

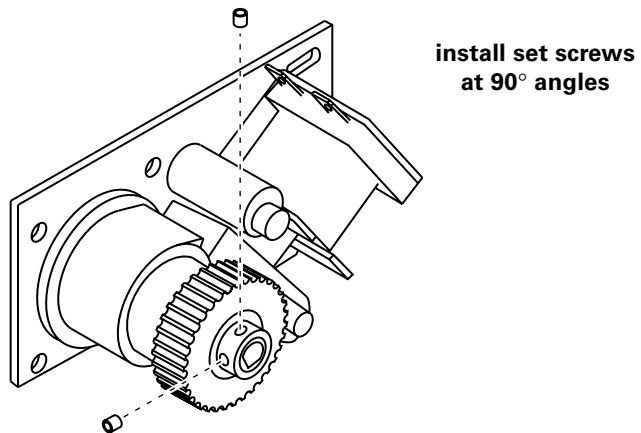**13** Reposition the solenoid assembly on the cutter blade shaft, leaving a small gap (approximately $\frac{1}{16}$ inch) between the cutter housing the the solenoid assembly.

14 Rotate the clutch assembly gear until the clutch's rotational stop rests against the solenoid stop.

rotational stop

15 Secure the solenoid assembly on the cutter blade shaft by using an Allens wrench to tighten the two set screws against the flats on the shaft.

install set screws at 90° angles

Check again to see that daylight is clearly visible beneath the blade. If light is blocked, loosen the set screws and rotate the blade until light is visible, then tighten the screws. If necessary, you can use another hole in the solenoid to place a screw against a flat.

16 Reinstall the solenoid timing belt by repositioning the belt around the solenoid assembly hub and the main motor hub.

17 Reinstall the spring bracket removed in step 3, being careful not to pinch the small sensor/switch down. The bracket is held by two Phillips screws on the front of the cutter.

18 Reattach the cutter blade cover with the single Phillips screw that secures it.

19 Replace the extension bracket on the front of the CU-30 or CS-40 or the care-tag attachment on the CTS-45 with the four thumb screws that hold the parts in place.

Ensure that the sensor clip at the bottom left edge is inside the attachment.

20 Replace the unit's exterior side panels using the four Phillips screws removed in step 2. Two screws attach to the outside bottom; two attach to the inside top.

This concludes the cutter-blade replacement procedure.

Appendix A: Guidelines for best performance

The cutter-stacker handles a wide variety of sizes and weights of media as well as a large range of print speeds. However, not every combination of length, width, and speed can provide optimum cutting and stacking reliability. The following guidelines are intended to help select the best combination of sizes and speeds.

- The most reliable sizes for the fastest speeds are 2" x 4" to 4" x 5" tags. The first number refers to the length and the second to the width. In general, the ratio of length to width should be about 1 t o 1.5 or 2.

  If possible, tags should never be undersquare (longer than wide). To keep the width lar ger, tags can usually be rotat ed when printed. Tags with dimensions lar ger than 5" (such as 4" x 6" or 5" x 6") cannot be r otat ed.

- A worst-case scenario is achieved when a tag appr oaches both limits of the specifications at the same time. Tags that have dimensions near the minimum length and the maximum width ma y be particularly difficult.

- The print speeds of tags shor ter than 2" should be reduced slightly even when the aspect ratios of the tags are good. Because tag mat erial thickness and stiffness contribute to stacking behavior, finding the exact maxi-mum print speed may require some experimentation.

- To summarize, print speed should be lowered if:
    - tags are shorter than 2".
    - tags are undersquare (longer than wide).
    - tags are more than twice as wide as they are long.

Appendix B: Specifications

Cutter-Stacker Tag Dimensions:

minimim
length: $^3/_4$ inches
width: $1^5/_8$ inches

maximum
length: 5 inches
width: $4^1/_2$ inches

Cutter Only Tag Dimensions:

minimim
length: $^3/_8$ inch
width: 1 inch

maximum
length: 22 inches
width: $4^5/_8$ inches

**operating
temperature range**
0 to 40°C

tag thickness
maximum: 10 point
minimum: 5 point

tray capacity
2000 seven-point tickets

power requirements

	American	_European_
	115V	230V
	one fuse:	two fuses:
	see unit for rating	see unit for rating