

ES-TE

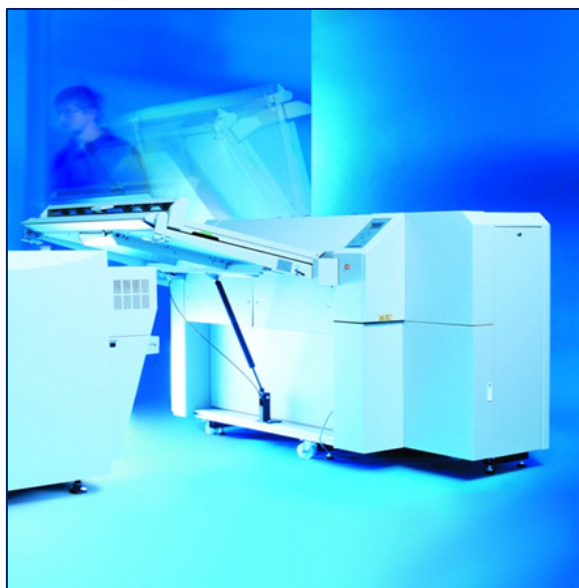
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Automatic folder estefold 4211



Purpose:

Folding of Documents

Operating Instructions:

Safety
Installation
Operation
Trouble shooting

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Safety instructions



For your protection, please read these safety instructions completely before operating the folder and keep this manual for future reference close to the folder.

Carefully observe all warnings, precautions and instructions on the folder or the ones described in the operating instructions.

In order to guarantee hazard-free operations ES-TE Folding Systems (hereafter called ES-TE) strongly recommends that any maintenance or repair work is only carried out by trained personnel.

Hazard Intensity Levels

DANGER: Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.



WARNING: Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.



CAUTION: Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury.



Maintenance and Modifications




To avoid the risk of introducing hazards, all modifications and maintenance activities to ES-TE equipment are strictly reserved to properly qualified and trained service technicians.
In daily use, any electrical equipment may be subject to parts wear and eventual failure. In order to maintain safety and reliability, the Customer Engineer (hereafter called CE) must perform regular maintenance inspections.



General

- Make sure that the folder is placed on a level, horizontal surface of sufficient strength. See the respective estefold specifications sheet for the weight of the equipment.
- Always use materials recommended by ES-TE for the respective folder. Materials not approved by ES-TE can cause faults in your folder.
- Do not use the folder when it is emitting unusual sounds. Remove the plug from the power socket or turn off the fixed connection to the electricity grid and contact Customer Service.
- Do not use the folder in rooms which are subject to excessive vibration.
- Move the folder careful and slow using two persons.
- Set the adjustable feet on the ground when the folder is in the desired position



<u>Main connection cable</u>	
Do not use different mains connector cable, as delivered by ES-TE. When replacement of the power supply cable is required because of damage or defect, contact your CE for proper replacement of this power supply cable.	
<u>Mains connection</u>	
<ul style="list-style-type: none"> • Do not use an extension lead to connect the machine. • This machine is not designed for connection to an IT power supply system. An IT power system is a voltage network in which the neutral wire is not connected to earth. • When the machine is connected through a wall-socket, place the machine near a wall-socket that is easily accessible. • When the machine is connected through a fixed connection to the electricity grid, the disconnect device in the fixed connection must be easily accessible. • The machine must be connected to an earthed mains socket-outlet. 	
<u>Measures to take in case of an accident</u>	
<ol style="list-style-type: none"> 1. If an accident has occurred, the distributor who has been notified first must immediately take emergency measures to provide relief to affected persons and to prevent further damage. 2. If a report of a serious accident has been received from a customer, an on-site evaluation must be carried out quickly and ES-TE must be notified. 3. To determine the cause of the accident, conditions and materials must be recorded through direct on-site checks, in accordance with instructions issued by ES-TE. 4. For reports and measures concerning serious accidents, follow the regulations specified by every distributor. 	
<u>Disclaimer</u>	
<p>These safeguards have been compiled to the best of our knowledge. They are intended as a compact guide to the safe handling of the product. We reserve the right to revise specification data sheets, as new information becomes available. It is the user's responsibility to determine the suitability of this information for the adoption of safety precautions as may be necessary. It is the user's responsibility to contact ES-TE to make sure that the specification data sheets are the latest ones issued. If and in so far as limitation of liability is permitted under the applicable laws, we do not accept liability for any inaccuracy that may occur in this information.</p>	

General

Estefold 4211 is a fully automated folder that works inline with several color and monochrome printers. Every plot is taken from the printer automatically and folded into a package according to DIN or US standards.

Its six-button keyboard operates the folder. The user can select from 8 folding programs. A LCD display will show all relevant parameters of the selected folding program making the use of the folder as easy as possible for the operator.

The fan- and cross folded documents will be deployed on a conveyor at the folder's rear. A switcher between folder and printer will separate the documents that are not supposed to be folded.

The documents will be transported on the folder's bridge at a synchronized speed of 2,5m - 18m per minute and will be folded following the instructions of the selected folding program.

Documents can even be fed manually into **estefold 4211**. In order to guarantee a reliable and precise manual feed the folders bridge has an alignment device that can take almost every position on the bridges top.

A suspender will help to tilt the bridge to an almost upright position if necessary giving easy access to the printer's rear.

Setting up the Folder

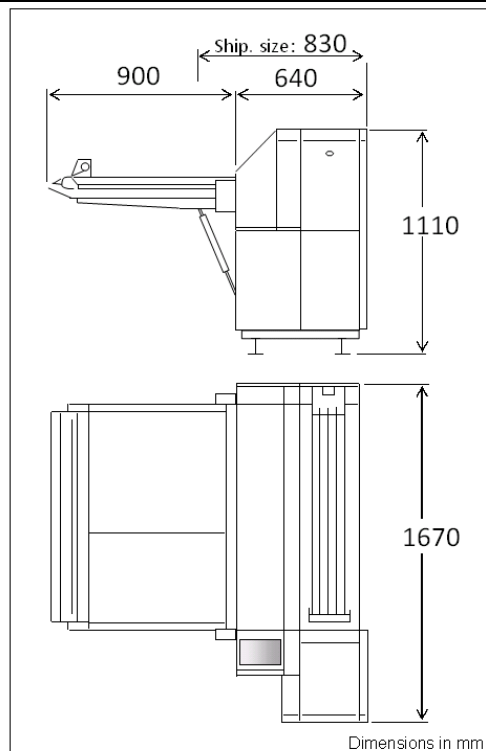
Environment

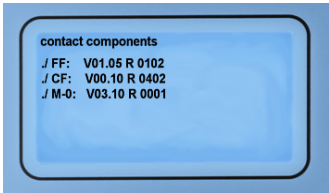

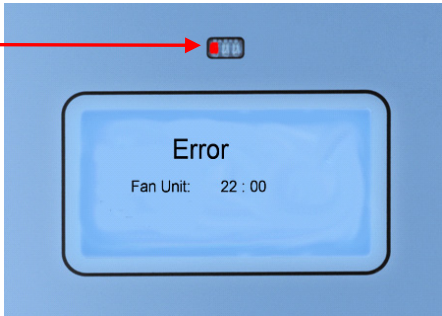


The room in which the folder is to be placed should be dry and dust free. Humidity should be about 20-80% with room temperature of 15° C to 35° C (59° - 95°F).

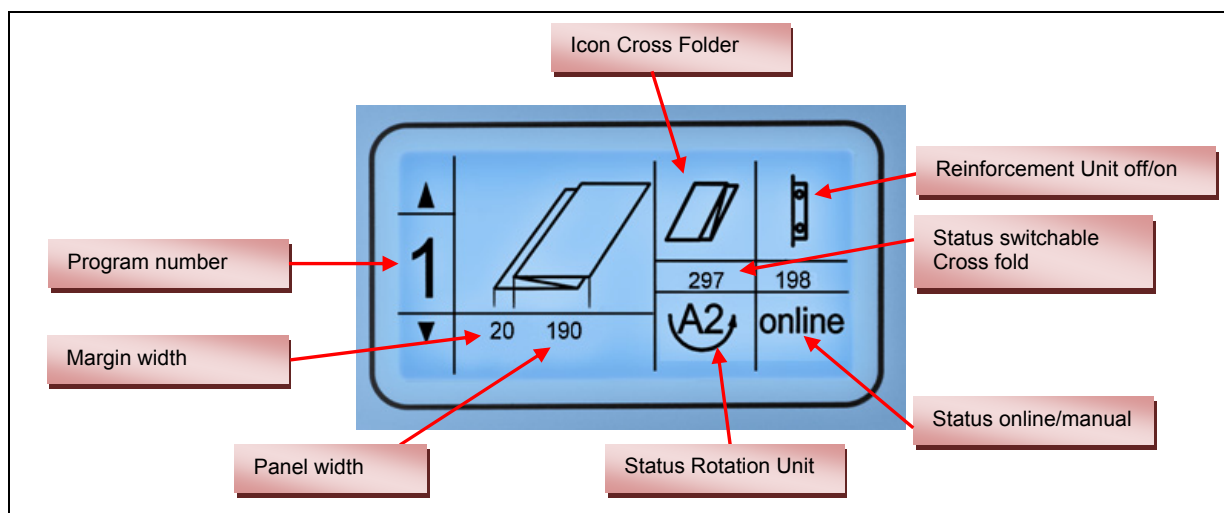
The folder must stand horizontally aligned and very stable without shaking.

Make sure that the folder to place the folder in a way that does not block exits and allows an ergonomic workflow.

Dimensions



<u>Power Supply</u>	
<p>The power supply box is at the right bottom side of the folder. Please use only the connecting cable delivered with the folder. The folder is pre-adjusted to 230 Volts/50 cycles. Make sure that the mains supply voltage is identical with your supply.</p> <div data-bbox="550 315 1034 376" style="border: 1px solid black; background-color: #f0d0d0; padding: 5px; text-align: center;">Do not use a multi-outlet power strip!</div> <p>These cords will not stand the power consumption of plotter and folder.</p>	
<u>Switching on the folder</u>	
<p>The main switch is at the folder's front side.</p>	
	<p>The display shows a short message as indicated. Briefly the Firmware versions are shown in the display.</p>
	<p>After that the display shows "este Foldsystem" including folder software version and release. When the folder has completely started a double beep signal will sound. At the same instance, you will notice the green LED on top of the display illuminate. You will see the folding program last used displayed.</p>
 <p>Error Code is: Fan: 22:00</p>	<p>In case an error is detected during the self test phase, a message will be shown in the display after "este Foldsystem" has disappeared. The message contains error and localization code. Furthermore, a red LED on top of the display will be blinking.</p> <p>Refer to the Error Code List at the end of this manual.</p> <p>You will have to clear the error and then press button  in order to restart the folder.</p>
 <p>There are three LEDs on top of the folder's display:</p> <ul style="list-style-type: none"> • The green LED indicates the folder being ready for safe and normal operation. • The red LED is blinking in case of any error. • The yellow LED indicates that the folder is busy folding. 	



There are 8 folding programs available.
 Through the keys \uparrow and \downarrow you select the desired folding program.
 The selected program number will appear on the left hand side of the display.
 The centre of the display shows an image of the selected fold style.

In Order to change the status of the cross folder or the rotation unit press \leftarrow
 - the cursor will start to blink.
 Buttons \rightarrow and \leftarrow move the cursor from icon to icon.
 Selected icons blink frequently.
 Pressing buttons \uparrow and \downarrow edit the blinking settings.

Suitable Formats

Longitudinal folding:

All documents with length from 420 mm up to 6.000 mm (80 gr. Paper) and width up to max. 930 mm. Longer copies will stop with the error message: "too many folds"

Cross folding:

Maximum paper length of 2500 mm.
 Longer copies will not be transported into the cross folder but to the opposite direction.

Suitable Media

The paperweight should not be less than 60 g/m² and not more than 110 g/m².

Best performance with: 75 gr/m² - 90 gr/m²


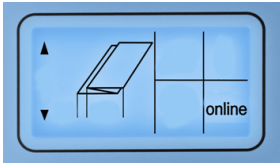
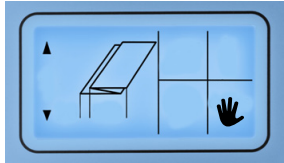
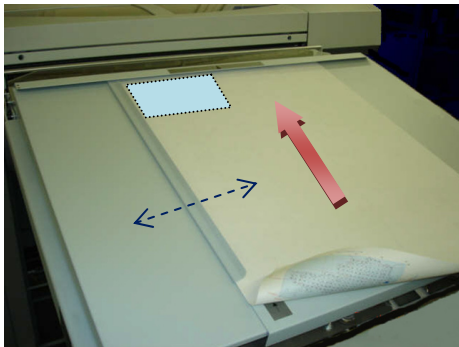


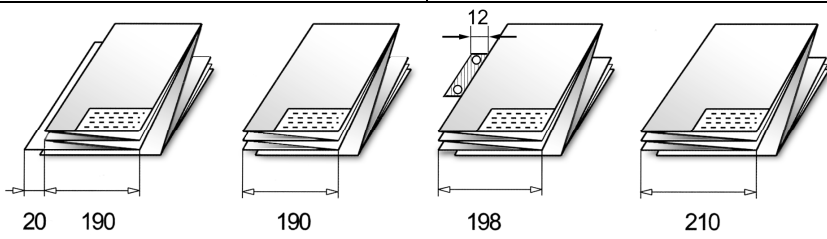
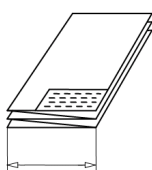

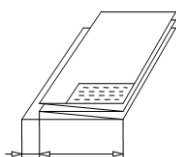
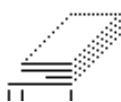
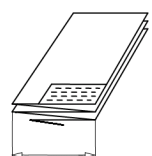

For application of media types, please contact your media supplier.



Film or materials with glossy shiny surfaces are not suitable.

Aligning documents

In any case the title block (legend) has to be on the leading edge of the document entering the folder (on the right hand side of the leading edge) except if you are using an A 2 rotating unit. The title block position has to be set in the plot software you are using.

<u>Manual feeding</u>		You may also insert documents into the folder manually.	
Switch icon to manual mode by pressing button  twice. Depending on the connected printer, it could be necessary to deactivate the online connection from the printers display first.			
			
		<p>Insert the sheet <u>face down</u> (title block must be in front), aligning concentrically.</p> <p>The insertion rail on the table can be slid into an optimized position for the document you are feeding.</p> <p>Please try to feed the paper in as straight as possible.</p>	
<u>Folding programs</u>		Select the program you need by pressing Button  or 	
			
<u>Folding styles</u>			
If the uncalculated folding has been activated in the machine, program 5 will perform an uncalculated package folding. A filing margin is not available in this style.			
Required Style	Icon at the display	Description	
		Calculated Package folding	
		Calculated Package folding With binding margin	
		Uncalculated Package folding (usually program 5)	

Customize folding programs

All folding programs can be edited in increments of 1 mm within the following range:

- Filing margin: 0 – 30 mm
- panel width: 180 – 210 mm

In Order to change values press \leftarrow the cursor will start to blink.

Buttons \rightarrow and \leftarrow move the cursor from icon to icon.

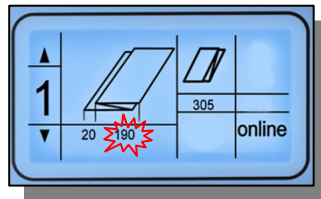
Selected icons blink frequently.

Pressing buttons \uparrow and \downarrow edit the blinking settings.

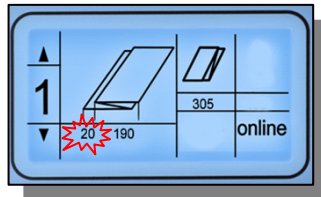
Example:

Program 1 should process packages 185 mm wide with a filing margin of 25 mm.

- Select folding program 1 with button \uparrow or \downarrow .
- Press button \leftarrow
- Press button \rightarrow until the number below the fold package icon blinks.



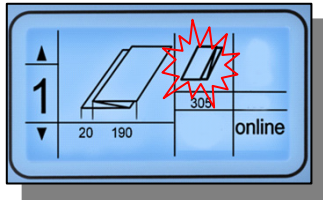
- Press buttons \uparrow or \downarrow in order to set the package width to 185 mm.
- Move the cursor forward to the figure representing the margin width




- With buttons \uparrow or \downarrow select 25 mm.
- Press button \leftarrow within three seconds in order to store the new values

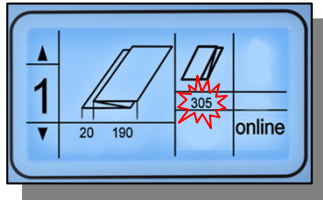
Please notice that the adjustable width of the package must be at least 180 mm up to a maximum of 230 mm. The range of adjustment of the margin is 0 – 30 mm. Therefore a package of 165/35 is not adjustable.

Switching Cross Folder ON and OFF



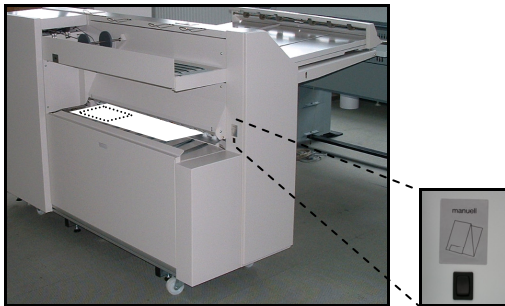
- Press button ↵
- Press Button ➡ until Icon  blinks.
- Button ⬆ switches cross folder on.
- Button ⬇ switches the cross folder off. The icon will be transparent then.
- Press button ↵

Switching Cross Fold between 297 and 305



- Press button ↵
- Press button ➡ until icon **297** blinks.
- Pressing button ⬆ switches to **305**
- Pressing button ⬇ switches to **297**
- Press button ↵

Manual cross fold



It is possible, beside the automatic process, to use the cross folder manually.

Put the folded package onto the roll carrier. Use the switch at the end of the roll carrier. The paper runs into the cross folder and will be ejected on the delivery tray.

Proceed accordingly for every other document that is to be cross folded.

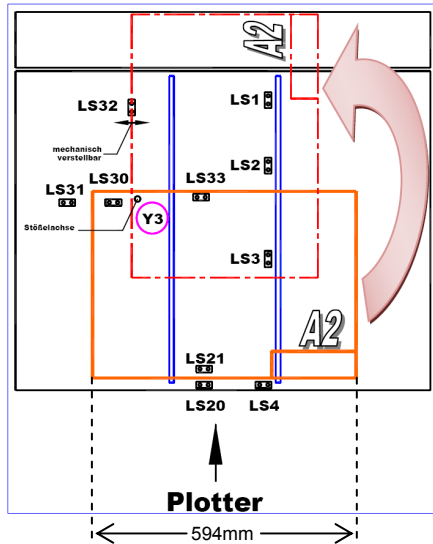
Rotation Unit for A2 (C-sized) Documents

A rotation unit may be necessary if you want to plot ISO A2 from a 594 mm or a 22"-24" wide media roll in landscape orientation and have this document processed by a folder automatically. This is because ES-TE folders require the document to be fed in portrait style with the title block being in the upper right corner while the document is printed in landscape orientation.

The rotating unit will rotate the document by 90° anti clockwise.

The title block has to be in the document's lower right corner before the unit rotates the document.

All documents being from 415 up to 445 mm long and being from 560 up to 620 wide will be considered rotate able by the unit. The unit may rotate even 22" and 24" wide documents.



Rotation Unit:

Position of the light barriers

Operating the Rotation Unit

The rotation unit is switched on and off on the folder's operating panel. Like for the cross folder and the reinforcement unit the operating status for the rotating unit will be shown in the display.

The rotating unit can only be switched on or off in general but not for single fold styles only.

Rotating Unit on:

Rotating Unit off:

- Press button

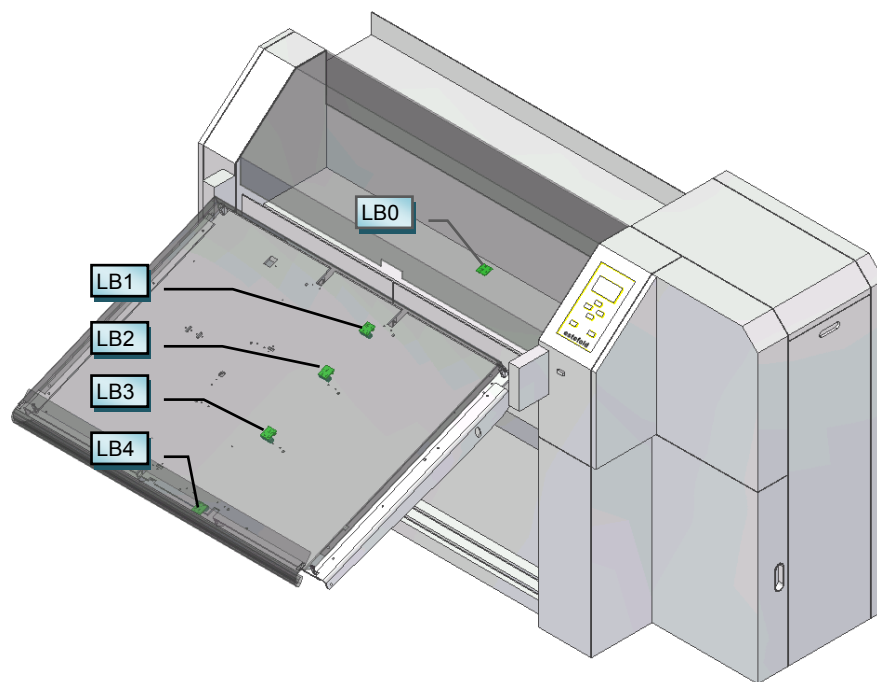
- Press Button until icon blinks.

- Button will switch the rotating unit on

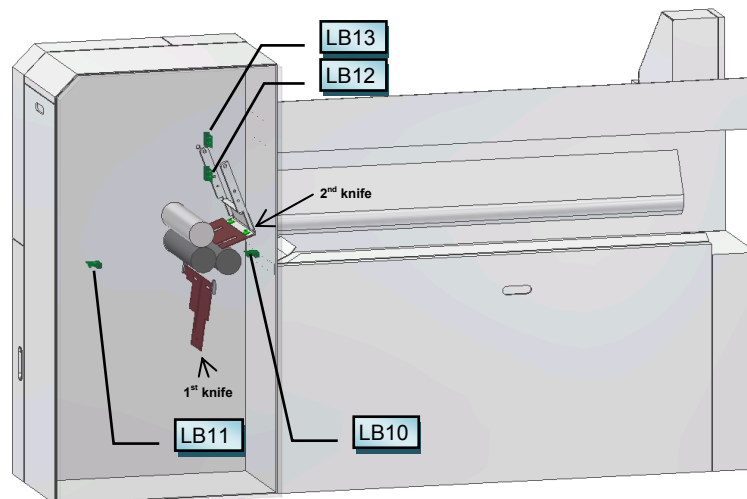
- Button will switch the rotating unit off. The icon for the rotating unit will be transparent.

- Press

Light Barrier Positions - Fan Folder





Light Barrier Positions - Cross Folder



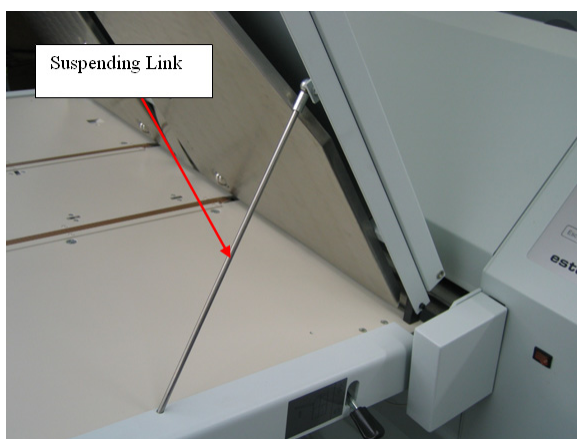
Resolving a Paper Jam on the Bridge



In case the LED on top of the display is red and the icon for the fan folder blinks it indicates an error either on the bridge or in the fan folder. After pressing button  once, the display shows an error code indicating type and location of the error. The most probable cause for a cut light barrier is that there is still a part of a document on the bridge.


In order to remove the document from the bridge: Switch on the folder and press  button for automatic release.

If the jam cannot be cleared by the automatic release - just lift the bridge cover by gripping it at the edge.




As soon as you have lifted the cover, you may lock it in the raised position by extending the sustaining link.

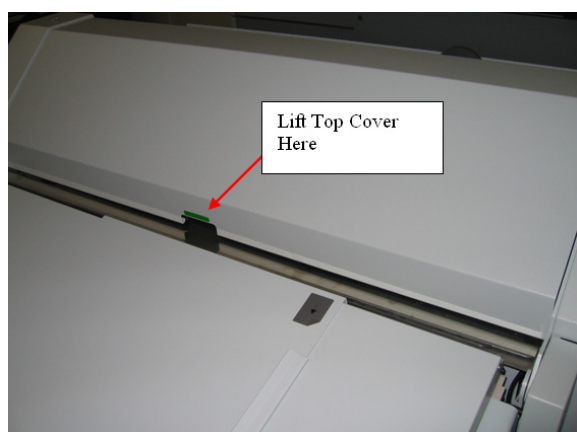
You can now inspect the bridges inside and remove any paper leftovers. As soon as the leftovers have been removed, the cover needs to be closed.


Press button  once in order to restart your job.

You may have to call for a service engineer in case paper was not the cause to the error.

Resolving a Paper Jam in the Fan Folder

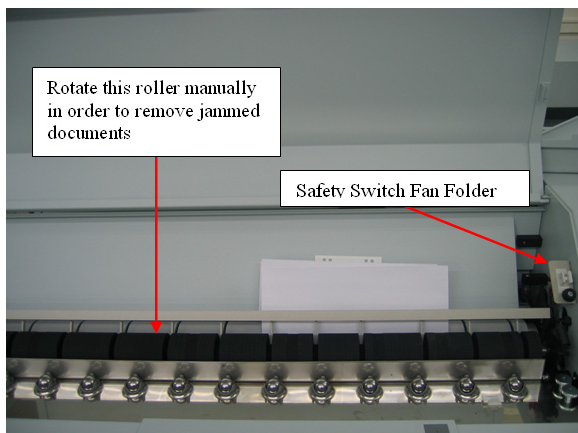
In case the LED on top of the display is red and the icon for the fan folder blinks it indicates an error either on the bridge or in the fan folder. After pressing button  once, the display shows an error code indicating type and location of the error. The most probable cause for a cut light barrier is that there is still a whole or a part of a document in the fan folder.




In order to remove the document from the fan folder:
Switch on the folder and press  button for automatic release.

In order to remove the document in the fan folder manually you have to lift the fan folders top cover.

The folder will be without power as soon as a safety switch on the top cover cuts power.




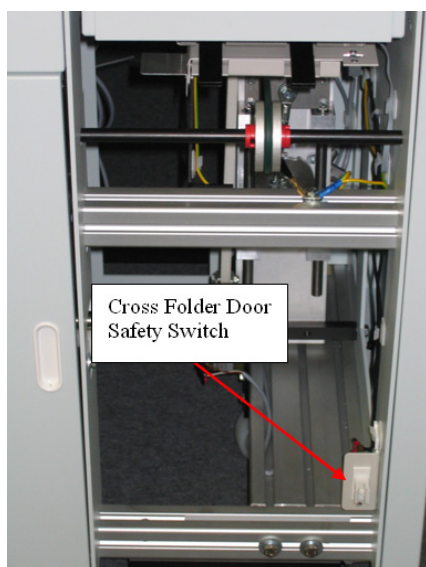
As soon as you lift the cover, you will see the fan folder's inside. Retrieve documents stuck between the fold rollers by simply turning the fold rollers manually. The paper pieces will appear either at the folder's top or its rear depending on the direction you are rotating the fold rollers.

Close the top cover as soon as the leftovers have been removed. Press button  once in order to restart your job.

You may have to call for a service engineer in case either paper was not the cause to the error or you were not able to retrieve all of the paper.

Resolving a Paper Jam in the Cross Folder

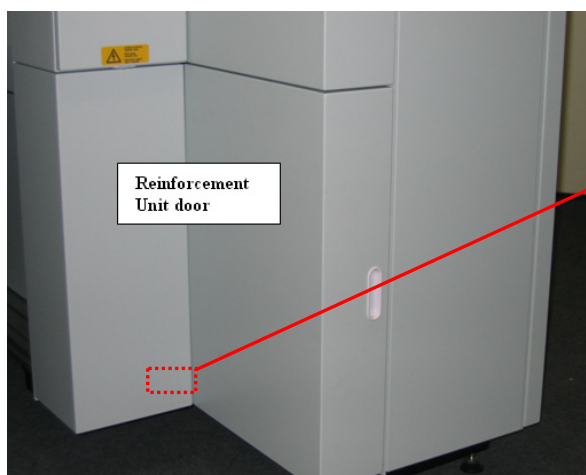
In case the LED on top of the display is red and the icon for the cross folder blinks it indicates an error in the cross folder. After pressing button  once, the display shows an error code indicating type and location of the error. The most probable cause for an error in the cross folder is a light barrier cut by a document or document pieces.



In order to remove the document in the cross folder you have to open the cross folder door.


As soon as you open the cross folder door, you will see the cross folder's inside. The folder will be without power as soon as the safety switch on the cross folder door cuts power.

Retrieve documents stuck between the fold rollers by simply turning the fold rollers manually.



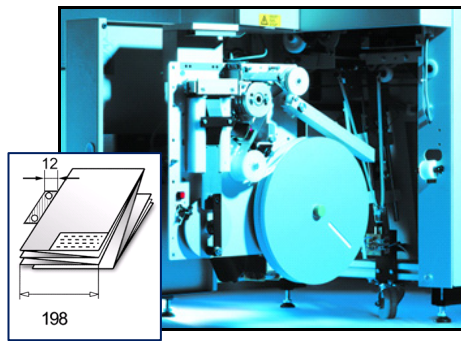
You may also access the cross-folder by opening the door of the Reinforcement Unit in case you do not get hold of the jammed document through the cross folder door.

There is another safety switch behind this door.

Close the doors as soon as you removed the leftovers. Press button  once in order to restart your job.

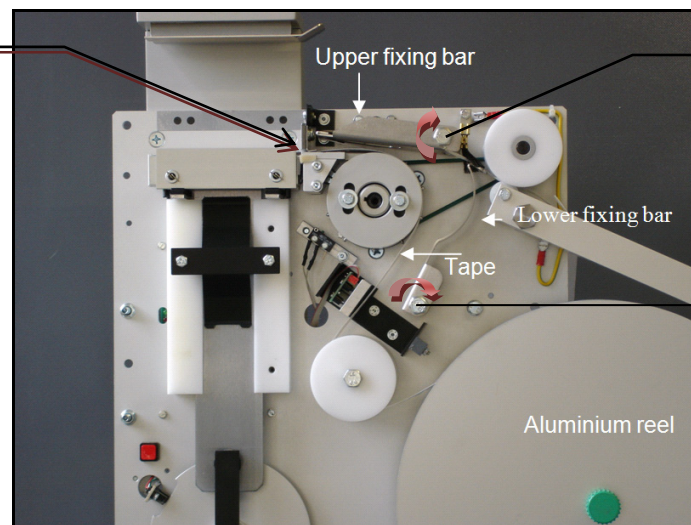
You may have to call for a service engineer in case either paper was not the cause to the error or you were not able to retrieve all of the paper.

Reinforcement Unit

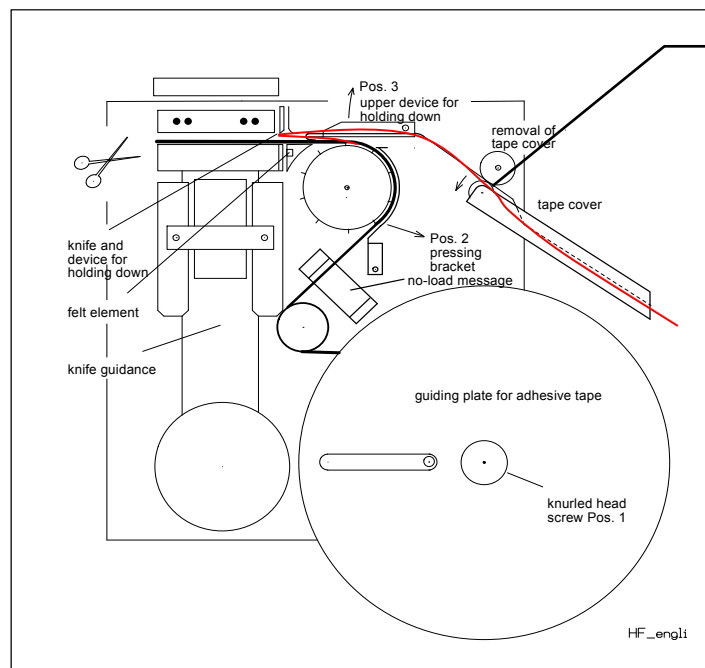


- **Error Code 41:03** = "No Tape"
- Replace the roll according to the drawing below.

Please clean these knives whenever you replace the roll!



Open the brackets 2+3 and pass the cover strip as shown



Guide the strip to the cover strip take-off unit.

Error Code List

	ERROR		Example
Fan:	22	02	
Cross:	00	00	
RFU:	00	00	
Rot.Unit:	00	00	
Stacker:	00	00	
Code			Fan Folder error
	21		Error on stepper control board
		21:01	error during start stepper control board
		21:02	error during stop stepper control board
	22		
		22:00	Light barrier 0 cut
		22:01	Light barrier 1 cut
		22:02	Light barrier 2 cut
		22:03	Light barrier 3 cut
		22:04	Light barrier 4 cut
	23		permanent light on the receiver
		23:00	receiver from LB 0 is always on high level
		23:01	receiver from LB 1 is always on high level
		23:02	receiver from LB 2 is always on high level
		23:03	receiver from LB 3 is always on high level
		23:04	receiver from LB 4 is always on high level
	24		processing error for stepper control board
		01	error during calculate the step width
		02	error during counting the steps

	25		Hardware error
		01	lack of 5 Volt external
		02	lack of LF 38 Volt or CF door open
		03	cover open
			Check voltage Check safety switches
	26		Jam
		01	after cut - no signal for ready
		02	after cut - no paper on LB 1
		03	without cut signal no paper on LB 1
		04	between LB 0 and LB 1
		05	no paper end on LB 1
		06	too many folds – document is too long
		07	no end of paper on LB 0
		26:08	Unexpected Paper on LB4 in Online-Mode
		26:09	Unexpected Paper on “no fold” switch (LB5) in Online-Mode
	27		wrong direction at last sheet folding
			Cross Folder error
	80		Hardware error
		01	lack of 5 Volt extern
		02	lack of LF 38 Volt or CF door open
		03	lack of 28 Volt
			Check voltage Check safety switches
	81		Error on stepper control board
		01	error during start stepper control board
		02	error during stop stepper control board
	82		light barrier cut
		82:01	LB 12 cut
		82:02	LB 11 cut
		82:03	LB 10 cut

		82:04	LB 13 cut
	83		permanent light on the receiver
		83:01	receiver from LB 12 is always on high level
		83:02	receiver from LB 11 is always on high level
		83:03	receiver from LB 10 is always on high level
		83:04	receiver from LB 13 is always on high level
	84		Timeout
		84:01	LB 11 stop
		02	LB 12 – check 1 st knife – clean LB12
		03	LB 13 – clean LB 13
		04	enter CF output switch
		05	fallback CF output switch
		06	Jam at LB 10
	85		Jam
		01	LB 11
		02	LB 12
	86		error on end stage roll tray motor
		01	on forward direction
		02	on reverse direction
		03	on stop function
		04	on initial the end stage
			RFU unit error
	41		
		01	RFU unit is not ready (busy -Flag)
		02	Error on motor end stage
		03	no tape or LB is damaged
		04	Jam near the knife
			rotation unit error (module 0)

	01	xx	In case of any code starting with number 1: <u>Check light barriers</u>
	02		Initialization error
	03		Error on linear activator
			Stacker error (module 1)
	02		Initialization error
			Pivoting RFU (module 2)
	01	0x01	Switch pos. 198
		0x02	Switch pos. 210
	02		Initialization error
			comunication error between QF and WebC
	10		
		01	no communication
		02	checksum error
		03	bad quality of data stream
		04	bad quality of bytes
	11		
		01	no communication
		02	checksum error
		03	bad quality of data stream
		04	bad quality of bytes
			communication between modules and WebC
	20		communication between Module0 and WebC
	21		communication between Module1 and WebC
	22		communication between Module2 and WebC

	23		communication between Module3 and WebC
		01	no communication
		02	checksum error
		03	bad quality of data stream
		04	bad quality of bytes
	F1CA		CAN-bus error

<u>Specifications</u>	
Document Length	420 – 6000 mm, cross fold max. 2.500 mm
Document Width	From 297 up to 914 mm
Paper Quality	From 60 up to 110 g/m ²
Panel Width	180 – 210 mm
Folding Speed	2,5 – 18,00 m/min
Margin Width	0 – 30 mm
Folding Programs	8
Environment:	
Temperature	15°-35°C (59°-95°F)
Humidity	20%-80% R.H. not condensing
Power Supply	115 / 230V, 50 / 60Hz, 8,0 / 6,0A
Power consumption – standby	40 W
Power consumption – maximum	300 W
Folder:	
Weight	260 kg
Width	1020 mm
Height	1310 mm
Length	1830 mm
Height of Bridge	from 380 up to 1400 mm
With box:	
Weight	306 kg
Width	1050 mm
Height	1350 mm
Length	1850 mm

Changing Log

<u>Date</u>	<u>Subject</u>	<u>Author</u>	<u>Edition</u>
28.01.2007	Creation - Draft	Legarth	1.0
28.03.2007	Editorial Changes	Legarth	1.1
28.06.2007	Error Code List 1.7	Legarth	1.2
05.01.2008	Editorial Changes	Legarth	1.3
25.02.2009	Adaption for 4211	Legarth	1.4