

# **TRIMMER**

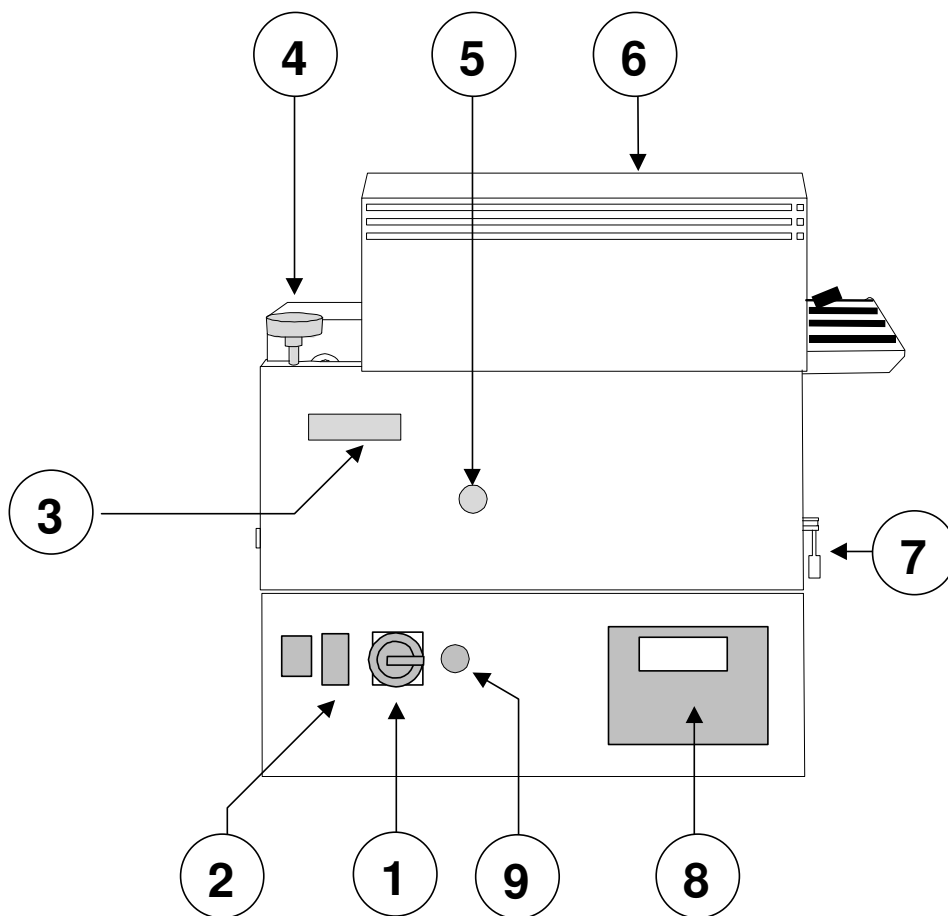
## **User manual**

**English**

# Contents

Contents .....	2
Description of function.....	3
Safety rules .....	4
Installation .....	4
Coupling with Foldnak.....	5
Mounting the fan-form transport device .....	6
Adjustment of the depth stop.....	6
Switch-on.....	7
Trimmer function sequence .....	7
Operator control panel.....	8
Adjusting the run-in conveyor.....	8
Adjusting the run-out conveyor.....	8
Service switches.....	9
Run-through program at the trimmer .....	9
Turing the machine manually .....	10
Adjusting the knife .....	11
Sharpening the knife.....	12
Adjusting the light barrier .....	12
Current overload protection switch.....	12
Possible malfunctions .....	13
Technical data.....	14
Conformity statement .....	14

## Description of function



1 Master switch

- Emergency shut-off switch

2 Service switches

3 Operator control panel

4 Handwheel

5 Opening for mounting the handwheel on the gear shaft

6 Protecting lid

- The machine can be operated only when the protecting lid is closed.

7 Coupling strip

8 Drawer box

- The machine can be operated only when the drawer box is closed.

9 On button

**Warning:** Trimmer is only allowed to be operated when connected to a Foldnak.

## Safety rules

The machine may be operated only in the coupled state with Foldnak.

Only carry out repairs with original NAGEL spare parts.

Only carry out repairs after disconnecting from the mains electricity supply.

Repairs and work upon electric appliances may only be carried out by trained tradesmen.

Removal of safety equipment and casing and operation with damage that affects safety is forbidden (e.g. damaged electricity cables, covering).

Use the machine exclusively to cut paper and cardboard.

Lay out the electricity cable in such a way that it does not form any kinks.

Work place of the operator: in front of the machine.

Only erect the machine in a dry room.

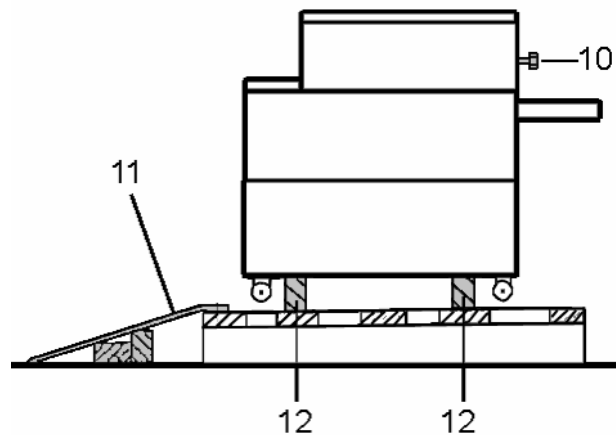
## Installation

In order that the machine can be rolled off the palette, remove all retaining screws which secure the lugs to the palette.

Pull out both girders (12) from under the machine and use them as supports under the ramp (11).

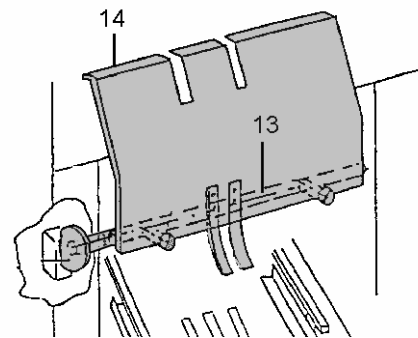
Screw out the transport securing screws (10).

Set up the machine on a solid and level surface.

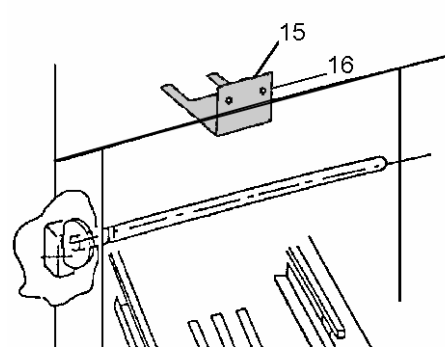


## Coupling with Foldnak

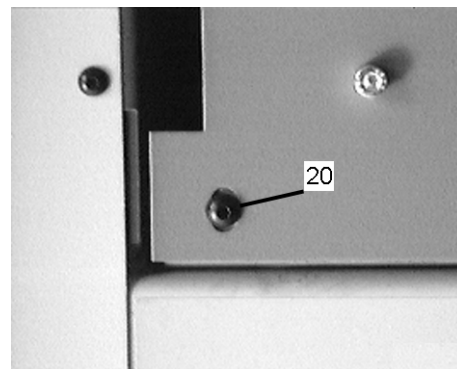
Unhook the fan-form transport device on the rear panel of the Foldnak. Unscrew the rear protecting plate (14) of the Foldnak. Thereby make sure that the shaft (13) of the protecting plate is in the operating setting, i.e. the Foldnak must be ready for operation at switch-on time. If necessary, turn the shaft (13) by the required amount to fulfil this condition.



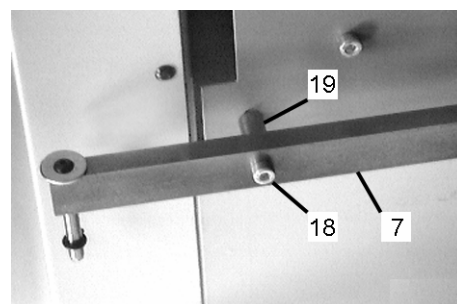
Attach the guide bracket (15) on the coverplate of the Foldnak with two FG screws (16).



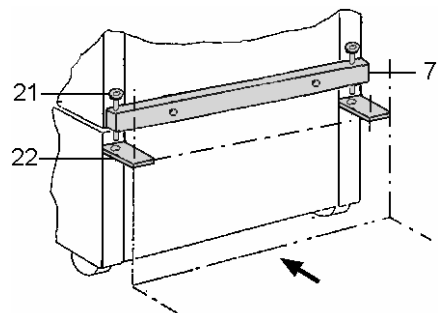
Unscrew the two screws (20) on the left and right so that the coupling strip (7) can be mounted.



Screw down the coupling strip (7) and the spacer tube (19) with the cylinderhead screw (18) (from the bag of accessories) on the Foldnak.



Push the Foldnak against the trimmer such that the protruding table of the trimmer extends into the Foldnak. Push the coupling strip (7) over the perforated plate (22) of the trimmer. Pin the screws left and right (21) and fix them with self-locking nut (bypack accessories).

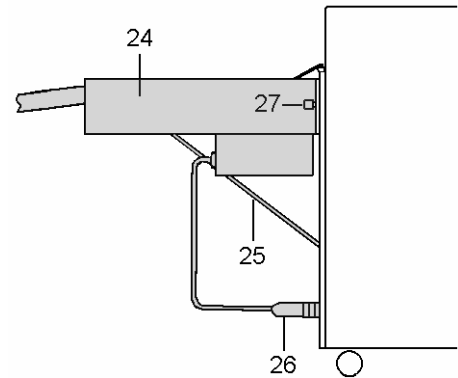


## Mounting the fan-form transport device

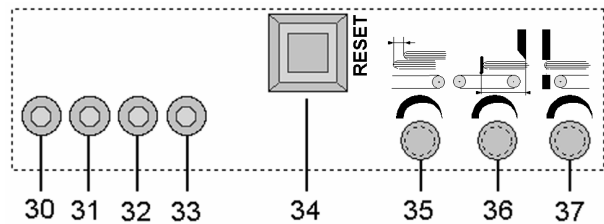
Hook the fan-form transport device (24) on the trimmer into the cylinderhead screws (27).

Slightly raise the fan-form transport device and introduce the rod (25) as support into the breakout on the trimmer

Insert the plug (26) into the socket on the trimmer.

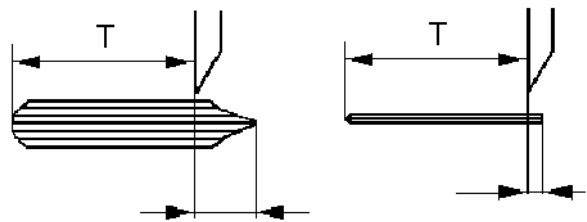


The fan-out size is set with the potentiometer (35).



## Adjustment of the depth stop

The depth stop serves to adjust the T measurement. The brochure has to be thicker as the end of paper to be cut of is wider. The T measurement can be max. **225 mm** and min. **100 mm**.

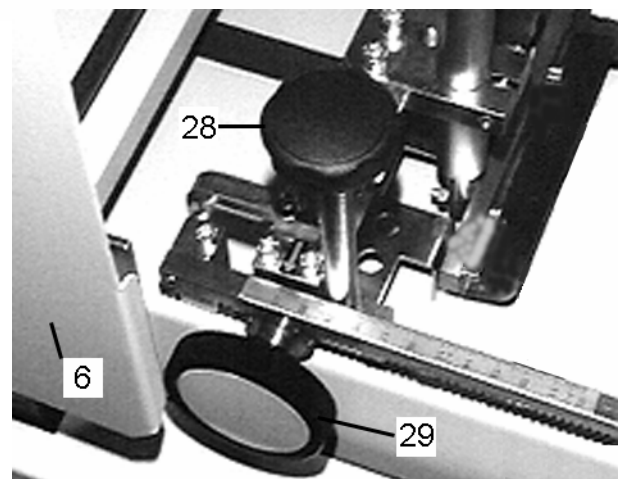


Open the protective cover (6).

Release the clamp screws (28) on the left and right.

Adjust the depth stop on the handwheel (29).

Tighten the clamp screws (28) again.



## Switch-on

Switch-on the trimmer at the master switch.

Press the on button

The machine executes a reset stroke.

The machine is therewith ready for operation.

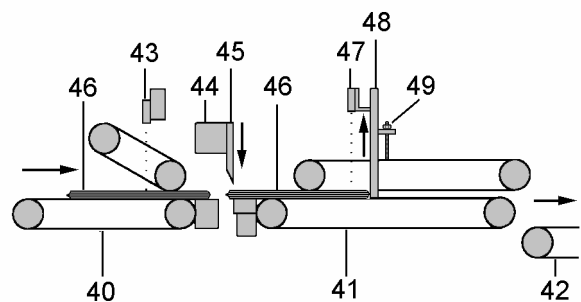
The green diode (30) on the operator control panel is lit and the run-in conveyor (40) is running.

## Trimmer function sequence

The brochure (46) coming out of the Fold-nak falls onto the feeding belts (40) and is transported up to underneath the cutter bar (44). Here it is recognised by photoelectric cell (43). The photoelectric cell stops the feeding belts and triggers the knife (45) stroke. The cutting bar (44) presses the brochure in the fold during this.

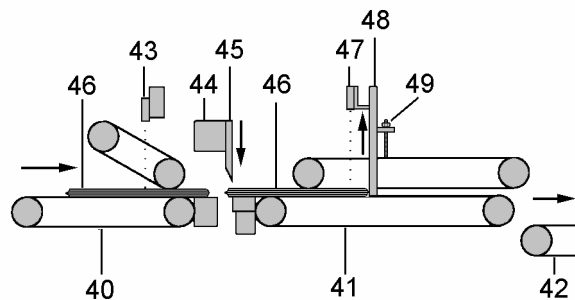
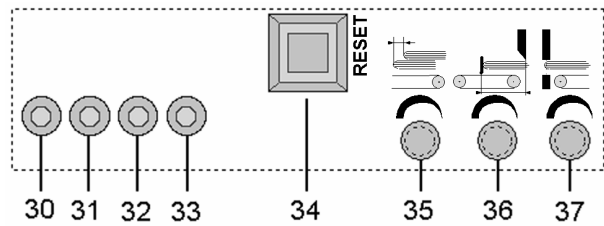
After a completed stroke the feeding belts (40) again switches on and the brochure runs through, under the knife onto the delivery belts (41). It is transported by the delivery belts up to the paper stop (48). Here the brochure (46) is recognised by photoelectric (47). This stops the delivery belts (41) and the brochure remains laying against the paper stop (48). A next stroke is triggered by a further brochure, which has been delivered onto the feeding belts (40). This presses the brochure in the fold and the previous brochure, which is against the paper stop (48), is cut. Subsequently the brochure delivered onto the delivery belts (41) falls onto the slat conveyor (42).

In the event of no further brochure being delivered and triggering a stroke, a brochure leaning against the paper stop (48) is trimmed by an automatic stroke trigger after about 5 seconds and delivered via the delivery belts (41).



## Operator control panel

- (30) **Green Diode**  
Trimmer ready for operation
- (31) **Red Diode**  
Reset stroke is executed
- (32) **Yellow Diode**  
Paper jam at run-out conveyor
- (33) **Yellow Diode**  
Paper jam at run-in conveyor
- (34) **Reset Button**  
To start a reset stroke
- (35) **Potentiometer**  
To set the fan-out size
- (36) **Potentiometer**  
For adjusting the run-out conveyor
- (37) **Potentiometer**  
For adjusting the run-in conveyor



## Adjusting the run-in conveyor

The run-in conveyors (40) are adjusted such that the brochure (46) will come to lie approximately in the centre of the press beam (44).

If the brochure comes to rest ahead of or beyond this position, the after-run of the run-in conveyors (40) must be adjusted by changing the setting of the potentiometer (37) accordingly.

## Adjusting the run-out conveyor

The run-out conveyors (41) are adjusted such that the brochure (46) comes to lie against the depth stop (48). If the brochure does not always lie against the stop, e.g. if it rests slightly oblique, this can be corrected by setting longer after-run of the run-out conveyors (41) by turning the potentiometer (36) correspondingly. On the other hand, too long after-run of the run-out conveyors (41) can, especially for thick layers and ones without cardboard cover, cause the bottom layer of the brochure to be moved further by the conveyor run than the fold. After cutting, the bottom layer then extends and projects slightly beyond the cut.

## Service switches

### (50) Current overload protection switch

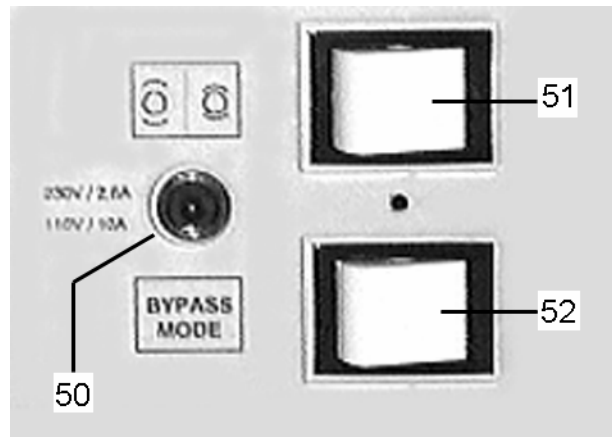
The stroke motor switches off when overloaded see also the chapter headed „Current overload protection switch“

### (51) Brake release switch

Switch pressed on the left Brake released  
Switch pressed on the right Brake engaged see also chapter headed „Turning the machine manually“

### (52) Bypass mode switch

Switch pressed on the left Bypass mode active  
Switch pressed on the right Bypass mode not active see also chapter headed „Run-through program at the trimmer“



## Run-through program at the trimmer

When the run-through program is activated, the brochures run through the machine without being cut.

Switch-on the machine at the master switch.

Press the bypass mode switch (52) on the left to activate the bypass mode.

Press the reset button.

Both transport conveyors run.

### **Deselect the run-through program.**

Press the bypass mode switch (52) on the right to deselect the bypass mode.

Press the reset button.

Only the run-in conveyor is running.

## Turing the machine manually

For service tasks or in the case of disturbances it may be necessary to turn the machine manually.

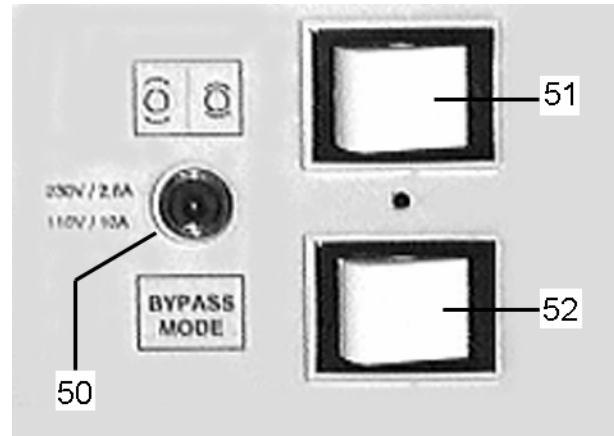
Open the protecting lid.

For this purpose switch-on the machine at the master switch.

Screw-off the cover of the switches.

Press the brake release switch (51) on the left to release the stroke motor brake.

Mount the handwheel (4) on the gear shaft (5).



The machine can now be turned in the direction of the arrow (arrow on the handwheel).

After completing service tasks:

Turn the machine to the upper dead point (the knife beam is right at the top).

Take off the handwheel again.

Press the brake release switch on the right to engage the stroke motor brake.

Screw-down the cover of the switches.

Press the on button.

Close the protecting lid.

## Adjusting the knife

The press (61) is to be unscrewed for all assembly or adjustment work carried out on the knife. For this, unscrew screws (60) and remove the press to the side.

The upper knife (45) is screwed tightly to the cutter bar by 5 M6x16 DIN 933 hexagonal screws.

The lower knife is adjusted to the upper knife.

The lower knife (63) is secured by five cylinder screws (62) and supported by four pressure screws (65).

At the beginning the pressure screws (65) are to be screwed back far enough so that the lower knife can be moved away a little from the upper knife when the screws (62) are loosened. Now the upper knife is turned downwards by hand.

For this, place the handwheel (4) on the transmission shaft.

Open the protective cover (6).

Loosen the motor brake with switch (51).

Carefully turn the handwheel anti-clockwise in the direction of the arrow. The upper knife moves downwards and must not hit against the lower knife (63). Rather, there must be a little air between the upper and lower knives.

A 60g sheet of paper is inserted into the gap between the upper and lower knives as an adjustment distance.

Push the lower knife (63) against the upper knife (45) so that the paper is tightly clamped.

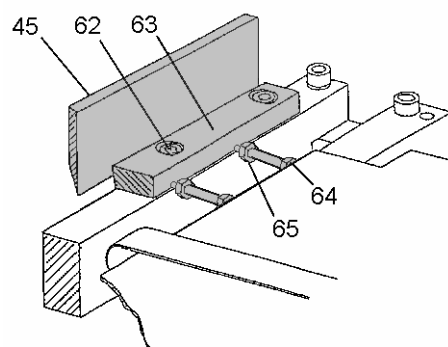
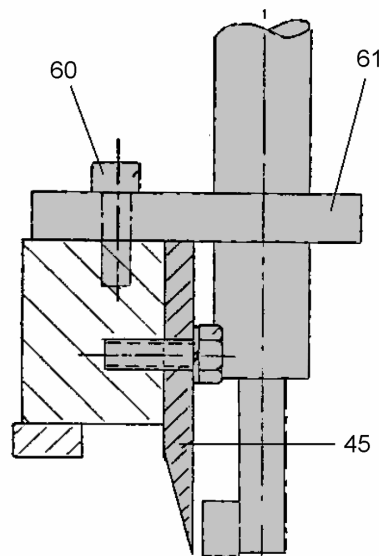
Tighten the screws (62) lightly with the socket spanner, however not too much, so that when pushing the pressure screws (65), the lower knife can still move.

The pressure screws (65) are now put up against the lower knife by hand.

The screws (62) are now tightened firmly.

Again turn the upper knife up and down with the handwheel. This way you make sure that the adjustment was not too narrow, and the paper used for adjustment can be taken out.

Reverse switch (51) to close the brake, remove the handwheel (4).



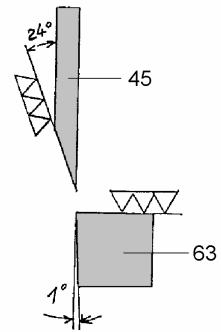
## Sharpening the knife

The upper knife is more sensitive than the lower knife and must be sharpened more often. It is removed, for this, in accordance with the instructions for “adjusting the knife”.

It is sharpened at an angle to the blade of 24 degrees.

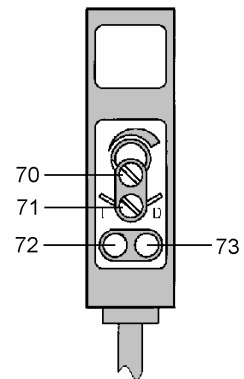
As the upper knife is not normally sharpened (and then made thinner) on the front side, one can manage, if appropriate, without re-adjusting the lower knife.

After re-inserting the upper knife, one turns downwards by hand very carefully (see instructions). If the upper knife does not easily move under the lower knife, or does not cut a sheet of 80g paper, then the lower knife must be re-adjusted.



## Adjusting the light barrier

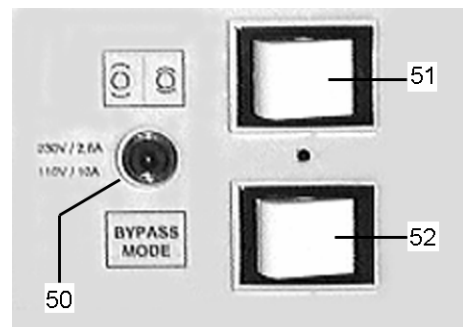
Turn the rotary switch (71) clockwise to the stop in position „L“. In this setting the light barrier switches only when it is free again. Turn the potentiometer (70) clockwise to the stop. The red (72) and the green (73) light emitting diode are lit. The sensitivity is now greatest. Then turn potentiometer (70) anticlockwise until the green light emitting diode (73) extinguishes. Now turn potentiometer (70) about half a turn clockwise again so that the green light emitting diode (73) is lit again.



## Current overload protection switch

The current overload protection switch prevents overloading of the stroke motor by switching it off.

When this has happened, clear the cause of the disturbance and then press-in the current overload protection switch (50) again.



## Possible malfunctions

**Error:**

Brochure lays against the stop and has problems when the stop starts to move away. Knife does not cut cleanly, therefore a fibre ridge remains, which hooks behind the knife and stops the brochure.

**Remedy:**

Adjust the lower knife narrower.

Care must be taken that the waste strip is not too narrow, so that the lower knife is behind the lowest paper layer.

**Error:**

A stroke is triggered, knife remains down.

Brake lifting switch open.

**Remedy:**

Close the brake lifting switch (51), press the reset button (34).

**Error:**

Machine switched on, brochure runs through from rear to front without a stroke being triggered.

Program cycle is activated by switch 52).

**Remedy:**

Reverse the switch (52), press the reset button (34).

**Fault:**

If the light barriers (43) and (47) do not become free after a certain time in controlled operation, the machine assumes that there is a paper jam and switches off.

**Remedy:**

After clearing the paper jam, the machine must be made ready again for operation by executing a reset stroke. To do this, press the reset button (34).

## Technical data

Manufacturer:

ERNST NAGEL GmbH

Breitwiesenstr. 21

D-70565 Stuttgart

Electricity supply: See type plate on the machine

Series number: See type plate on the machine

Year of manufacture: First two digits of the series number

Noise emission: < 70 db(A)

## Conformity statement

This machine complies with the  
CE European Norm and the EC Directives 89/392 and 89/336.

Norms used:

EN 954-1, prEN 1010, EN 60204.

The CE mark is a large, bold, black 'C' followed by a large, bold, black 'E'.A handwritten signature in blue ink that reads 'Michael Kipp'.

Michael Kipp  
Manager

Trimmer  
SN:> 980398  
02. 1998

**Ernst Nagel GmbH**  
D – 70565 Stuttgart, Germany  
Inland 0711 78078 11  
Export +49711 78078 21  
Telefax +49711 78078 10  
[www.ernstnagel.com](http://www.ernstnagel.com)