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MATHIAS BÄUERLE

Service Manual
PrestigeFOLD NET 52

Version 2.1 - English

Contents

1 Operation

1.1 Mechanical Installation

Setting heights during installation

During the installation process, the following setting heights of the folding stations must be observed:

1.1.1 Folder (1st fold unit)

Type / Number of fold plates	**Infeed height** *see Fig. 1*	**FSA – Frame height** *see Fig. 2*	**Bridge inclination** *see Fig. 3*	**Outfeed height** *see Fig. 3*
prestigeFOLD NET 52/6 – 6 fold plates	1060 mm	100 mm	20 mm	920 mm
prestigeFODL NET 52/4 – 4 fold plates	1040 mm	80 mm	40 mm	920 mm

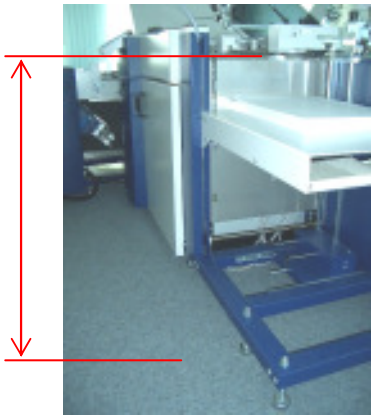


Fig. 1

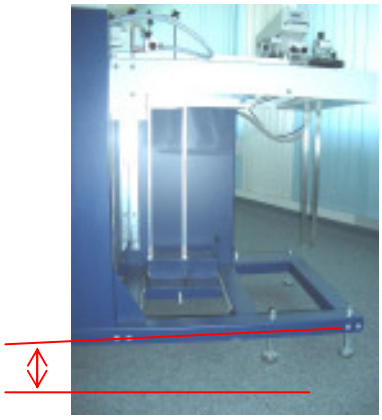


Fig. 2

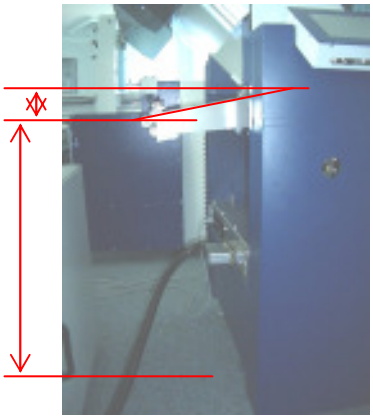


Fig. 3

1.1.2 Folder (2nd fold unit)

Type / Number of fold plates	**Infeed height** *see Fig. 4*	**Frame height** *see Fig. 5*	**Bridge inclination** *see Fig. 3*	**Outfeed height** *see Fig. 3*
prestigeFOLD NET 52/0/6 – 6 fold plates	920 mm *	130 mm *	20 mm	780 mm *
prestigeFOLD NET 52/0/4 – 4 fold plates	920 mm *	130 mm *	40 mm	800 mm *

* If **no** third fold unit is used, you can reduce the heights by 30 mm. The height difference resulting from this reduction is compensated by the transfer bridge at the first fold unit.

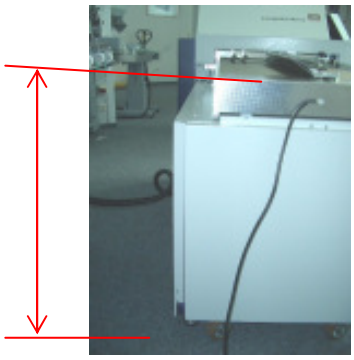


Fig. 4

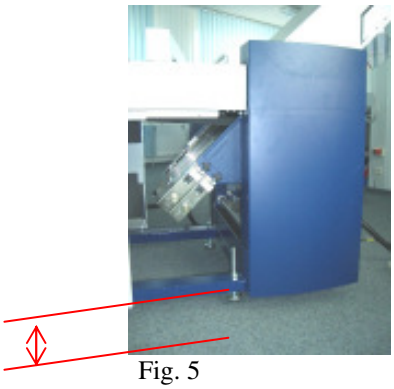
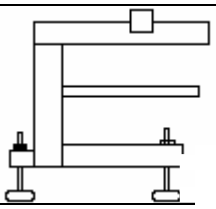


Fig. 5

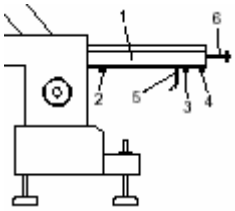
1.1.3 Folder (3rd fold unit)

Type / Number of fold plates	**Infeed height** *see Fig. 4*	**Frame height** *see Fig. 5*	**Outfeed height** *see Fig. 3*
prestigeFOLD NET 52/0/0/4 – 4 fold plates **in case of 4 fold plates in the second fold unit**	800 mm	??? mm	720 mm
prestigeFOLD NET 52/0/0/4 – 4 fold plates **in case of 6 fold plates in the second fold unit**	780 mm	??? mm	700 mm

1.1.4 Flat pile feeder FSA

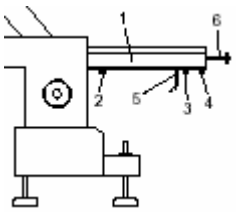
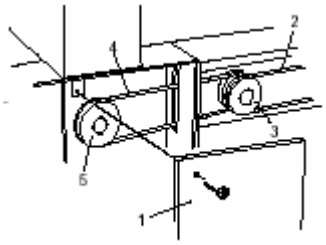
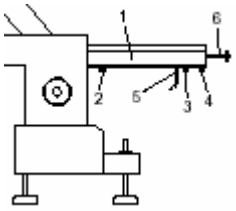
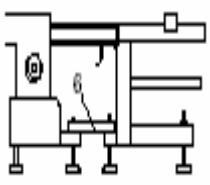
1. Unpack the flat pile feeder (FSA).	
When using a knife to cut open the packaging, be careful not to damage parts of the machine!	
2. Adjust the height as follows: - Loosen the hexhead nuts (24 mm wrench). - Adjust the height with an 8 mm Allen key. Level the feeder, using a spirit-level.	

1.1.5 Fold unit with register table ART

1. Unpack the fold unit.	
When using a knife to cut open the packaging, be careful not to damage parts of the machine!	
2. Remove the side covers (1) at the rear of the register table (ART).	
2.1 Remove screws (2) and (3).	
2.2 Remove the connecting screws (4) between register table and flat pile feeder.	
2.3 Unscrew the plug of the paper thickness measuring device (5) and pull it off **(it may otherwise be damaged !!).**	
3. Raise the fold unit to the same height as the flat pile feeder and level it using a spirit-level.	

1.1.6 Connecting components

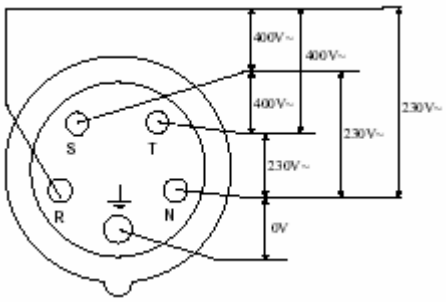
1. Move the fold unit up to the flat pile feeder with a jacklift.	
2. Observe the following: - The green round belt at the rear of the flat pile feeder FSA must be guided through the elongated hole in the register table. - Slide the register table exactly in the mating part of the flat pile feeder. (The holes for the mountings screws must line up exactly with the threads). - Check the correct height adjustment of register table and flat pile feeder.	

Do not bend or squeeze hoses, cables or sheet-metal parts!	
3. Insert the connecting screws between register table ART and flat pile table FSA (4) and tighten them.	
4. Insert the plug of the paper thickness measuring device (5) and tighten it.	
5. Remove the cover (1) of the flat pile feeder.	
6. Place the round belt (4) of the register table ART on the pulley (5) of the flat pile feeder FSA.	
7. Re-attach the cover (1).	
8. Insert the plug (register table) in the receptacle (flat pile feeder).	
9. Place the compressor on the floor between flat pile feeder and fold unit and make the electrical connection.	
10. Mount the connecting bars (6) between fold unit and flat pile feeder (24 mm wrench).	

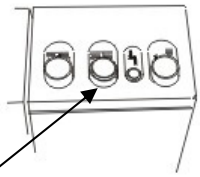
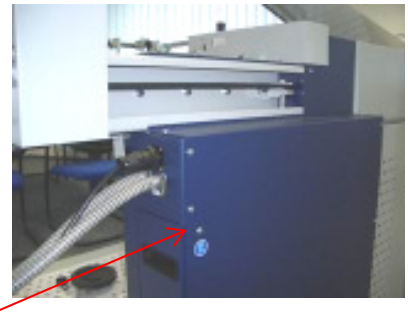
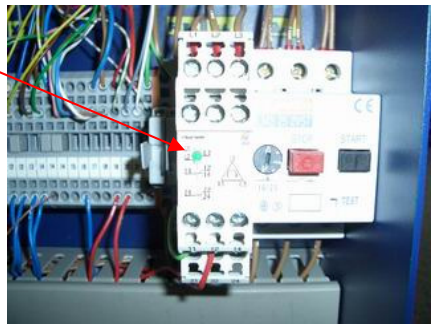
11. Mount the sliding door at the operator side.	
12. Hook in the rear cover and lock it in place.	

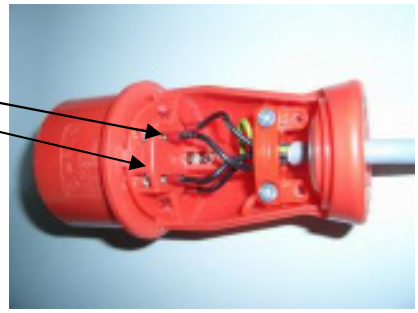
1.2 Electrical Installation

1.2.1 Checking the line voltage

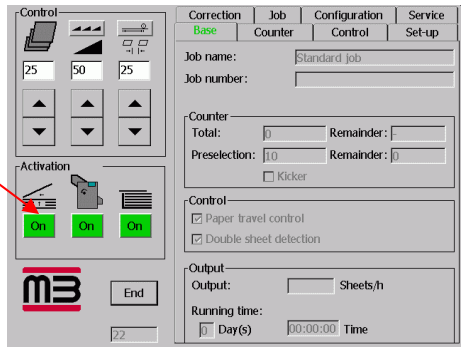
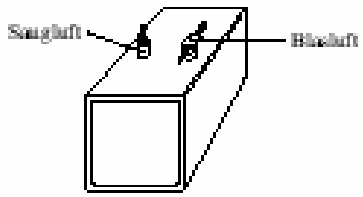
1. Check the three-phase socket before turning on the machine for the first time.	
When making or breaking any electrial connection, always first turn off the main switch or flip the safety switch of the fold system! Non-compliance may cause damage to electronic components!	
2. Turn off the main switch at the first fold unit.	
3. Insert the power plug into the socket.	
4. Turn on the main switch.	

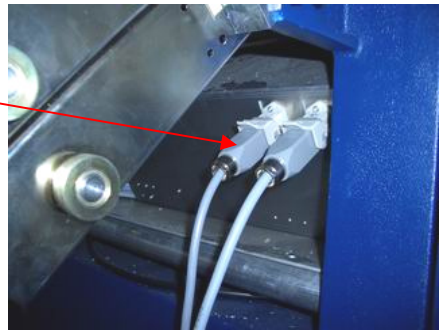
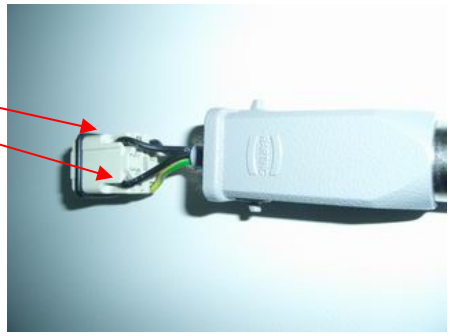
1.2.2 Flat pile feeder FSA

1. Check the sense of rotation of the drive motor of the flat pile feeder FSA as follows: Press button (1) on the operator panel of the FSA. The pile table should move down.	 (1)
If the pile table does not move, check the sense of rotation recognition relay in the flat pile feeder FSA.	
2. Open the electrical cabinet of the FSA. For this you have to remove the safety screw (A) and pull out the electrical cabinet.	 (A)
3. Check the LED at the sense of rotation recognition relay (A). LED is on => wrong sense of rotation **Changing sense of rotation - see ….. from chapter / item 4** LED is off => correct sense of rotation	
4. Turn off the machine by pressing the main switch and pull the power plug.	
5. Open the power plug.	

6. Switch two wires (e.g. L2 / L3).	
7. Insert the power plug and turn on the main switch.	
8. Function of the pile table as described under item 1.	

1.2.3 Compressor

1. Check the sense of rotation of the compressor motor.	
2. Switch on the compressor by touching this key.	
3. Check the air flow at the hose fittings: Single hose fitting: Vacuum Double hose fitting: Air	

If air and vacuum are reversed, the sense of rotation of the compressor motor must be changed.	
4. Switch off the compressor by touching the appropriate key. Turn off the machine by pressing the main switch and pull the power plug.	
5. Pull off the compressor plug and open the plug housing.	
6. Switch two wires (e.g. L1 / L2).	
7. Re-connect the compressor plug.	
8. Insert the power plug and turn on the main switch.	
9. Check the compressor for correct function as described under items 2+3.	

1.2.4 Checking the setting of the paper thickness sensor

=> see chapter *3.6.1 Basic setting of paper thickness sensor*

2 Service Menu

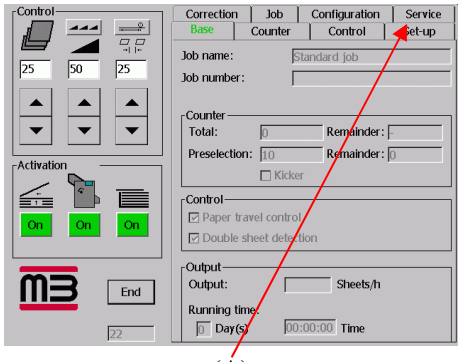
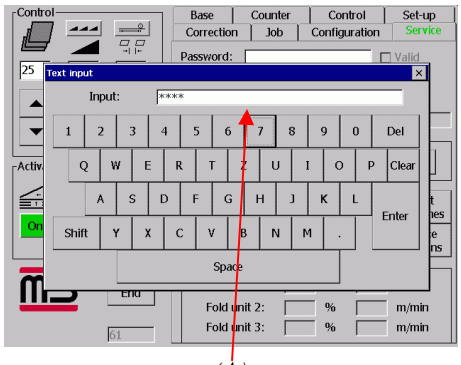
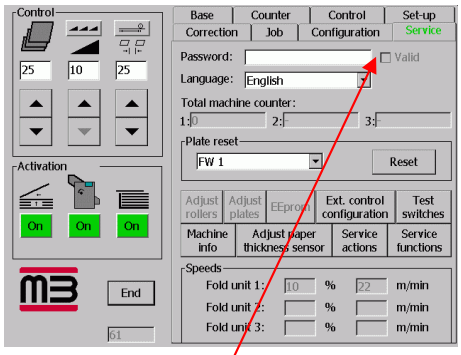
2.1 Access Codes / Password

A password must be entered to activate certain functions (shown in grey) in the service menu.

Password Service level 1: **4250**

Password Service level 2: **4277**

2.2 Entering the Password / Code

1. Select the Service Menu (A) by touching the "Service" tab.	 (A)
2. Enter the password in the input window (A).	 (A)
3. After the password has been entered correctly, the following message appears next to "Valid" (A): PW 1: for service level 1 PW 2: for service level 2	 (A)

4. Now the enabled functions in the service menu can be selected.	
5. **!! Please Note !!** To disable access to the service menu, the password must be cancelled or a wrong password must be entered. OR: Turn off the machine by touching "End" and turn it on again.	

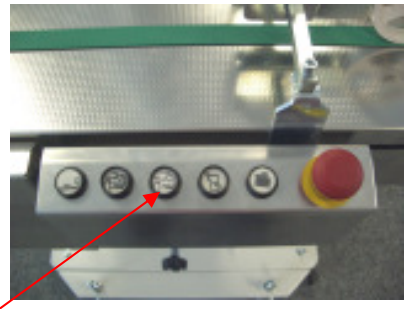
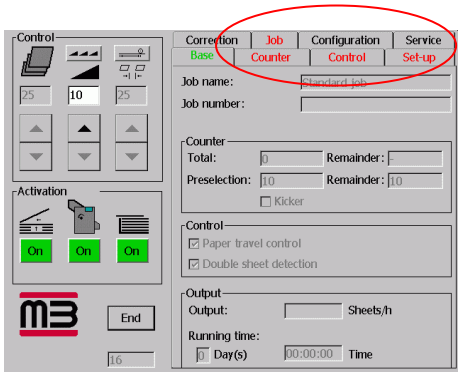
2.3 Functions in the Service Menu

Bezeichnung im Display	Functions	without password	PW 1 **"4250"**	PW 2 **"4277"**
Adjust Roller	*Adjusting the fold rollers*	DISABLED	DISABLED	ENABLED
Adjust Plates	*Adjusting the fold plates*	DISABLED	DISABLED	ENABLED
Ext. Control Configuration	*Configuration of the external Stop-inputs*	DISPLAY	ENABLED	ENABLED
Test Switches	*Testing the switches at: AM + FSA*	DISPLAY	DISPLAY	DISPLAY
Machine Info	*Display of the recognized machine configurations*	DISPLAY	DISPLAY	DISPLAY
Adjust paper thickness	*Adjusting the paper thickness sensor*	DISPLAY	DISPLAY	ENABLED
Service Action	*Direct activating/ deactiving of: actuators*	ENABLED	ENABLED	ENABLED
Service Function				
- Potentiometer*	*Display of the Bit-values of all potentiometers*	ENABLED	ENABLED	ENABLED
- Motor *	*Direct activating / deactivating of: all positioning motors (fold rollers, fold plates, alignment rails, positions)*	DISABLED	ENABLED	ENABLED
- Light barrier	*Testing the light barriers*	ENABLED	ENABLED	ENABLED
- Fold unit	*Selection of the fold unit on which the above-mentioned functions are to be carried out*	ENABLED	ENABLED	ENABLED

2.4 Turning on the Machine in Service Mode

When turning on the machine, the setting information for the fold plates, alignment rails and positions is checked.

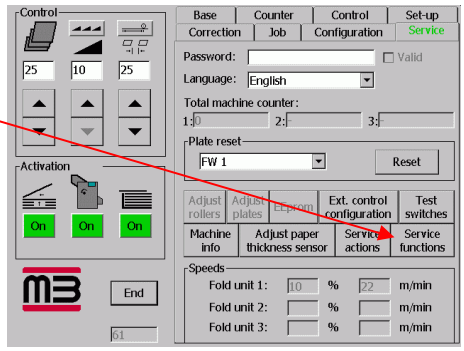
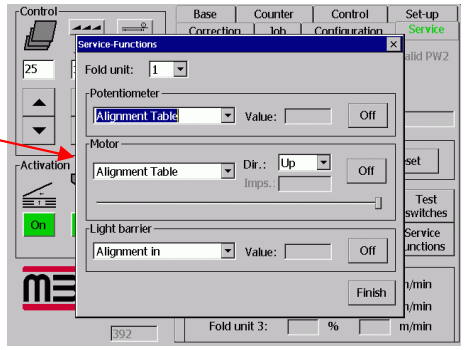
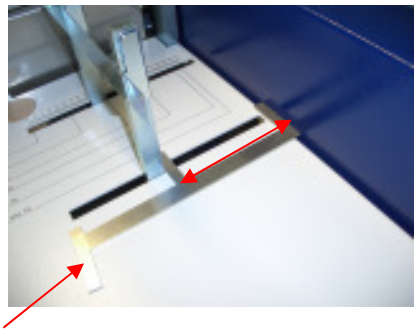
In order to turn on the machine **without** fold plates (e.g. for fold roller setting), this must be done in the service mode !!!

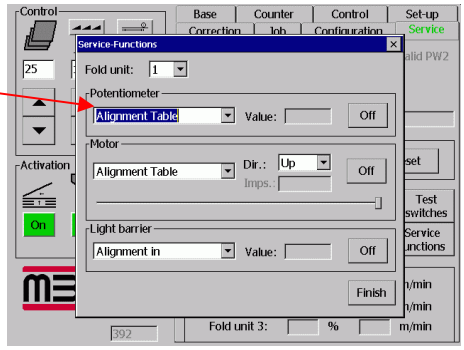
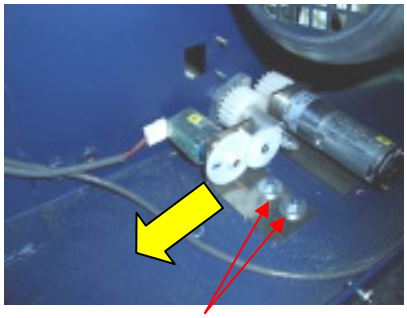
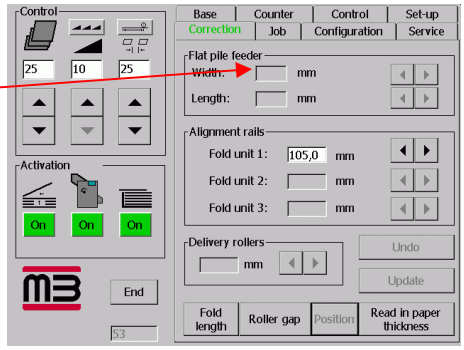
1. Turn off the machine with the main switch.	
2. Press button (A) at the shingle delivery AM 52 and hold it while turning on the main switch.	
3. Now the computer is booting up. Functions that CANNOT be selected are shown in red.	
4. Quit the service mode as follows: Turn off the machine by touching "End" and then turning off the main switch. Connect all components. Turn on the machine with the main switch.	

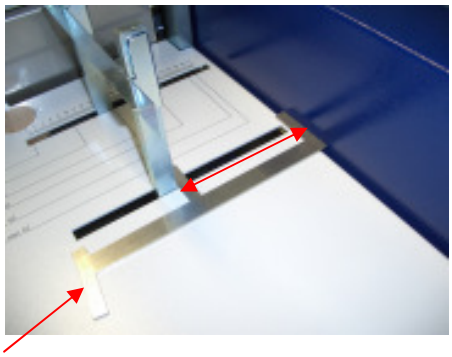
3 Potentiometer Settings

3.1 Basic Setting of Flat Pile Feeder FSA

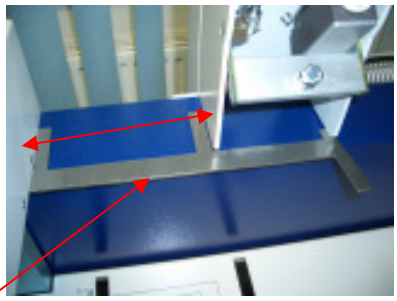
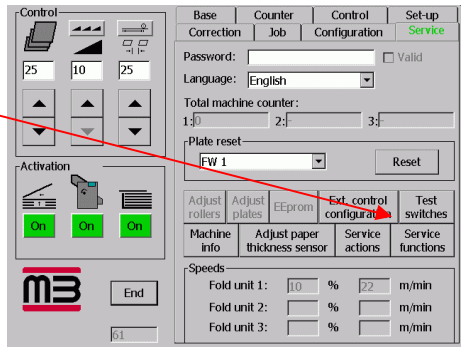
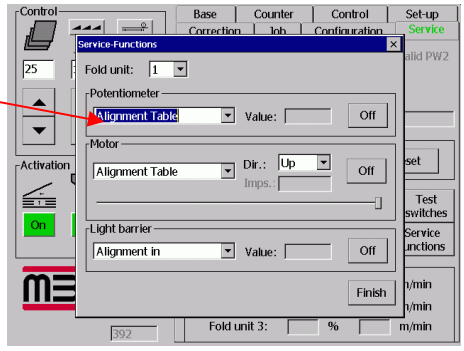
3.1.1 Side stop

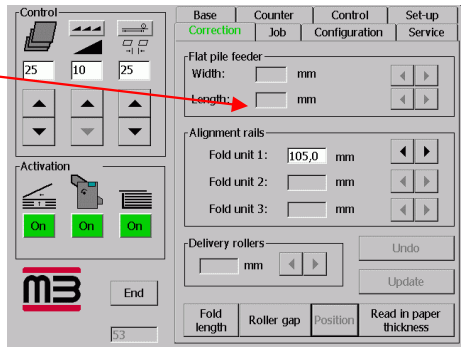
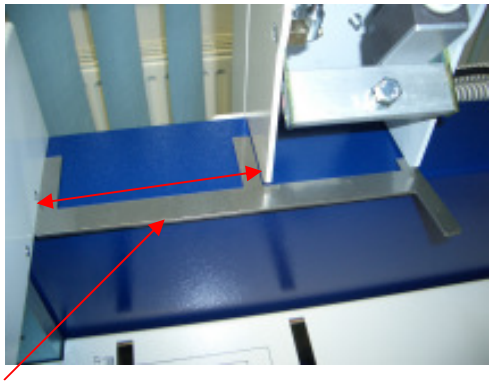
1. Touch the "Service Functions" key in the service menu. **Password: 4277 necessary**	
2. Select Motor - "FSA - Width".	
3. With Motor - "ON" and Sense of Rotation - "up/down", run the side stop to the position shown in the picture. The distance to the side panel should be 150 mm. Use a setting gauge (A) (2.024.014) to check.	

4. Open the rear panel of the FSA.	
5. Select Potentiometer - "FSA - Width" and touch the "Off" key, which then changes to "On".	
6. Change the potentiomer until 4,680 Bit appears in the display. 4,680 Bit = 128 mm 36 Bit = 1 mm Loosen both hexhead nuts (A), move the mounting bracket in direction of the arrow, change the potentiometer value.	
7. Quit the service menu by touching the "Correction" menu tab. Run the side stop by entering a random dimension.	
8. Then enter 128 mm and run the side stop to this position.	

9. The distance to the side panel should be 150 mm. Use the setting gauge (A) (2.024.014) to check.	 (A)

3.1.2 Position of the rear edge separator HKT

1. Move the automatic sheet separator HKT to the position shown in the picture by pressing the +/- buttons at the HKT. The distance to the side panel should be 150 mm. Use the setting gauge (A) (2.024.014) to check.	 (A)
2. Touch the "Service Functions" key in the Service Menu.	
3. Select Potentiometer - "FSA - Length" and touch the "Off" key, which then changes to "On".	

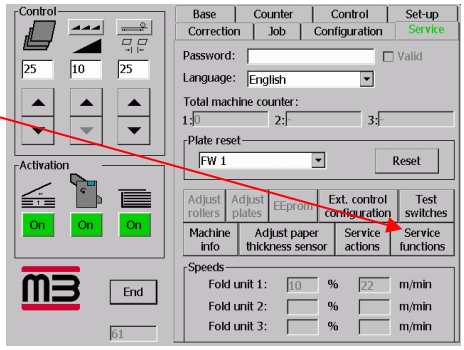
4. Turn the potentiometer until 2,177 Bit appears in the display. 2,177 Bit = 210 mm 11 Bit = 1 mm	
5. Quit the service menu by touching the "Correction" menu tab. Run the HKT by entering a random dimension.	
6. Then enter 210 mm and run the HKT to this position.	
7. The distance to the side panel should be 150 mm. Use the setting gauge (A) (2.024.014) to check.	

3.2 Basic Setting Register Table ART / Roller Table SRT

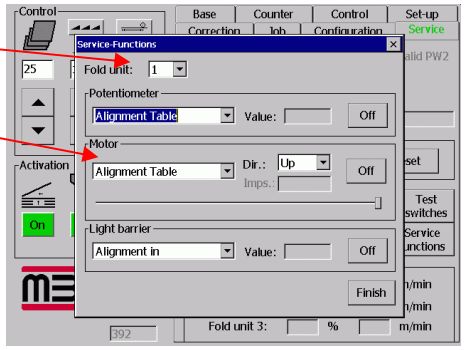
3.2.1 Position of the alignment rail ART – Folder (1st fold unit)

1. Touch the "Service Functions" key in the Service Menu.

   Password: 4277 necessary



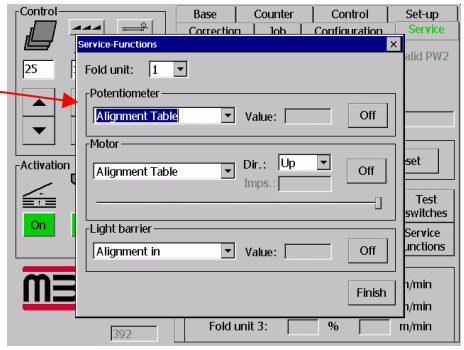
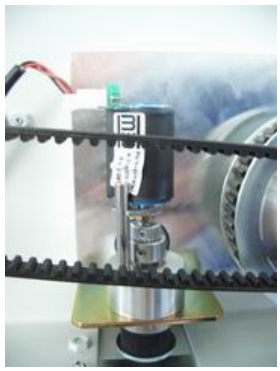
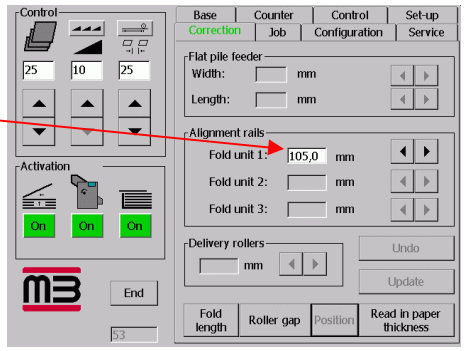
2.1 Select "Fold Unit 1".
2.2 Select Motor - "Alignment Table" (Register Table).

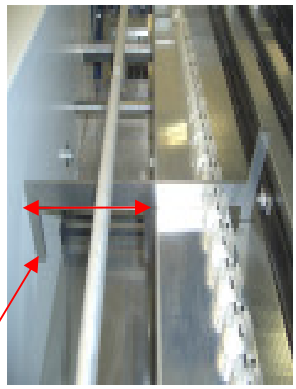


3. With Motor - "ON" and Sense of Rotation - "up/down", run the alignment rail to the position shown in the picture.

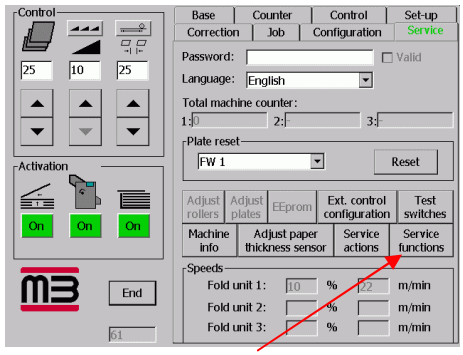
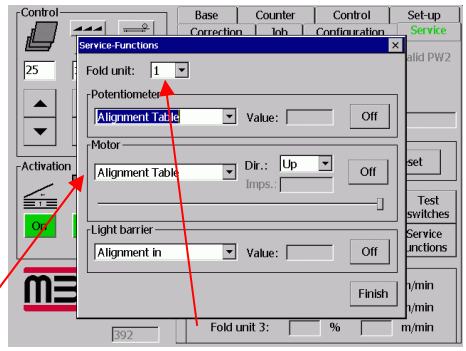
   The distance to the side panel should be 150 mm. Use a setting gauge (A) (2.024.014) to check.

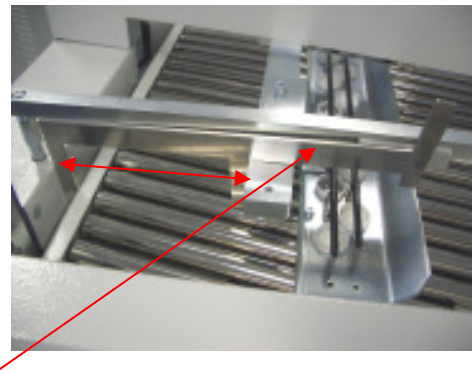
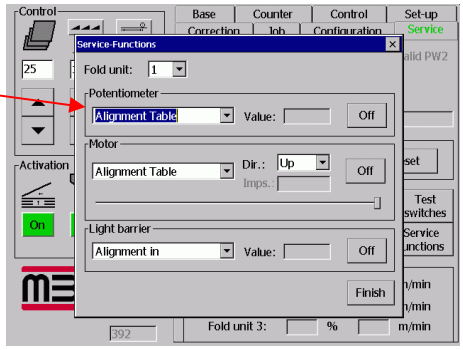
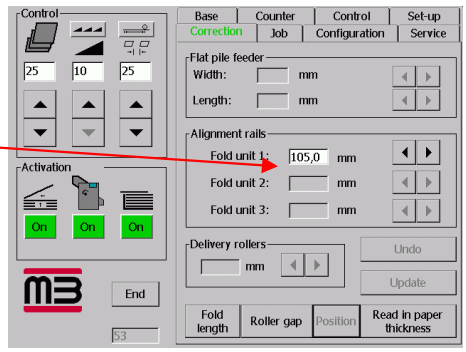
(A)

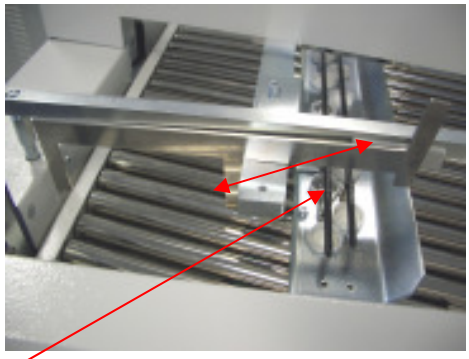
4. Select Potentiometer - "Alignment Table" (Register Table) and touch the "Off" key, which then changes to "On".	
5. Turn the potentiometer at the rear of the register table ART until 12,350 Bit appears in the display. 12,350 Bit = 146 mm 27 Bit = 1 mm	
6. Quit the service menu by touching the "Correction" menu tab. Run the alignment rail by entering a random dimension.	
7. Then enter 146 mm and run the alignment rail to this position.	

8. The distance to the side panel should be 150 mm. Use a setting gauge (A) (2.024.014) to check.	 (A)

3.2.2 Position of the alignment rail SRT – Folder (2nd and 3rd fold unit)

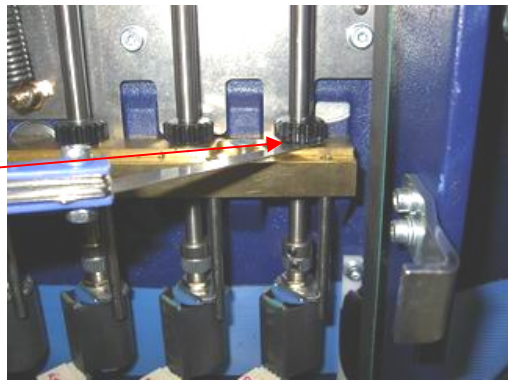
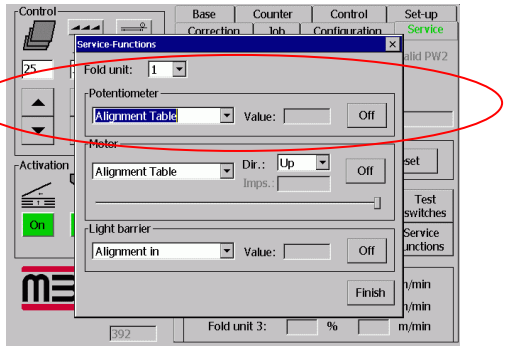
1. Touch the "Service Functions" key (A) in the service menu. **Password: 4277 necessary**	 (A)
2.1 Select "Fold Unit 2 (A). 2.2 Select Motor - "Alignment Table" (Register Table) (B).	 *(B)* *(A)*

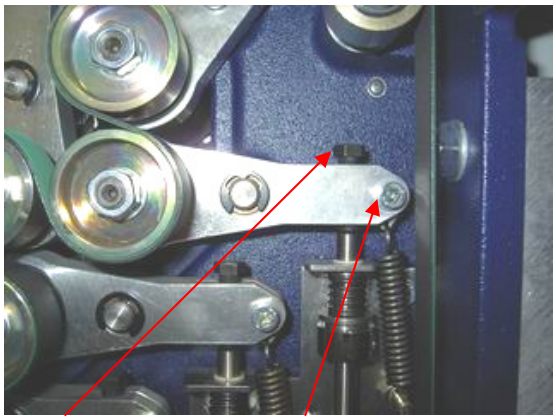
3. With Motor - "ON" and Sense of Rotation - "up/down", run the alignment rail to the position shown in the picture. Use setting gauge (A) – 150mm (2.024.014).	 (A)
4. Select Potentiometer - "Alignment Table" (Register Table) and touch the "Off" key, which then changes to "On".	
5. Turn the potentiometer until 11,586 Bit appears in the display. 11,586 Bit = 358 mm 27 Bit = 1 mm	
6. Quit the service menu by touching the "Correction" menu tab. Run the alignment rail by entering a random dimension.	

7. Then enter 358 mm and run the alignment rail to this position.	
8. The distance to side panel should be 150 mm. Use a setting gauge (A) (2.024.014) to check.	 (A)

3.3 Basic Setting of Fold Unit

3.3.1 Basic roller setting

1. Loosen the flat head screw (SW3 = 3 mm Allen key) and swing out the roller motor mounting plate. **Password: 4277 necessary** **+** **Machine must be started in the service mode !!!** **=> see 2.4**	
2. Set the steel gear by hand until a gap of 0.5 mm is reached between the bottom of the steel gear and the brass block. (> use a feeler gauge)	
3. Touch the "Service Functions" key in the Service Menu. Select the appropriate potentiometer "Roller X Front/Rear" and set the AD converter to "ON". Then set the potentiometer to the Bit-value of 3279 and tighten the set screw (SW 2 = 2 mm Allen key).	

4. Re-position the mounting plate and secure it with the flat head screw (SW 3 = 3 mm Allen key).	
!!! Please note !!! Prior to the basic setting of the rollers (Pos. 5), steps 1 to 4 must be repeated at the opposite side of the roller.	
5. Now proceed to the mechanical basic setting of the roller. Loosen screw (A) and set the roller pressure with screw (B), using a 30 GSM paper strip. Re-tighten screw (A).	 (B) (A)
6. Now proceed to the fine adjustment of the roller pressure as described in chapter **3.3.2**. resp. save the value of the roller being set in the Service Menu - "Adjust Rollers".	

3.3.2 Readjusting the rollers

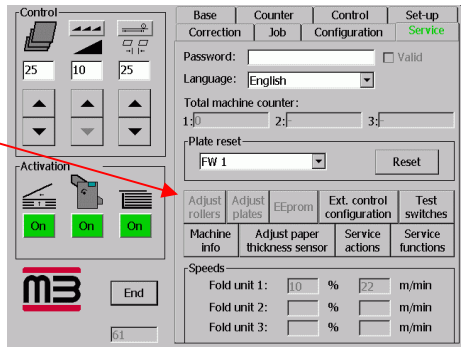
1. Touch the "Adjust Rollers" key in the Service Menu.

Password: 4277 necessary

+

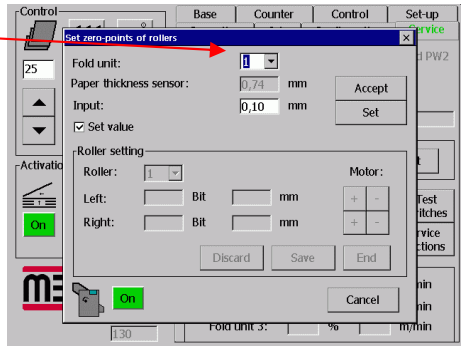
Machine must be started in the service mode !!!

=> see 2.4



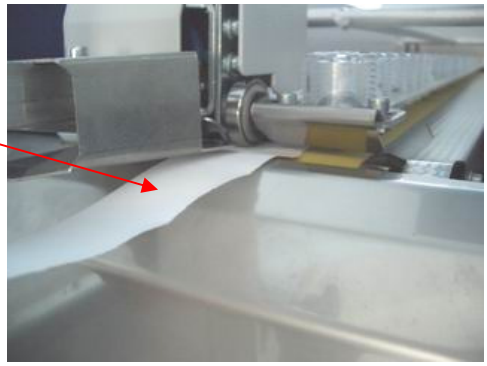
2. Select the fold unit.

.



3a. Hold a paper strip under the paper thickness sensor *or*

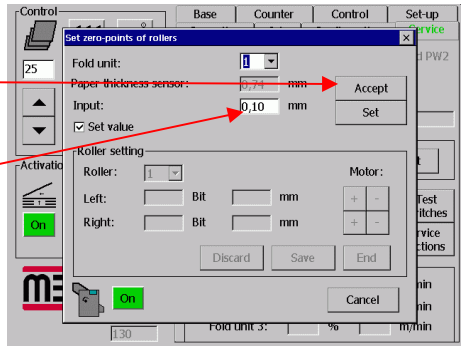
3b. ….. proceed with 4b.

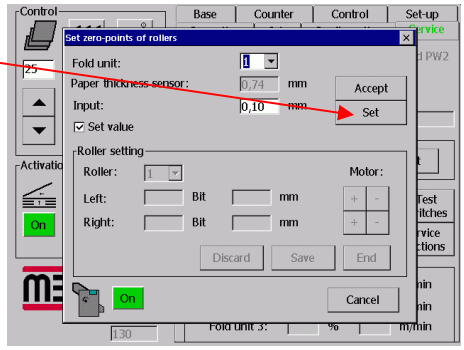
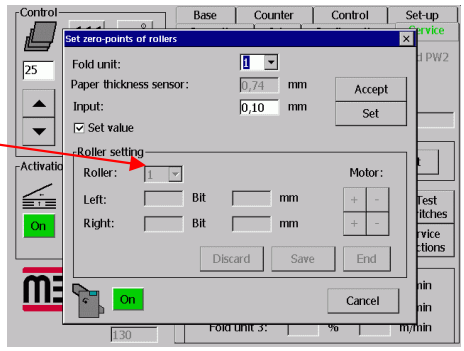
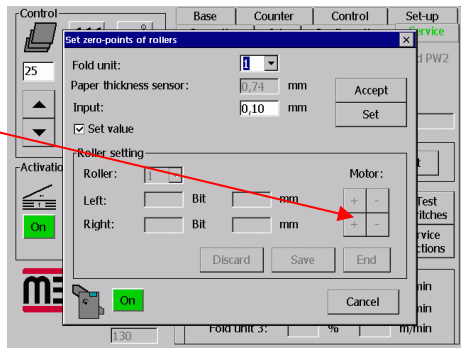


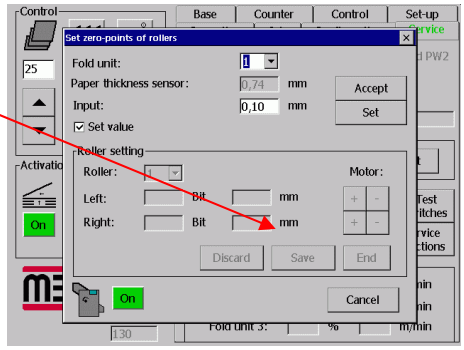
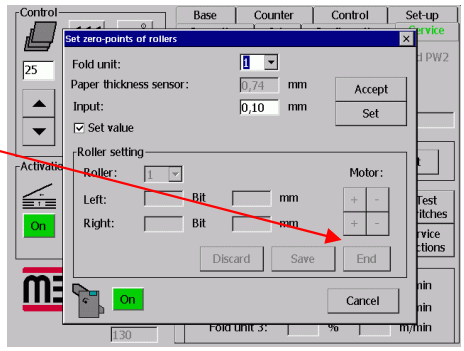
4a. Tranfer the thickness of the paper strip by touching the "Accept" key.

or

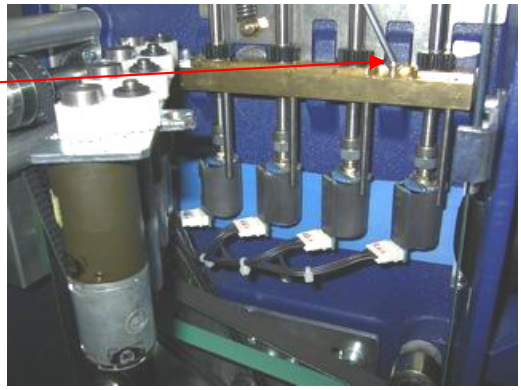
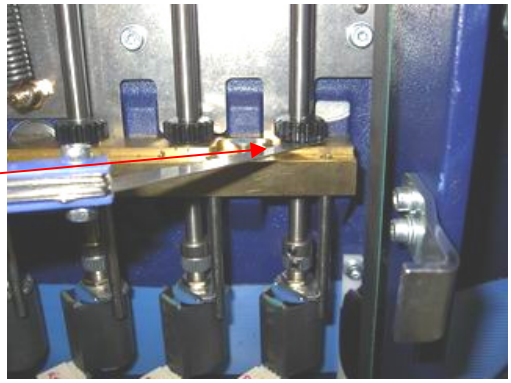
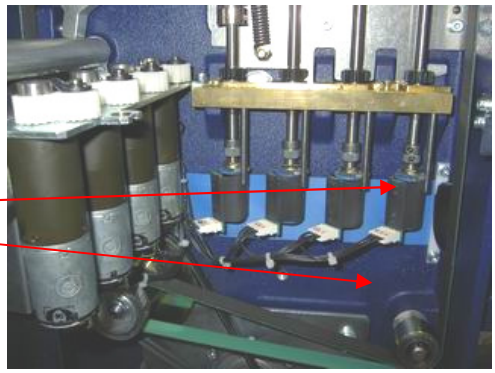
4b. Enter the thickness of the paper strip directly in the input window.



5. Touch the "Set" key. – **All** currently set roller values are saved and **all** rollers are positioned according to these values.	
6. Check the roller pressure with a paper strip by turning the handwheel.	
7. Select any roller that needs to be corrected by touching "ROLLER".	
8. Make the correction for front and rear of the roller with the Motor +/- keys.	

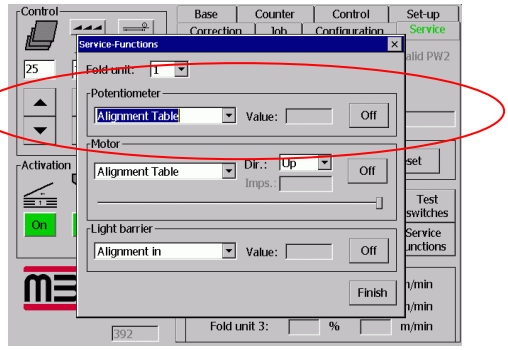
9. Save corrections by touching the "Save" key or cancel them with the "Discard" key.	
10. Under "Roller", select the next roller to be corrected. … proceed to step 8	
11. Touch "End" when the setting is complete.	
12. All rollers are reset to the roller settings saved in step 5.	

3.3.3 Replacing the roller potentiometer

1. Loosen the flat head screw (SW 3) and swing out the roller motor mounting plate (SW3 = 3 mm Allen key). **Password: 4277 necessary** **+** **Machine must be started in the service mode !!!** **=> see 2.4**	
2. Set the steel gear by hand so that there is gap of 0.5 mm between the bottom of the steel gear and the brass block. (> use a feeler gauge)	
3. Now the potentiometer can be removed by loosening the Allen screw (SW2 = 2 mm Allen key) and cutting the plug connection.	

4. Touch the "Service Functions" key in the Service Menu. Select the appropriate potentiometer "Roller X Front/Rear" and set the AD converter to "ON".

Then install a new potentiometer and set the Bit-value to 3,279; tighten the set screw (SW 2 = 2 mm Allen key).



5. Return the mounting plate to its original position and re-attach it with a flat head screw (SW 3).

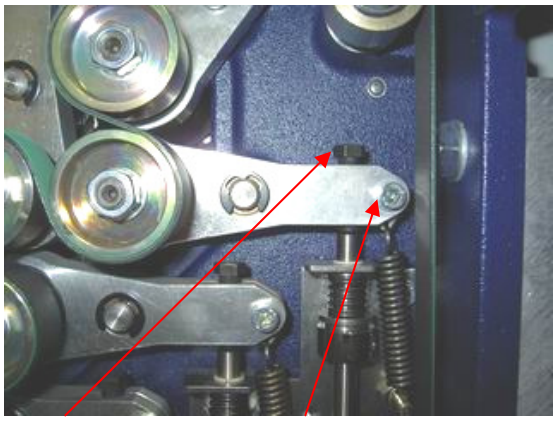
!!! Please note !!!

Prior to the basic setting of the rollers (step 6), steps 1 to 5 must be carried out also at the opposite side of the roller.

6. Now proceed to the mechanical basic setting of the roller. For this loosen screw (A) and set the roller pressure with screw (B).

Check the roller pressure with a paper strip (30g/m).

Re-tighten screw (A).



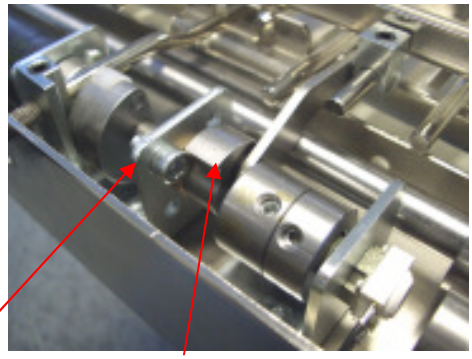
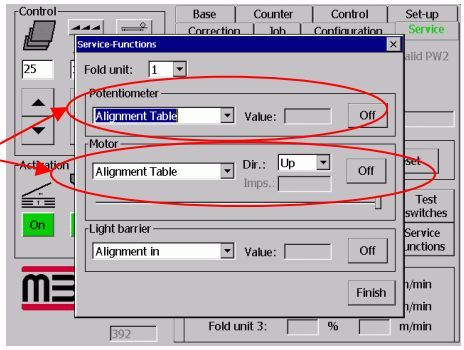
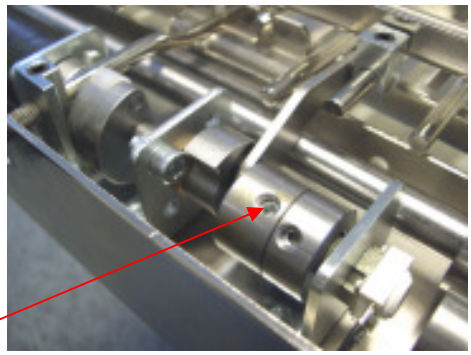
(B) (A)

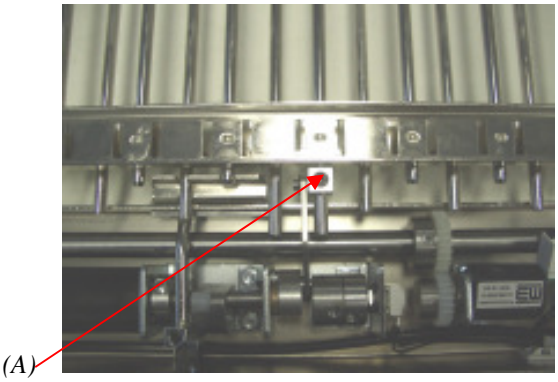
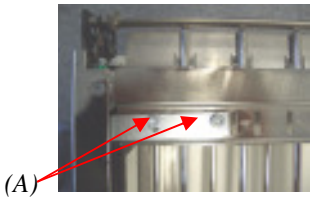
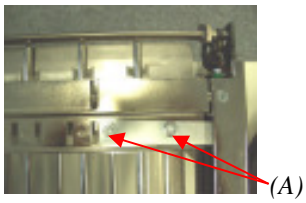
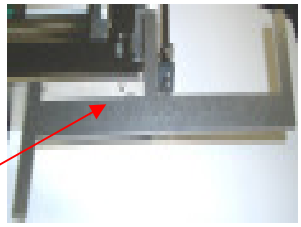
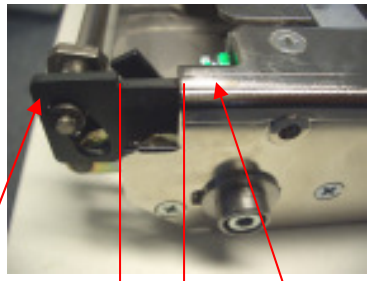
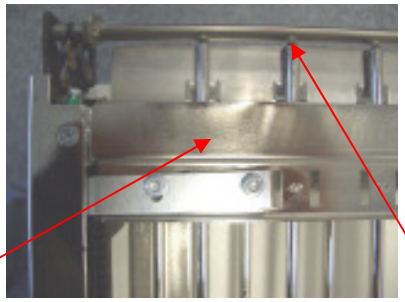
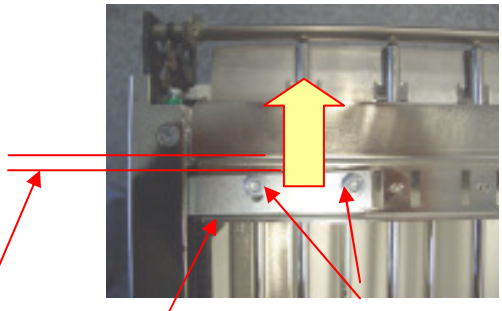
7. Now proceed to the fine adjustment of the roller pressure as described under **3.3.2**. resp. save the value of the roller being set in the Service Menu - "Adjust Rollers".

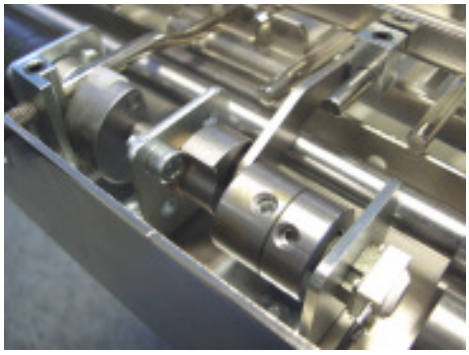
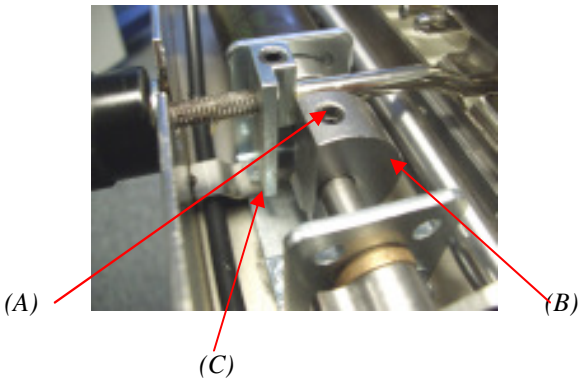
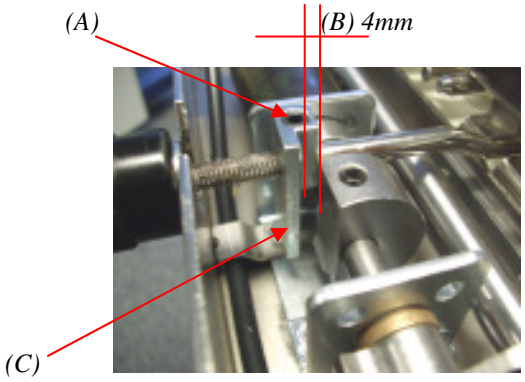
3.4 Basic Setting of Fold Plates

3.4.1 Basic setting of deflector potentiometer

Tools: Setting gauge: 2.024.014
Fold plate extension cable: 4.008.900

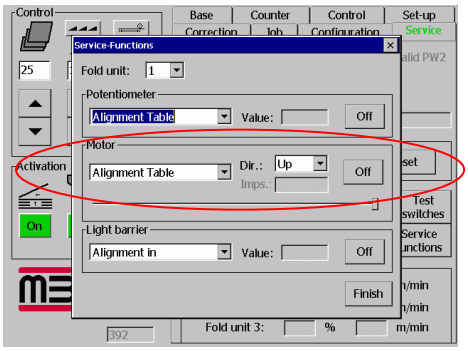
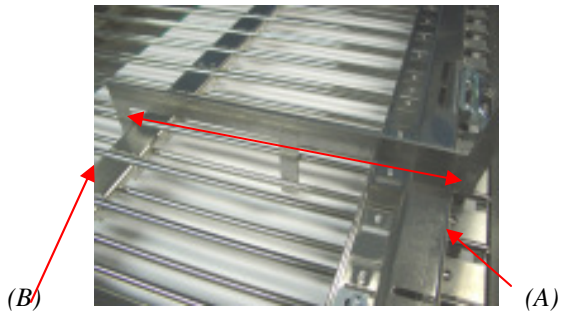
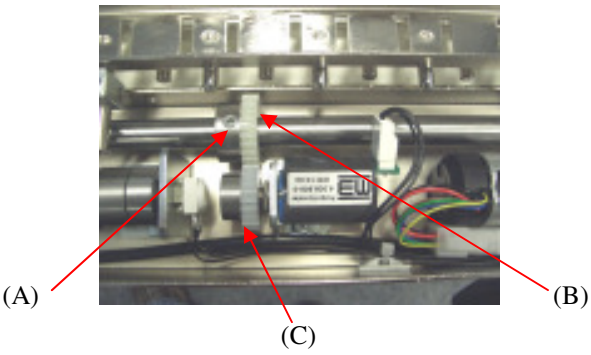
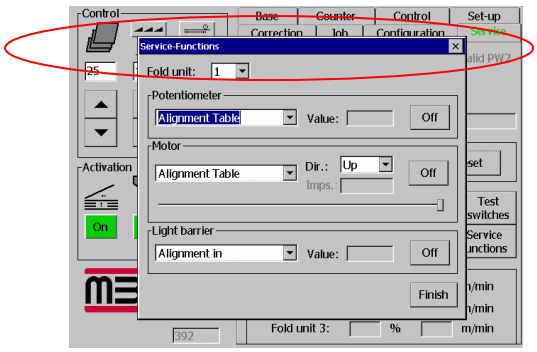
1. Move the deflector to the engaged position (fold plate closed).	
2. Insert an M5 screw (A) in the hole at the location shown in the picture.	
Password: 4277 necessary 3. In the Service Menu – "Service Functions", select Motor - "Plate X Deflector, and run the motor until the cam (B in picture of item 2) touches the screw (A in picture of step 2). 4. Select Potentiometer - "Plate X Deflector" and touch the "Off" key, which then changes to "On".	
5. Loosen the Allen screw (A) and turn the potentiometer until a bit value of 210 appears. **Remove the M5 screw again (A in picture of step 2)!!!**	

6. Loosen the clamp screw (A) at the upper grate of the fold plate.	
7. Loosen the two hexhead nuts (A) at the left- and right-hand side of the upper grate of the fold plate.	 
8. Clamp the setting gauge (2.024.014) – (A) (13mm) on both sides in the cut-out between thrust fork (B) and fold plate frame (C). 	
9. Push the upper grate (A) forward until there is a gap (B) of about 0.3 mm to the deflector at the center of the fold plate. Tighten the clamp screw (A in picture of step 6).	
10. Push the brackets on the left- and right-hand side (A) in direction of the arrow and align them parallel (B) to the upper grate of the fold plate. Tighten the hexhead nuts (C).	

11. Check the 98.5 degree angle. Use setting gauge (A) – 98.5 degrees (2.024.014).	
12. If not correct, readjust the potentiometer. **Potentiometer value larger:** Deflector swings further, angle increases. **Potentiometer value smaller:** Deflector stops earlier, angle decreases. see step 5	
13. Open the deflector. Select buckle plate in the Correction Menu and enter a 260 mm fold plate length.	
14. Loosen the Allen screw (A), set the flat of the cam (B) parallel to the block (C).	
15. Loosen the Allen screw (A) and set the block (C) to a gap (B) of 4 mm. Tighten the Allen screw (A).	

3.4.2 Basic setting of fold plate stop potentiometer

Tools: Setting gauge: 2.024.014
Fold plate extension cable: 4.008.900

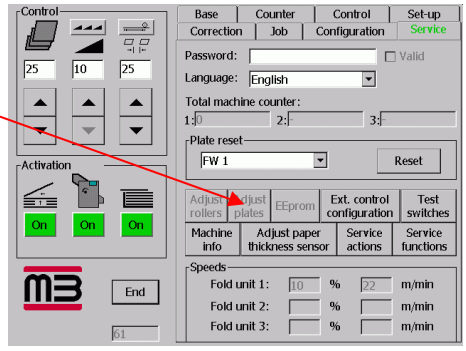
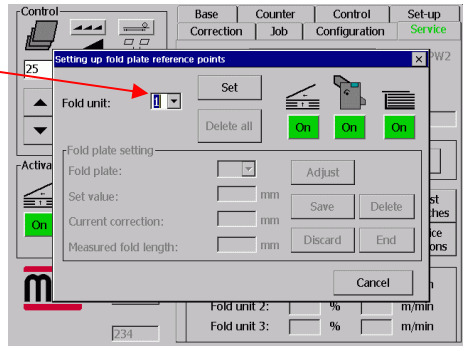
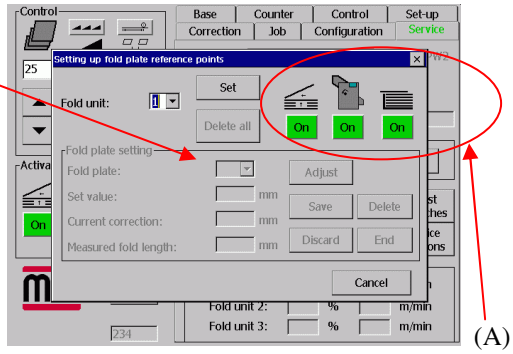
1. In the Service Menu – "Service Functions", Motor: "Plate x Length Setup", run the fold plate stop to the mechanical position shown in the picture of item 2 **Password: 4277 necessary**	
2. Mechanical position between round shaft (A) and paper stop (B) must be: **238.5 mm** Use setting gauge (A) – 238.5mm (2.024.014).	
3. Loosen Allen screw (A) at gear (B) and slide it sideways, out of mesh.	
4. In the Service Menu – "Service Functions", select Potentiometer: "Plate x Length Setup" and touch the "Off" key, which then changes to "On". Turn gear (C in picture of step 3) at the potentiometer until the bit value 8,528 appears.	

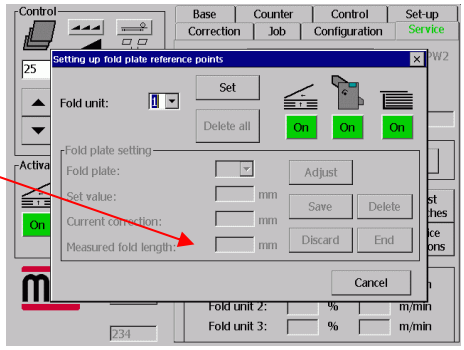
5. Re-engage gear (B) and re-tighten Allen screw (A) (see picture of item 3).	

3.4.3 Readjusting the fold plate length

Tools: A3 – 80 GSM paper
Fold plate extension cable: 4.008.900

This is done in the **Service Menu under "Adjust plates"** (from software version x.x.x)

1. Select "Adjust plates" in the Service Menu.	
2. Select the fold unit. .	
3. Select the fold plate to be corrected and have it set by touching "Adjust". The selected fold plate is set to 260 mm. All other fold plates are closed.	

4. Start a sheet (80 GSM) by touching key (A). The speed is set automatically to 50 %.	
5. Now measure the folded fold length and enter the measured value in the input window "Measured fold length". Then touch the "Save" key.	
6. Now select the next fold plate (proceed to item 4) or finish the correction by touching the "End" key.	

or under **3.4.2 Basic setting of the fold plate stop potentiometer**

Please note the following two examples:

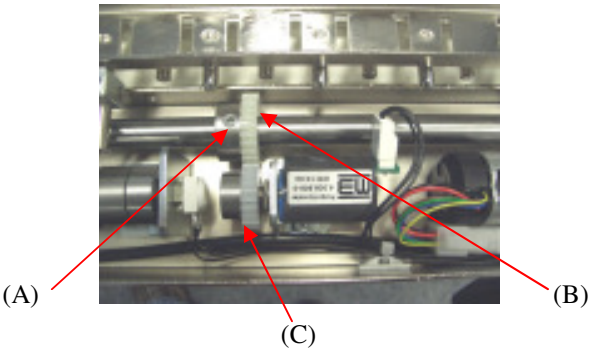
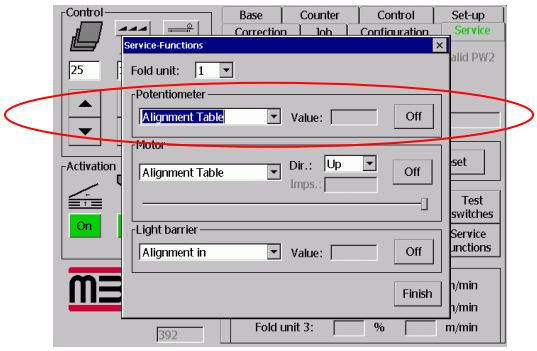
1 mm equals 32.8 Bit

Example 1 : Nominal fold length (in display): 200 mm
Actual fold length (measured on paper): 201.5 mm
Difference: + 1.5 mm

Difference in Bit: + 1.5 x 32.8 Bit+ 49.2 Bit

Example 2 : Nominal fold length (in display): 200 mm
Actual fold length (measured on paper): 198.3 mm
Difference: - 1.7 mm

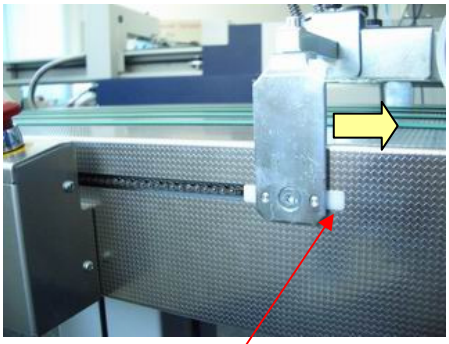
Difference in Bit - 1.7 x 32.8 Bit- 55.76 Bit

1. Select "Plate reset" in the Service Menu.	
2. Loosen the Allen screw (A) at the gear (B) and push the gear sideways, out of mesh.	
3. In the Service Menu – "Service Functions", select Potentiometer: "Plate x Length Setup" and touch the "Off" key, which then changes to "On". Turn the potentiometer gear (C in picture of item 2) until the displayed bit value + difference in bit appears. *Example 1: 8,528 Bit + (+ 4.2 Bit) =* ***8,577 Bit*** *Example 2: 8,528 Bit + (- 55.76 Bit) =* ***8,472 Bit***	
4. Re-tighten the Allen screw (A in picture of item 2) on the gear (B in the picture of item 2).	
5. **!!! Select "Plate reset" in the Service Menu after the correction of the potentiometer value !!!**	
6. Check the fold length. Repeat the correction, if necessary.	

3.5 Basic Settings of Shingle Delivery AM 52

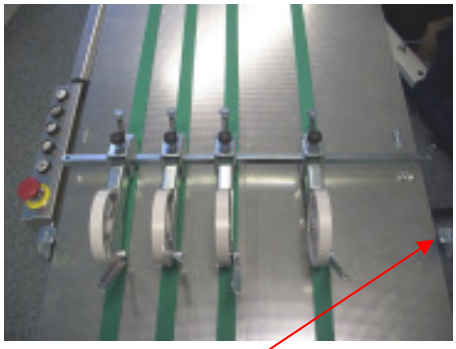
3.5.1 Position of the delivery rollers

1. Move the delivery rollers to the stop (A) at their shortest position by means of the +/- keys at the operator panel (AM 52).



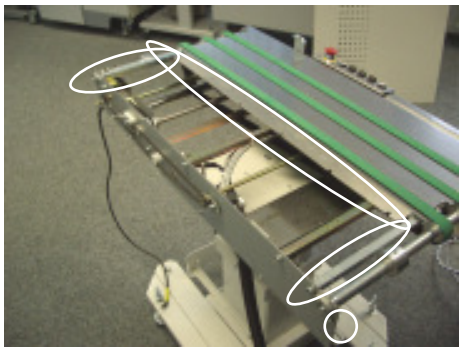
(A)

2. Remove delivery rollers and bracket (A) at the **Non** – operator side.

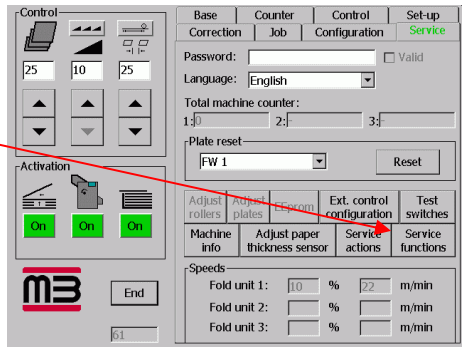


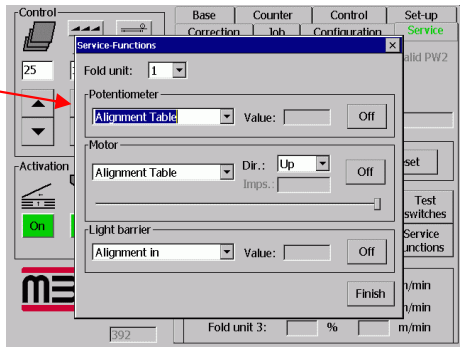
(A)

3. Remove the cover at the back. The screws are located in the areas marked in the picture.

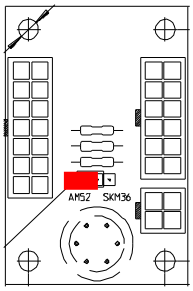
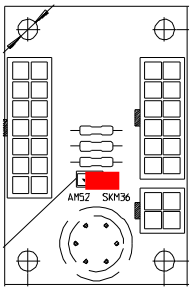


4. Touch the "Service Functions" key in the Service Menu.



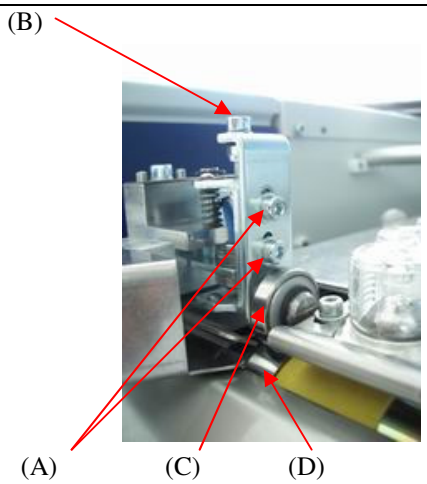
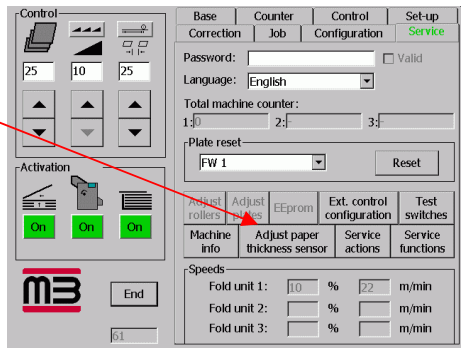
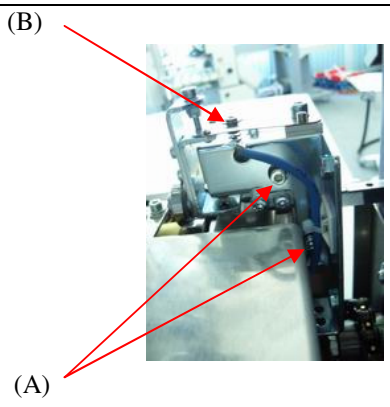
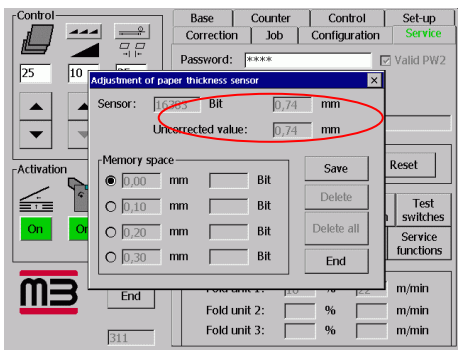
5. Select Potentiometer - "Delivery Table" and touch the "Off" key, which then changes to "On".	
6. Turn the pontentiometer until a value of 3,345 Bit appears in the display. 4,400 Bit = 100 mm 11 Bit = 1 mm	
7. Re-attach the cover.	

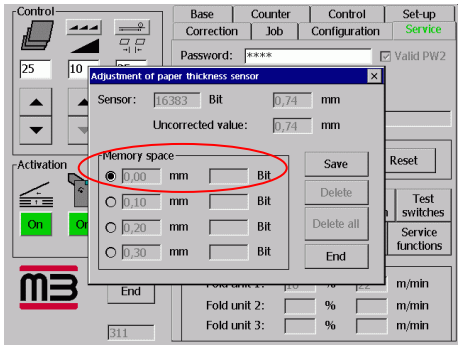
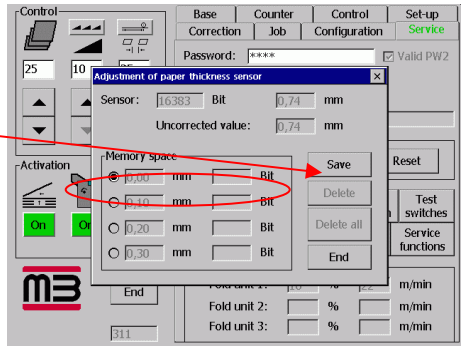
3.5.2 Jumper assignment on the delivery board

Select the type of delivery by placing the jumper as shown.  AM 52  SKM 36	

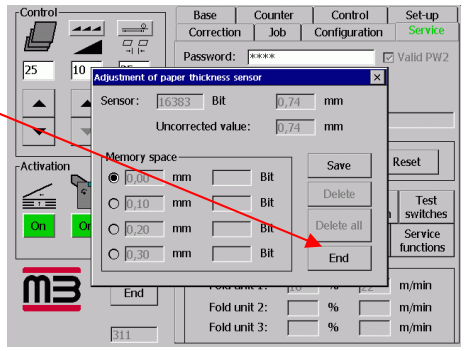
3.6 Paper Thickness Sensor

3.6.1 Basic setting of paper thickness sensor

1. Move the bearing upwards to make sure that roller (C) does **not** touch counter roller (D). To do this, loosen screw (A) and turn screw (B) counter-clockwise.	
2. Touch the "Adjust paper thickness sensor" key in the Service Menu. **Password: 4277 necessary**	
3. Slightly loosen the screws (A).	
4. Using setting screw (B), set the uncorrected value to -0.20 mm (+/- 0.02mm) (corresponds to 32xx Bit). Re-tighten screws (A) shown in the picture of item 3.	

5. Lower the roller with screw (A) until the uncorrected value 0.00 mm (+/- 0.02 mm) appears in the display. (corresponds to 60xx Bit) Re-tighten screws (A) shown in the picture of item 1.	(A) 
6. Select memory space "0.00mm" and touch the "Save" key.	
7. Slide a 0.10 mm feeler gauge (A) under the paper thickness sensor.	 (A)
8. Select memory space ".0.10mm" and touch the "Save" key.	
9. Repeat the process described in items 7 + 8 for 0.20 mm and 0.30 mm.	

10. Complete the setting by touching the "End" key.



3.7 Defined AD-Converter Values of the Recognition Potentiometers

The following ranges are defined for the respective potentiometers:

3.7.1 Feeder recognition

FSA-Length [Bit]	FSA-Width [Bit]	Type of Feeder
< 100	< 100	Manual FSA
< 100	> 16000	Undefined
> 16000	< 100	Undefined
> 16000	> 16000	No feeder
> 100 / < 16000	> 100 / < 16000	Automatic FSA

3.7.2 Folding SKMtion-ID (DIP-switch) recognition

AD-Value [Bit]	Switch Position	Fold Unit
< 150	S1: off, S2: off	Fold Unit-ID = 1, Width = 52 cm
< 265	S1: off, S2: on	Fold Unit-ID = 2
< 520	S1: on, S2: on	Fold Unit-ID = 3
< 775	S1: on, S2: off	Fold Unit-ID = 1, Width = 38 cm
>= 775	?	Undefined

Also see Chapter 5.1: Setting the address on the control board

3.7.3 Recognition of the subsequent module

AD-Value [Bit]	Subsequent module
< 10	No plug
< 120	Jumper plug
< 245	Fold Unit, Width = 38 cm
< 375	Fold Unit, Width = 52 cm
< 780	SKM without kicker
< 855	SKM with kicker
< 900	AM 52 without kicker
< 925	AM 52 with kicker
>= 925	Undefined

3.7.4 Fold plate recognition

AD-Value [Bit]	Type-ID	Type
>= 1010	1	Standard fold plate
>= 500	3	Gatefold fold plate
>= 220	?	Blind fold plate (no fold plate, deflector only) *Not yet defined!*
>= 100	4	Fold plate does not exist (set automatically in a fold unit with 4 fold plates)
< 10	2	No fold plate

Please note: In a fold unit with 4 fold plates, fold plates 2 and 5 are not available. Therefore a bit value of >= 100 is displayed for these fold plates. For the remaining fold plates 1, 3, 4 and 6, the bit value is >= 1010.

3.7.5 Fold roller recognition

The fold plates are identified by means of position recognition. If a roller is available resp. connected correctly, it has a stable value which fluctuates only slightly. If no roller is connected, the potentiometer is floating and the value rises or drops continuously.

Please note: In a fold unit with 4 fold plates, fold rollers 6 and 8 are not available. Therefore the bit value of rollers 6 and 8 changes continuously, because this input is not wired. For the remaining fold rollers 1, 2, 3, 4, 5 and 7, a constant value is displayed.

4 Software

Instructions for the Download of the Software

4.1 Equipment Needed

The following equipment is needed for the respective installations:

For client software (operator panel): *Connection via FTP - Server* ***see chapter: 4.3***	**- Display with installed FTP-Server** - Notebook with configured network interface - **Installed** Software *Core FTP Lite* - Network card - Network cable 4.008.920

For client software (operator panel): *Connection via serial cable* ***see chapter: 4.2***	- Notebook with a free serial interface - **Program RemoteAdmin on the Service-CD** - Serial cable; crossed; Connector: Female / Female 4.008.898

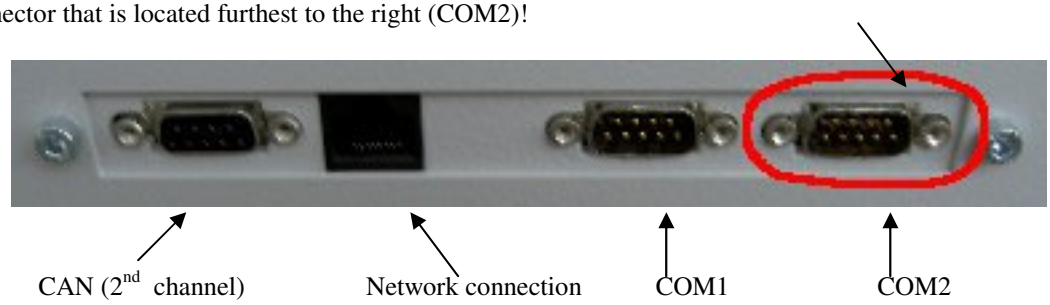
For machine software (control): *Connection via serial cable* ***see chapter: 4.8***	- Notebook - **Program TQ-Load on the Service-CD** - Serial cable; 1:1 ; Connector: Male / Female 4.008.899

For network administration (operator panel): *Connection via network cable*	- Notebook with configured network interface - Network cable 4.008.920

For client software (operator panel): *Connection via network*	- Notebook with configured network interface and - software *CE Remote File Viewer* **installed** - Network interface card - Network cable 4.008.920

4.2 Client Software (Operator Panel) via Serial Cable

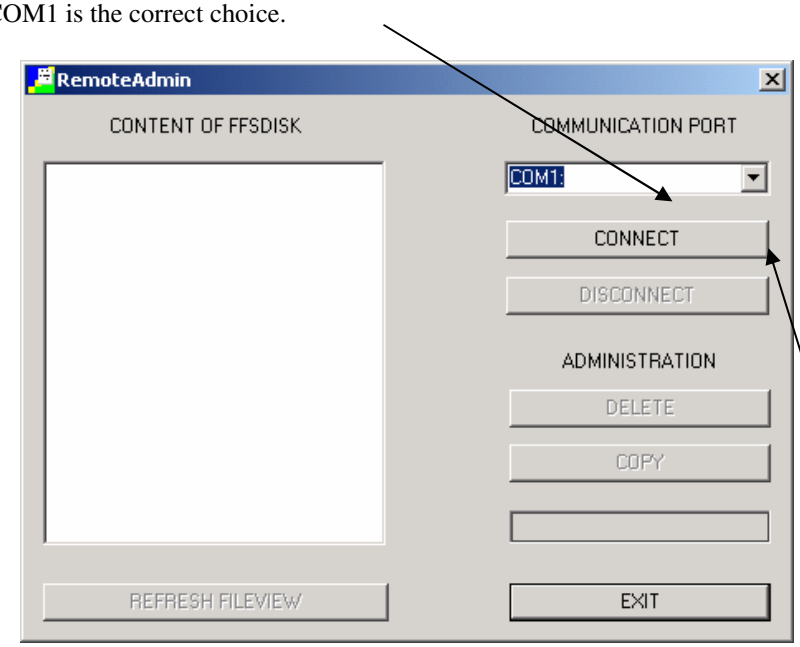
1) Connect the display and the notebook with a serial crossed female/female cable. At the display, use the connector that is located furthest to the right (COM2)!



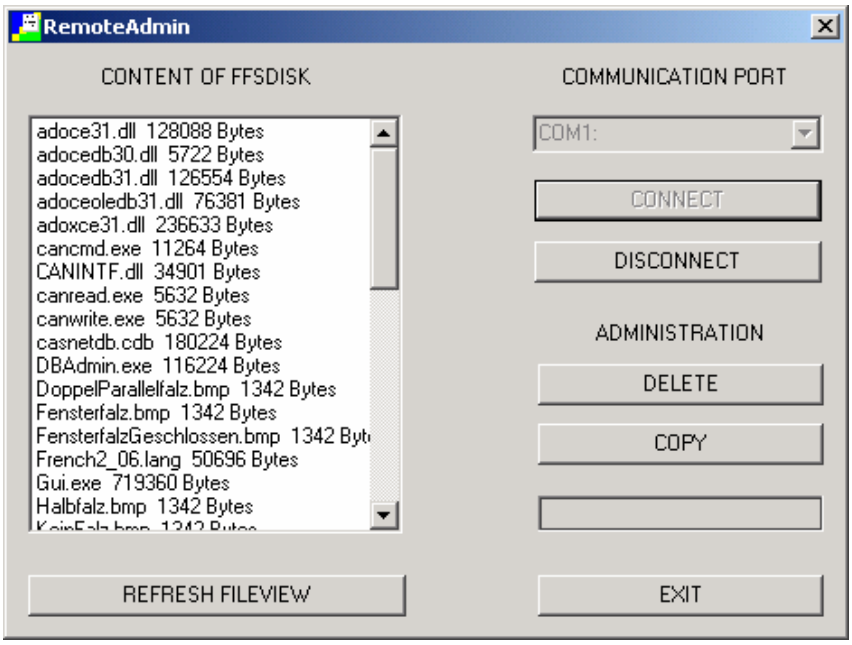
2) If the display program is running at this time, it should be closed with the "End" button.

3) Start the program "RemoteAdmin" on the notebook directly from the Service-CD, file "\RemoteAdmin"".

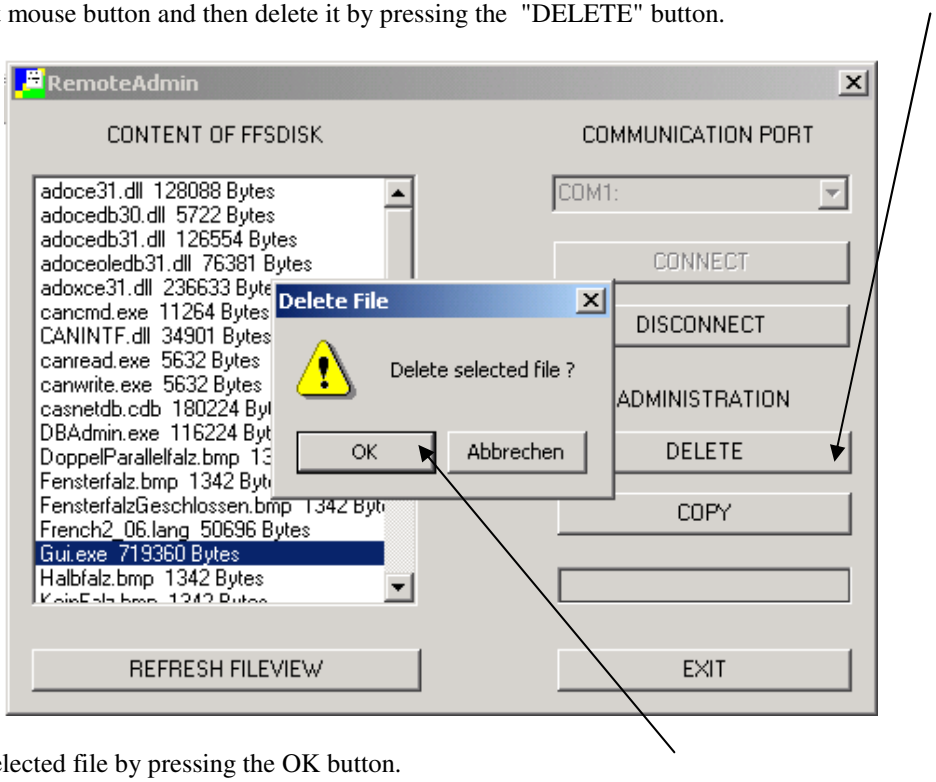
4) Select the serial interface where the serial cable of the notebook is connected.
In most cases COM1 is the correct choice.



5) When everything is connected correctly, the content of the display hard disk is shown when pressing the "CONNECT" button (see the following picture).

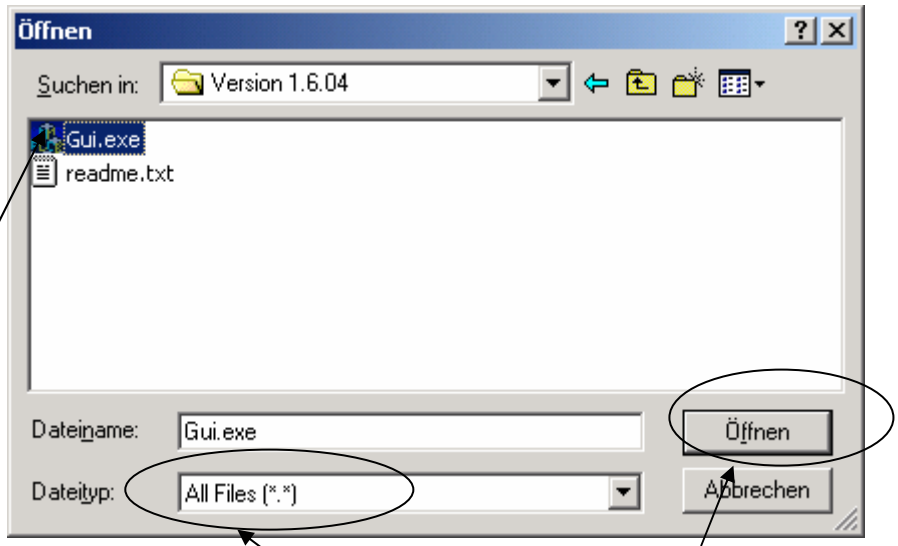


6) To update a data file, the old version should first be deleted on the display. For this, select a file in the list using the left mouse button and then delete it by pressing the "DELETE" button.



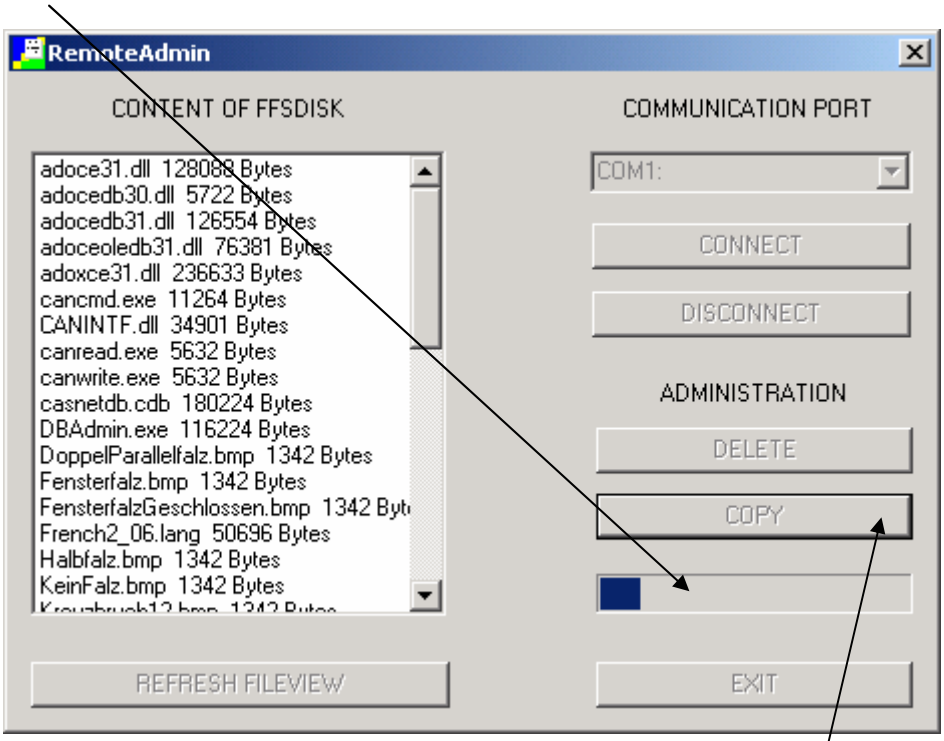
7) Delete the selected file by pressing the OK button.

8) Press the "COPY" button (1) to load a new version of the file. Another window is opened where the file to be copied can be selected. If no files are visible, "All Files" must be selected under "Files of type" (2). Select the appropriate file (3) and confirm with "Open".



(3) (2) (4)

9) The file transfer starts after the "Open" button (4) has been pressed.



(1)

10) Repeat steps 6 to 9 if you want to transfer more files.

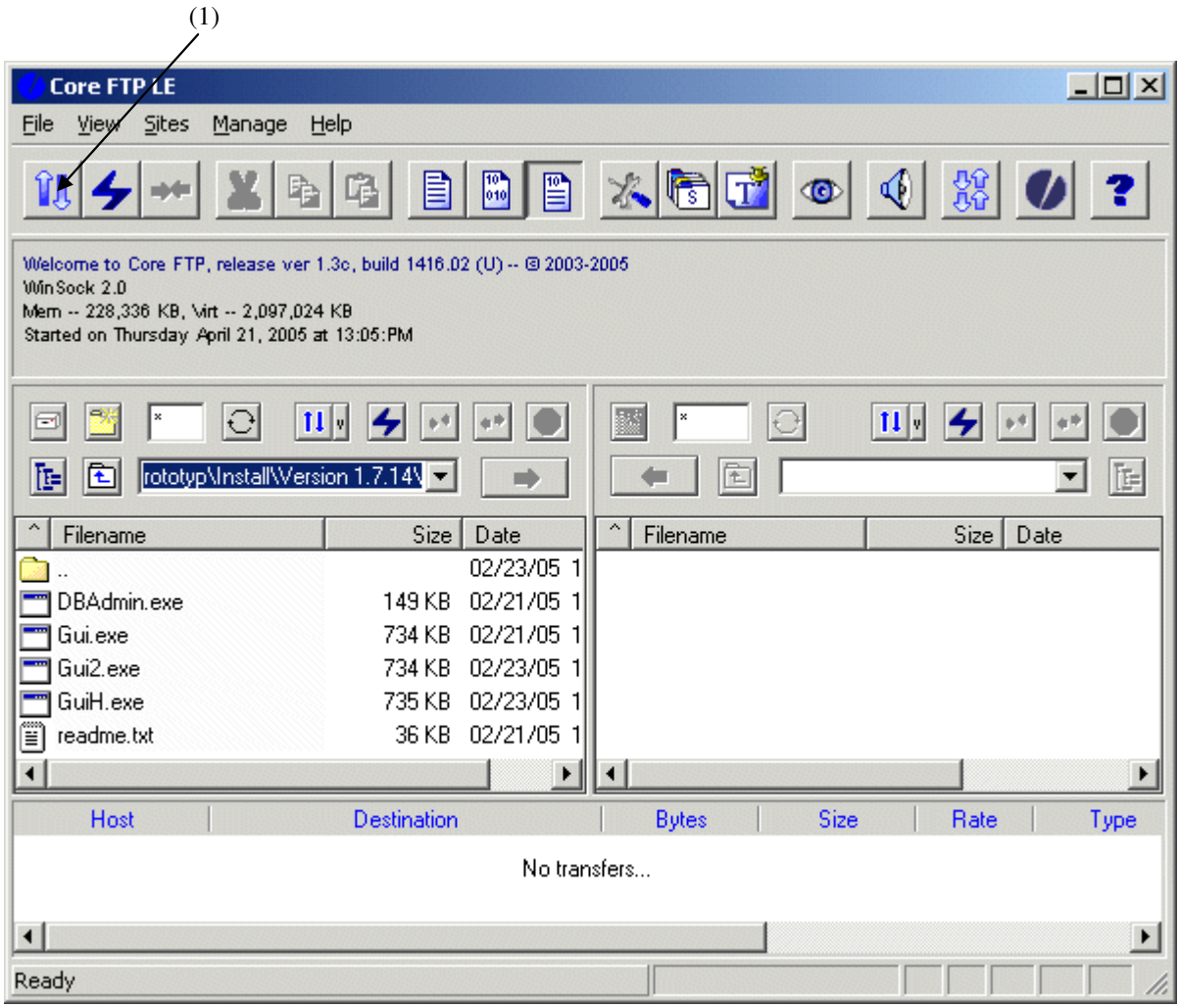
4.3 Data Transmission via FTP

4.3.1 Preconditions:

An FTP-client (program installed on the notebook) is needed to transmit data/programs to respectively from the display via a network. This program is located on the Service CD and should be installed on the notebook. Moreover, the notebook must be configured in such a way that it is network-capable (min. 10MBit) and should be able to contact the IP-address 192.168.78.155. If a network configuration is necessary, your EDP-department will be pleased to help you.
A documentation to test the network connection for proper function is contained in chapter 4.7.1.

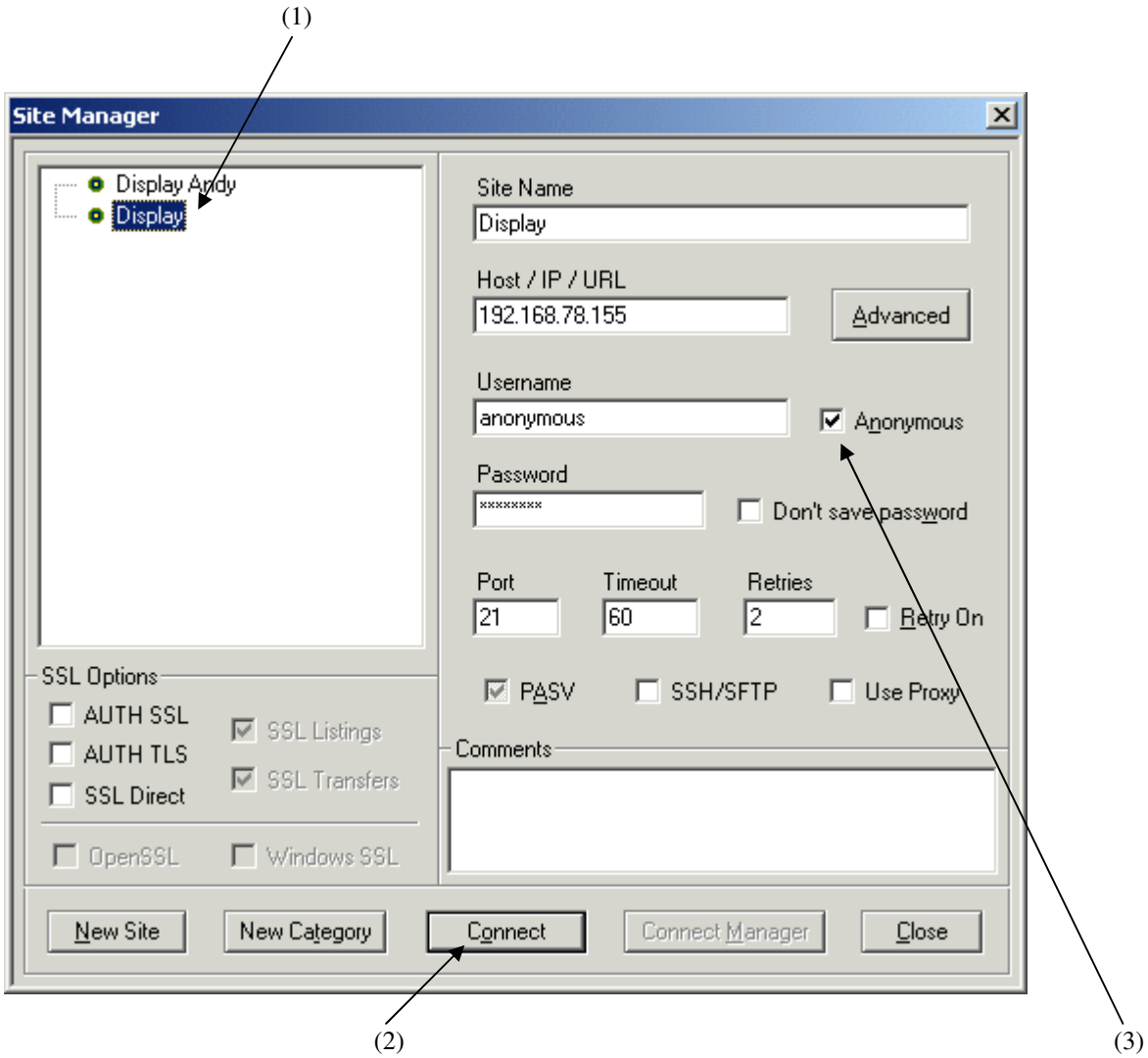
4.3.2 Program start:

Once the FTP program has been installed successfully on the notebook, you can start it immediately. During the loading process, a small window pops up which provides information about the licence. Non-registered versions are delayed by a few seconds. Then the following program window appears and you can start to connect to the display.



4.3.3 Connecting

A second window is displayed immediately after the start. If this window does not appear, press the communication button (1) shown in the picture on the previous page. The following window should now be displayed:

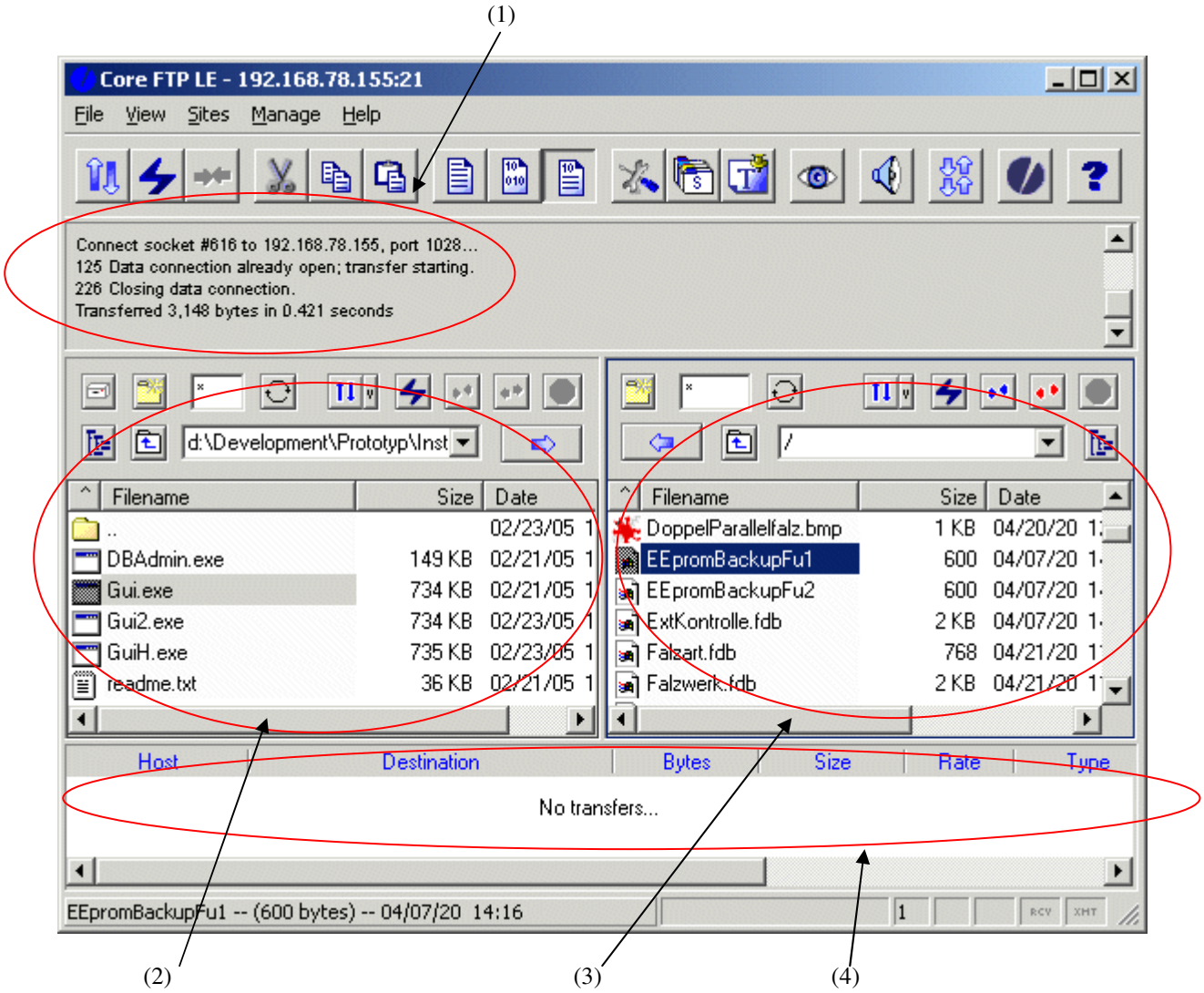


a) If a connection was established before, the connection in question (called "Display" in this case) can be used again. Select the entry "Display" (1) in the tree structure and press the "Connect" button (2).

b) When establishing the first connection, enter the values as shown in the above illustration. The Site name is the desired name which will subsequently be taken over in the tree structure in the left section of the illustration and can be re-used in later sessions. This name is user-defined. All other entries such as IP, Port, etc. must be adopted as described above. There is no need to specify the user name, because the user name and its password are set automatically as soon as the Anonymous Checkbox (3) is activated. Now press the "Connect" button (2) to SKMrt the connection. If successful, the Site name is transferred to the tree structure for later sessions.

4.3.4 Data transfer

The following window is displayed after a connection has been successfully established:

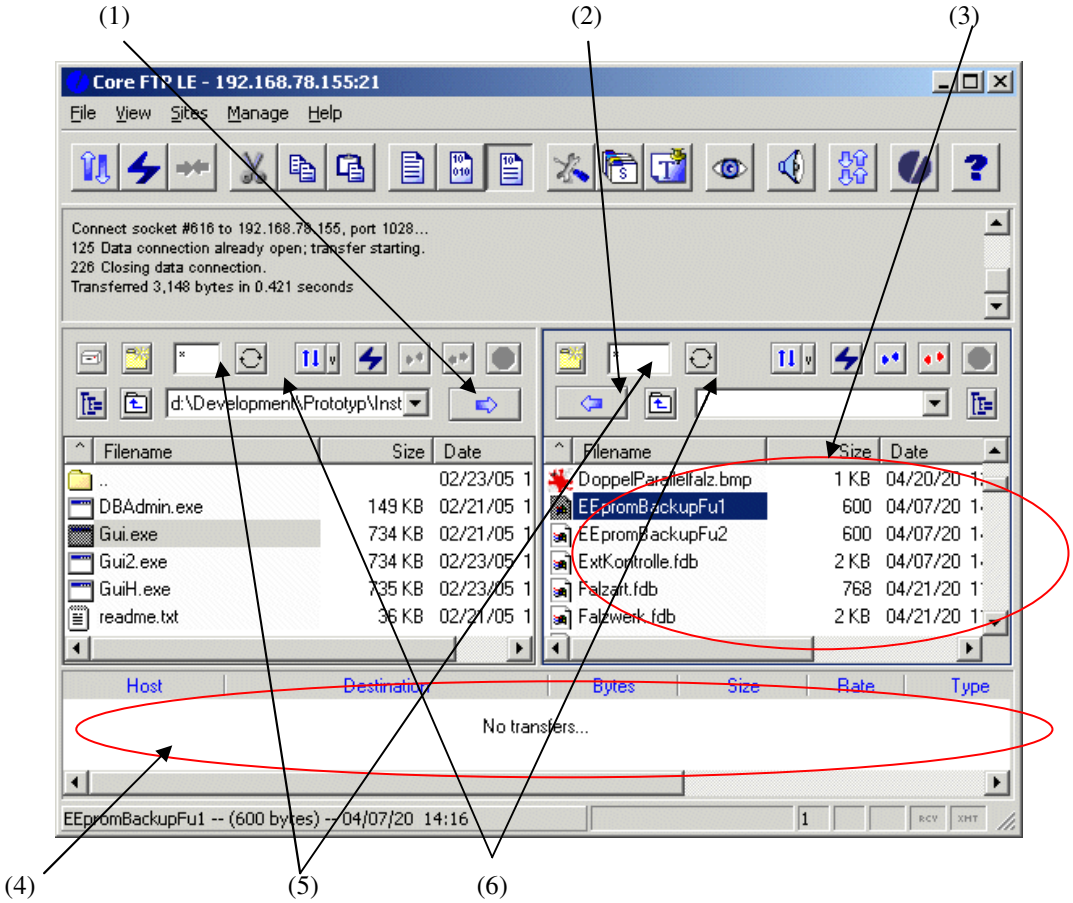


Status messages are displayed in the upper section (1) below the toolbar. Below you will find the local directory - notebook (2) on the left-hand side and the directory of the display (3) on the right-hand side. Below this information there is the transfer display (4) showing all data transfers. You can change or adapt the configurations of the display as you wish, thus deviating from this description. In principle, the two sections (2) + (3) with the directories are mainly needed.
For additional help, tool tips are displayed above each button as soon as you dwell there for an instant with the mouse pointer.

4.3.5 Upload (copying files from the notebook to the display)

Proceed as follows to transfer files from the notebook to the display:

a) Select file(s) on the left (2) (in the notebook directory). Select an individual file with a click on the left mouse button. If you want to select several files, hold the Strg button depressed and add additional files with a click on the left mouse button. If you want to select an entire block, select at first the first file with a click of the left mouse button, hold Shift depressed and select the last file with a click on the left mouse button.



b) Transfer the files to the display on the right with a click on button (1). All selected files are now automatically pasted in the transfer section (4) and transferred in sequence to the display. The transfer display (4) is cleared as soon as all files have been transferred.

4.3.6 Download (copying files from the display to the notebook)

In principle, the download works as the upload. First of all the desired files are selected on the right-hand side (3) and then transferred by means of the transfer button (2).

4.3.7 Further operations

Further operations must be executed by means of a pop-up menu.
A file can be renamed by selecting the desired file and pressing the right mouse button. A pop-up menu will appear. In this menu you have to select the item Rename and then rename the file you have selected. This works both in the notebook and in the display directory.

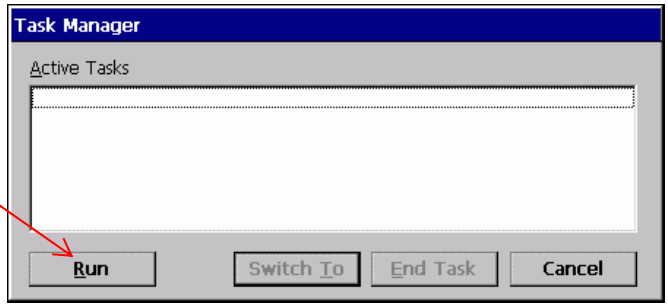
It is also possible to set filters for a more simplified view of the files. If, for instance, only graphics are to be displayed, you can enter ***.bmp** in the edit field of the filter (5). When doing this, only files ending with .bmp are displayed after you have confirmed the entry by pressing the "Enter" button or button (6) (two rotating arrows).

4.4 Display Configuration

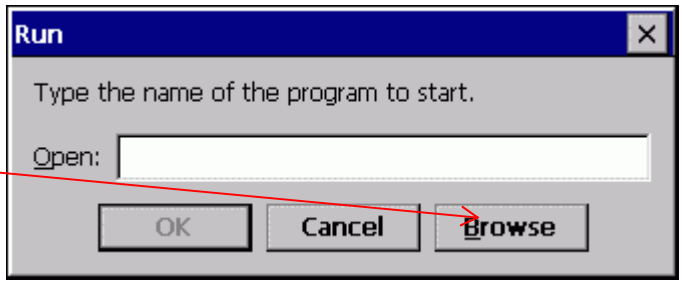
To make sure that the display is ready to use you must provide the master program Gui.exe which is compatible with the updated data base. Therefore, there is an administrative program called DBAdmin[Sprache].exe. The language is either *De for German* or **Eng for English**. This program updates the necessary data base spreadsheets for the respective program version and has to be started as follows:

Press the display. The task manager will appear.

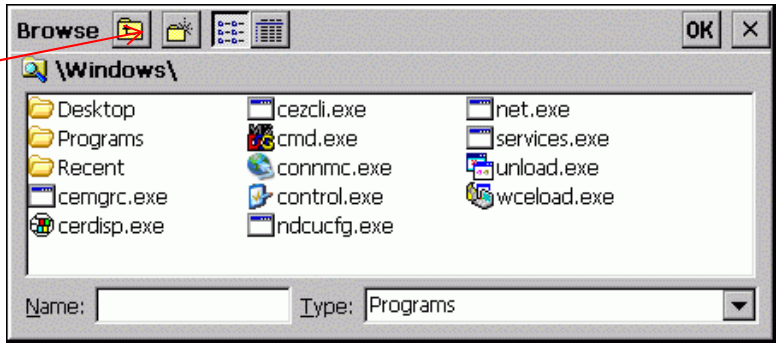
Via the button „Run“ the program start window will be activated.



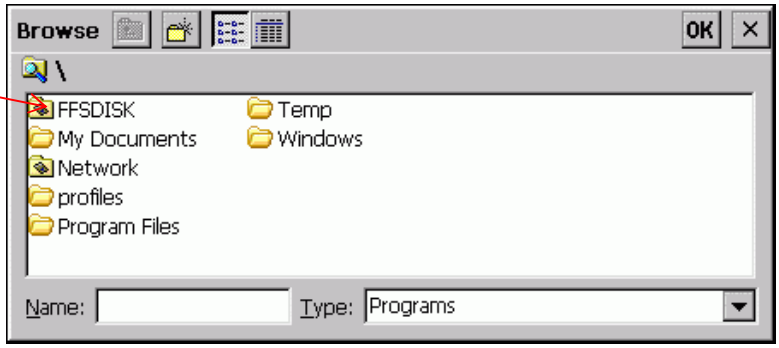
The desired program name can be entered into the program start window. As there is no keyboard, the desired program will be activated via selection window. In order to activate the selection window the “Browse” button must be pressed.



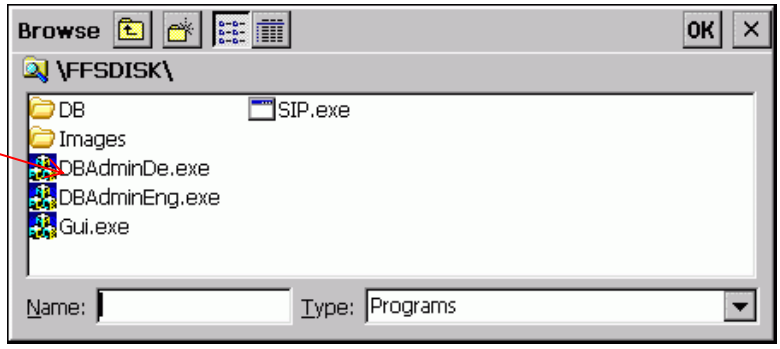
Use the left button to go to the superior directory in the selection window.



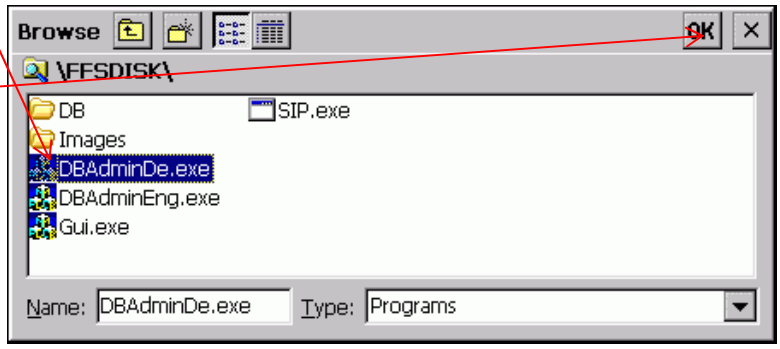
Double-click onto the directory FFSDISK in the Root directory (supreme directory).



In the FFSDISK directory two versions of the DBAdmin can be selected, either DBAdminDe.exe for the German version or DBAdminEng.exe for the English version.

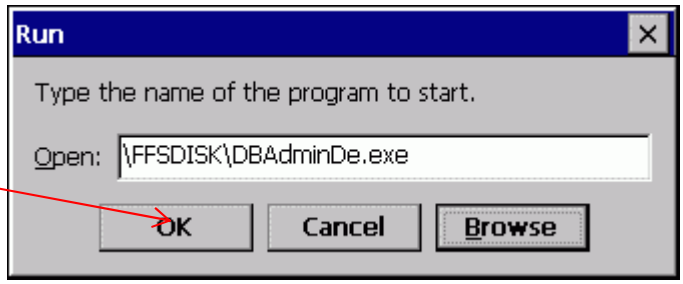


After choosing a version by touching the name, the choice will be confirmed via the OK button.



Once you have pressed the OK button, the choice will be accepted and shown in the run window.

When pressing the OK button, the desired application will be started.



The configuration has been started.
The user can now reset all or several data base spreadsheets to the respective software version.

Version (1) of the DB-Admin must go with the display software that has been installed.
At least the first two figures must be identical.

The instructions which spreadsheets are reset to the software version are shown in readme.txt; file of the respective display software version.

Those who are not sure can also reset all charts by means of the *All* button. Please bear in mind that, in this case, **all jobs will be deleted!**

4.5 Operator Panel Files Used

The following files are essential for the operation of the display:

Gui.exe	Main Program (is SKMrted automatically when turning on the machine (power).
CANINTF.DLL	CAN Driver
Auftrag.fdb Falzart.fdb Falzwerk.fdb BlattFormat.fdb StandardFalzart.fdb StandardfalzName.fdb Konfiguration.fdb Fehler.fdb ExtKontrolle.fdb	Data base files that now replace the formerly only data base file Casnetdb.cdb. The files contain the following information: • "Auftrag", "Falzart", "Falzwerk" contain the complete information needed for a fold job. • "BlattFormat" contains all standard paper sizes that are shown in the paper size combobox in the Setup Menu. • "StandardFalzart" contains the buckle plate dimensions for all standard folds. • "StandardfalzName" contains the names of all standard folds in all languages that are available. • "Konfiguration" backs up the current configuration of the machine (language set, current job, activated external channels, etc.). • "Fehler" contains all errors that have occurred. • "ExtKontrolle" contains possible channel texts in all languages that are available.
Mfcce300.dll	Microsoft class library for the presentation of the GUI-elements
Olece300.dll	Microsoft class library for the communication of the GUI-elements

The files used by the main program. It is recommended to inSKMll them as well to facilitate the job.

DoppelParallelfalz.bmp Fensterfalz.bmp FensterfalzGeschlossen.bmp Halbfalz.bmp KeinFalz.bmp Kreuzbruch12.bmp Kreuzbruch16.bmp Kreuzbruch24.bmp Kreuzbruch8.bmp Omegafalz.bmp WickelfalzT12.bmp WickelfalzT1246.bmp WickelfalzT13.bmp WickelfalzT135.bmp Zeichnungsfalz.bmp Zickzackfalz2.bmp Zickzackfalz3.bmp Zickzackfalz4.bmp Zickzackfalz5.bmp Zickzackfalz6.bmp	These files represent all standard folds as diagrams. They are used when setting up the main program. If not all of them are available, only a standard diagram with a question mark is displayed. It is therefore recommended to install these files if they are not yet present.
Optionale Sprachdateien (*.lang)	Additional languages can be installed by copying the appropriate language file. When starting the machine again, the respective language will then be available under the service tab. Available languages are shown in the file "\Display\Languages" of the Service-CD.

Administration files:

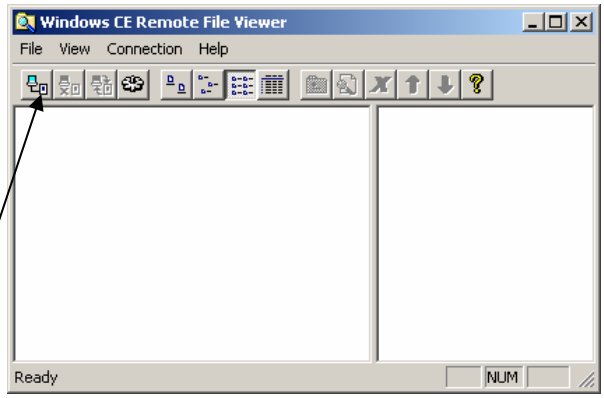
DBAdmin.exe	Auxiliary program to administrate the database files.
SerialTest.exe	Tests the output of both serial ports of the display. The output can be traced with the notebook by means of the terminal program.
CANTest.exe	Tests the communication between the two CAN-ports. Can only be used with a special adapter!

All the other files which have not been listed belong to special service programs such as database, etc. and should therefore not be deleted!

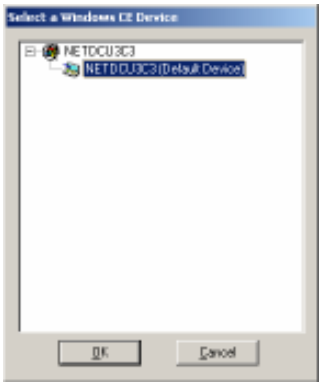
4.6 Client Software (Operator Panel) via Network Cable

- Press the "END" button on the operator panel – DO NOT turn off the machine.

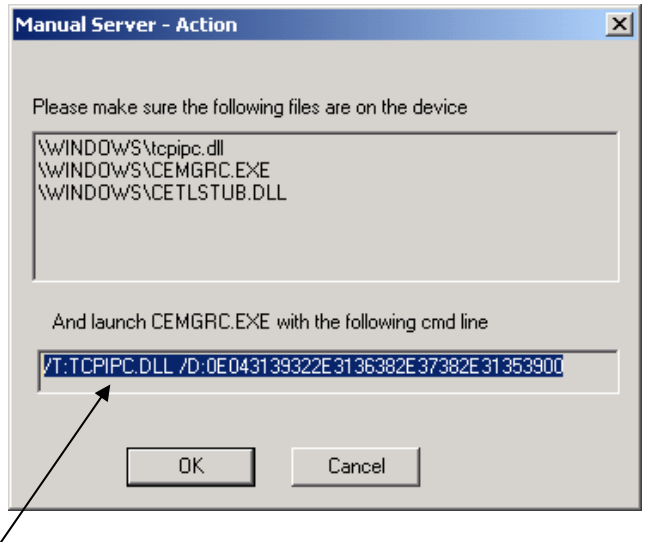
- Start program "*CEFileView*".



- Click on"Add connection".

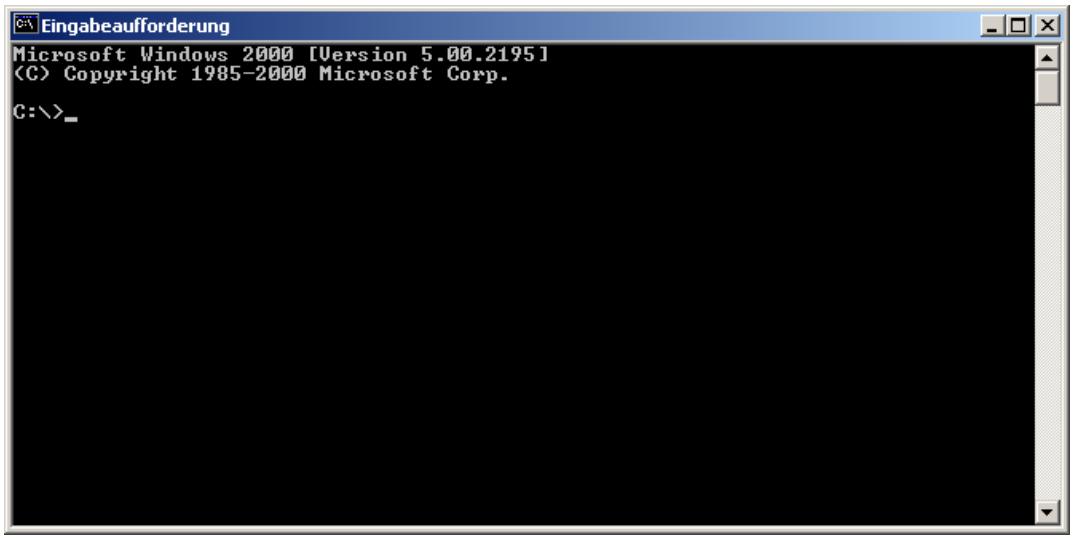


- Select NETDCU3C3 (Default Device) and click on OK.



- Copy this text. Mark text, right mouse button, copy.

- Start DOS input window.

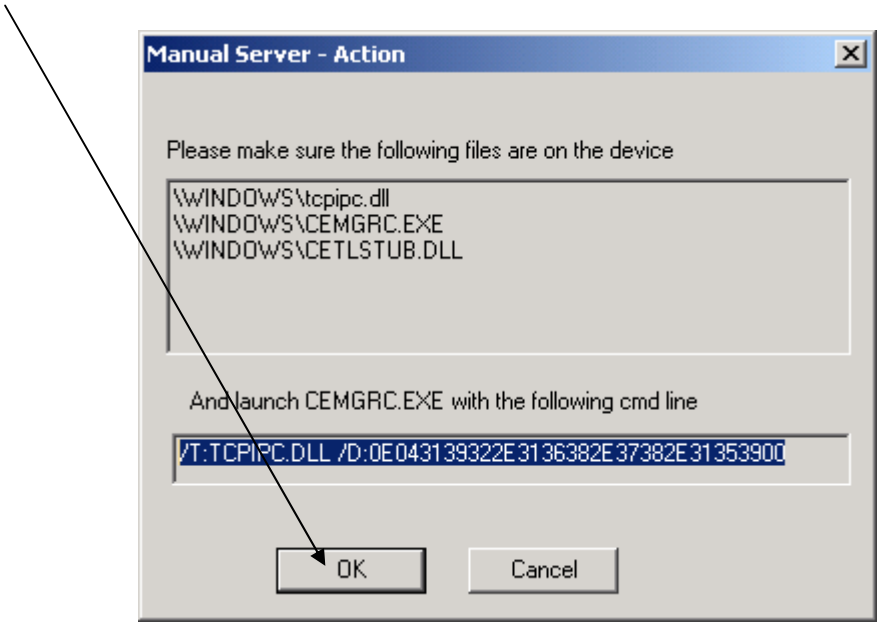


- Enter *telnet 192.168.78.155* and press the return button; the following message is displayed:
Pocket CMD V3.o

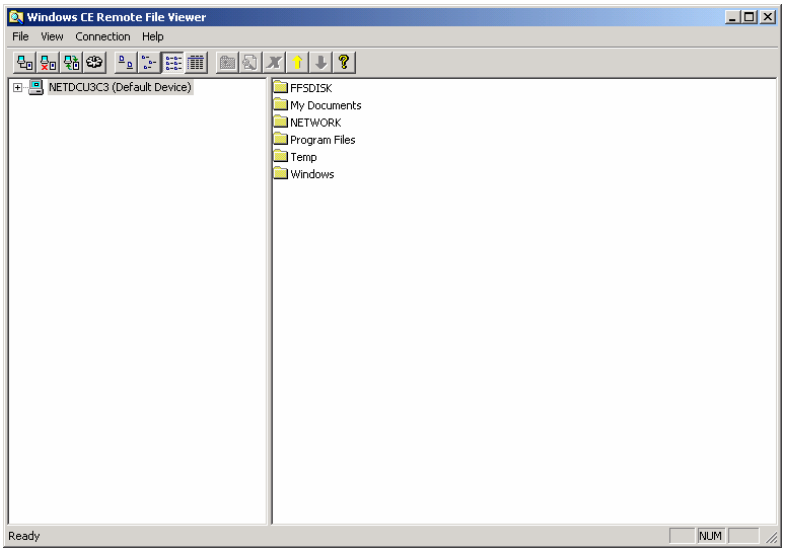
Please note:
If the address is unknown, it can be tested with ping 192.168.78.xxx..

- Enter *cemgrc* ; move the mouse pointer to the DOS input window and press the right mouse button (the text copied before is pasted).
- Press the return button.

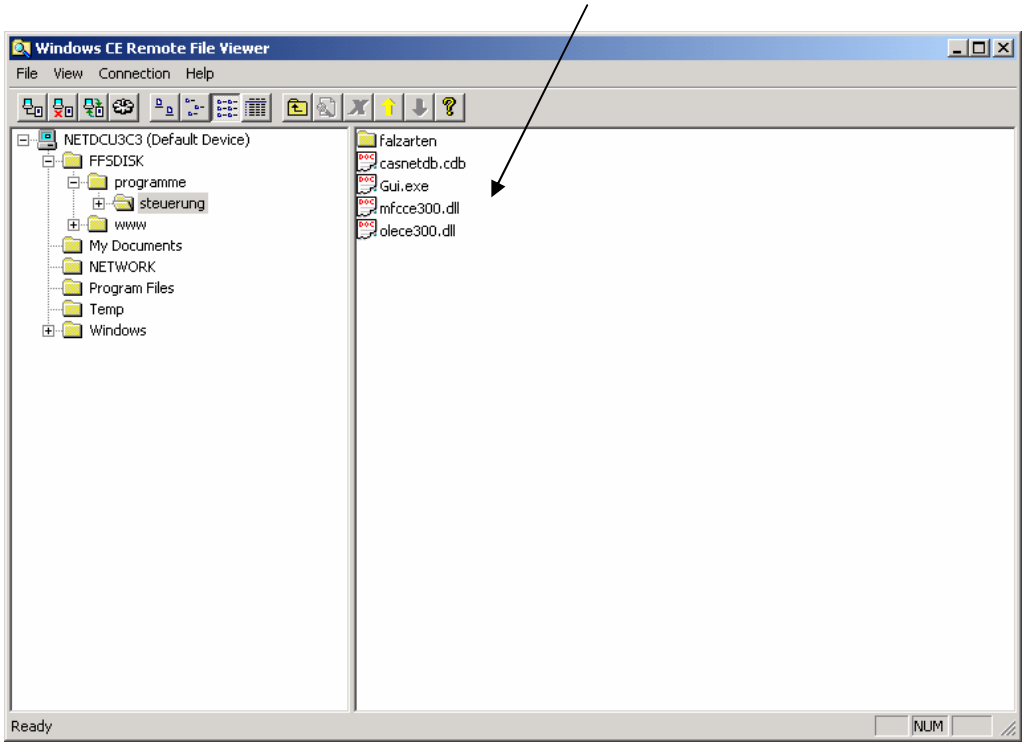
- Switch to program window "Manual Server - Action"“ and click on OK.



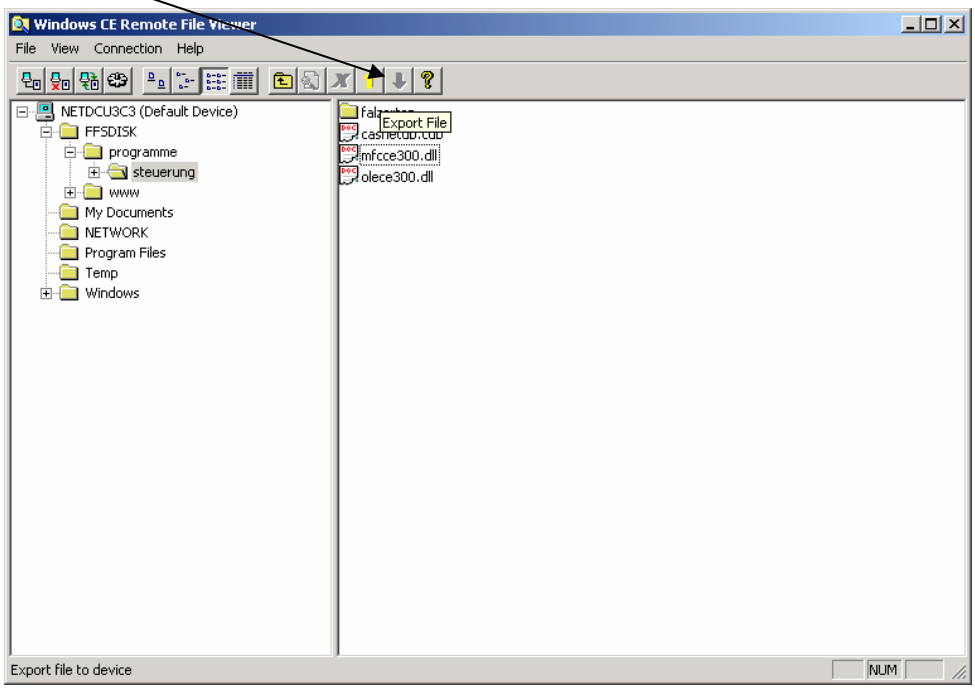
- Switch to program window "Windows CE Remote File Viewer".



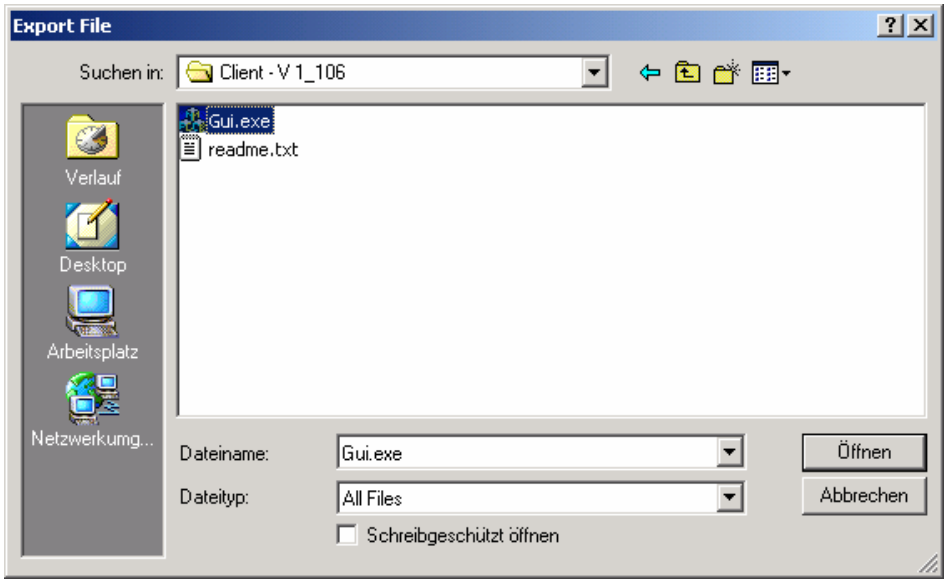
- Select directory FFSDISK.
- Delete data files which are to be re-installed **INDIVIDUALLY**.



- Select"Export file".



- Select the data file to be exported and click on "Open". Now the selected data file is transferred to the operator panel.
  Please note: If several data files are to be transferred, select and transfer them INDIVIDUALLY !!!



- Turn off the main switch and turn it on again.

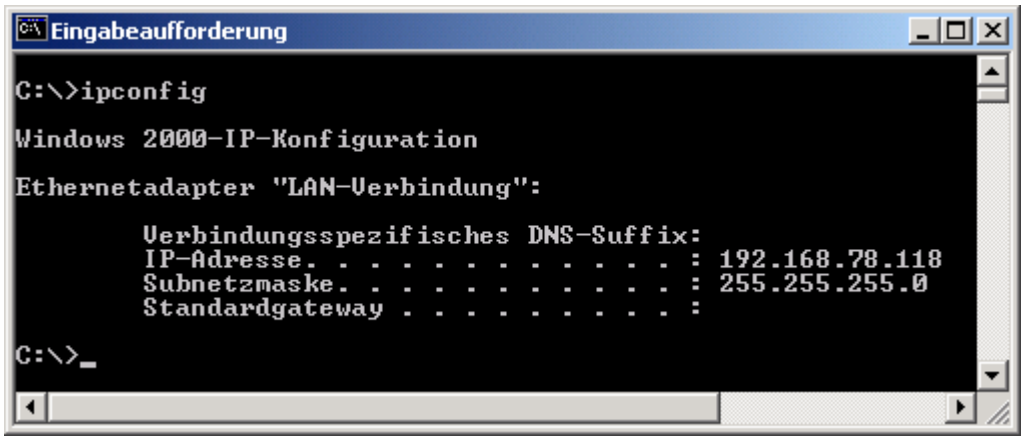
- The new software version must now appear in the menu window "Configuration".

4.7 Network Administration (Operator Panel)

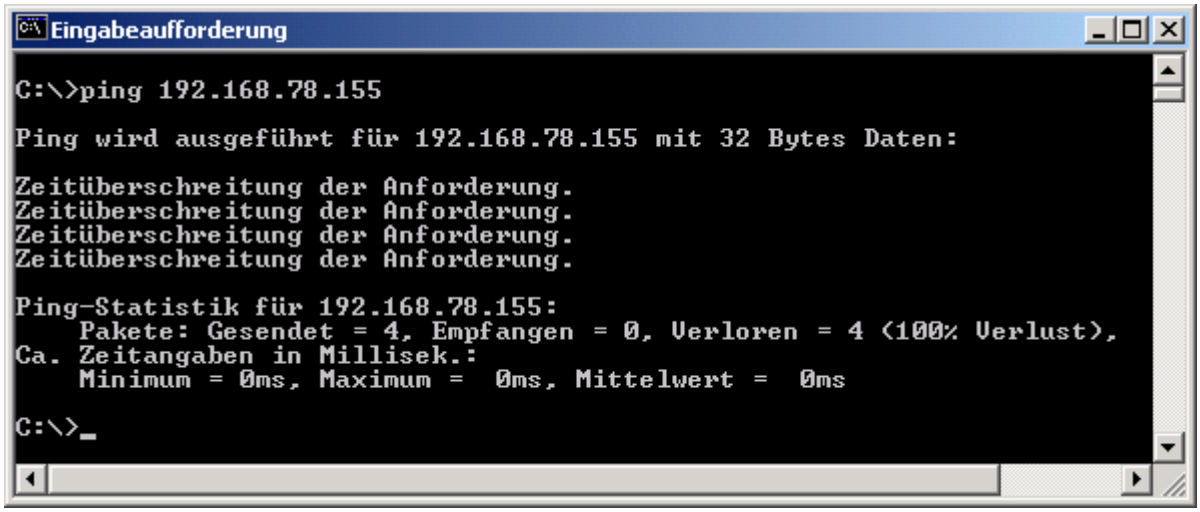
The main program Gui.exe can also be started with parameters in a console (DOS-window). This permits some additional possibilities which are explained in this chapter.

4.7.1 Preparations

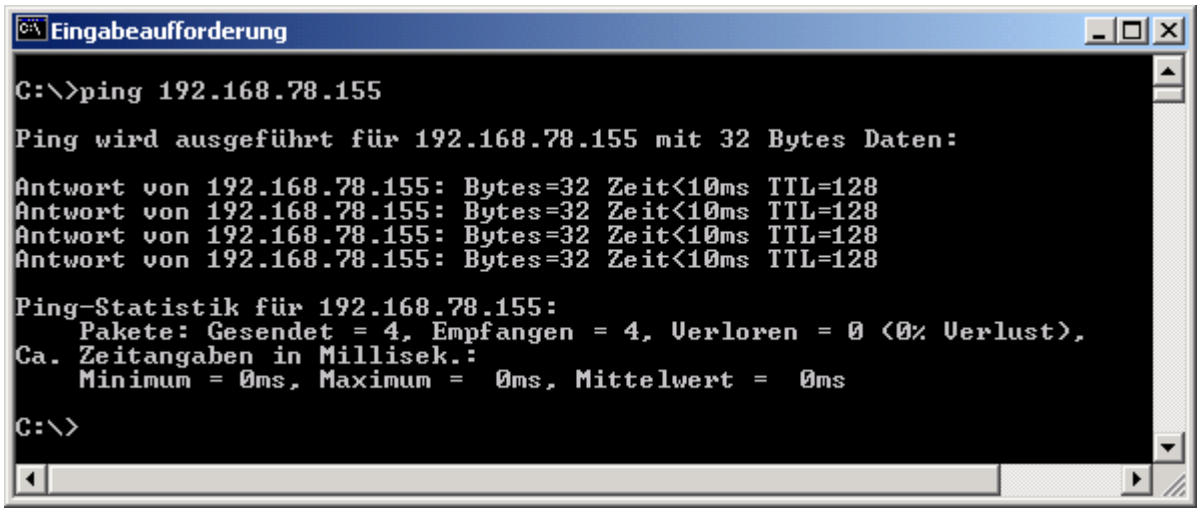
To be able to use this administration, a notebook is needed which allows access to an IP-address with the number 192.168.78.155. As a rule these notebooks should themselves have an IP-address that starts with the numerical sequence 192.168.78. The proper IP-address can easily be tested with the DOS command *ipconfig*. Open a DOS window and type in this command. The result should then show the following information. Please note that the fourth and last figure of the IP-address are unimportant!



To test whether a connection to the display can be made, the network cable is connected between notebook and display. A *ping* command is testing whether the display can be reached. For this, the target address must be transferred to the *ping*-command as a parameter, i.e. *ping 192.168.78.155*. The picture below shows an example for an unsuccessful connection to the display:

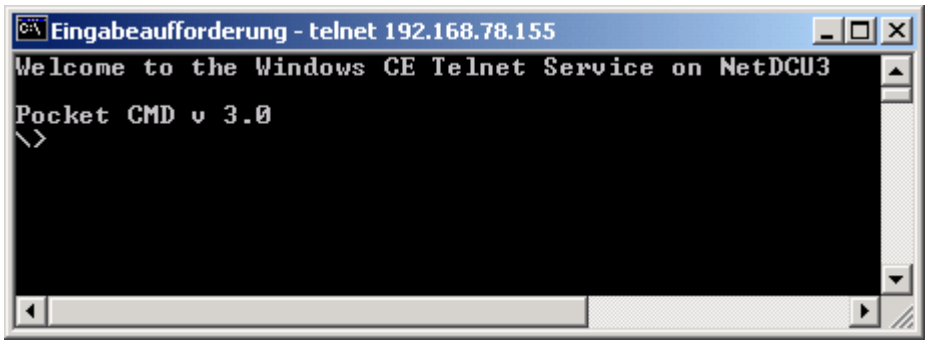


If the information on the *ping* command looks like this, the connection is working and it is possible to start with the administration.

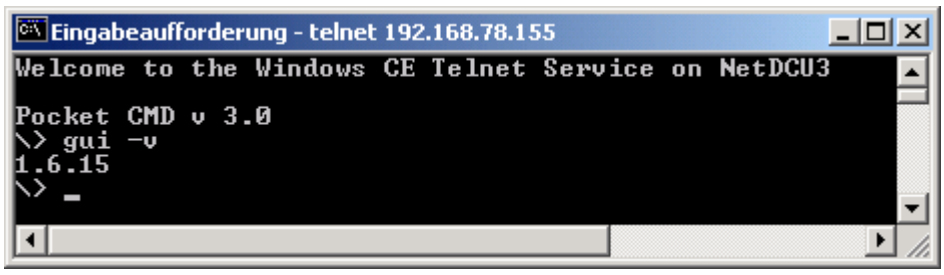


4.7.2 Log-in and administration

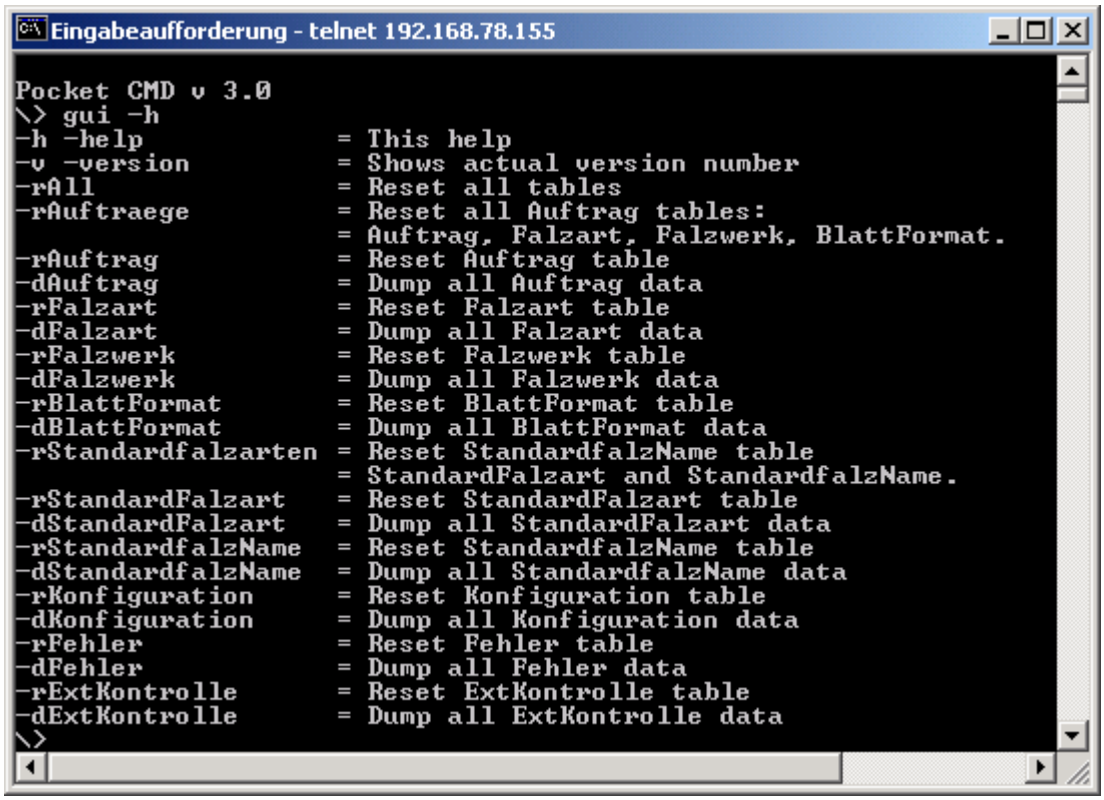
To be able to start with the administration, it is necessary to log-in on the display. For this, start with the DOS prompt and enter the command *telnet 192.168.78.155* ein. As a result, the following message should appear. You are on the display and are able to enter commands for the display to carry out.



For instance, with the command *gui –v,* a fast check of the current version is possible.



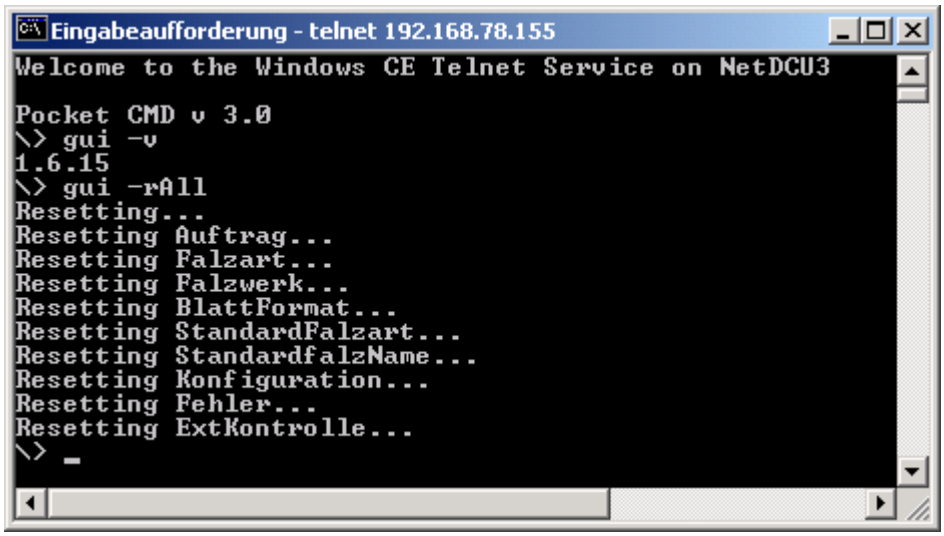
The program or the command *gui* offers a help directory which can be displayed by entering *gui –h*. It shows all command line parameters that can be used. After entering *gui –h,* the following display should appear:



The following table describes all available parameters:

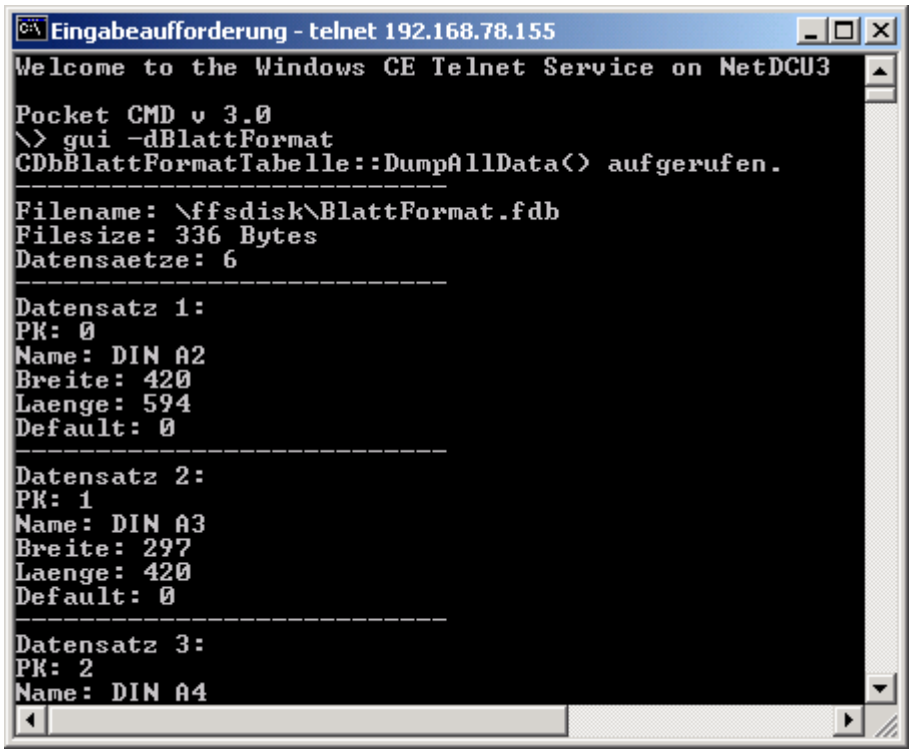
Parameter	Description
-h oder –help	Shows help with all parameters
-v oder –version	Shows the current version number
-rAll	Resets all tables to their original state
-rAuftraege	Resets all job tables to their original state
-rAuftrag	Resets only the job table to its original state
-dAuftrag	Displays all record sets of the job table
-rFalzart	Resets only the the type of folds table to its original state
-dFalzart	Displays all data sets of the type of folds table
-rFalzwerk	Resets only the fold unit table to its original state
-dFalzwerk	Displays all data sets of the fold unit table
-rBlattFormat	Resets only the sheet size table to its original state
-dBlattFormat	Displays all data sets of the sheet size table
-rStandardfalzarten	Resets the standard type of fold table and the standard folds name table to their original states
-rStandardFalzart	Resets only the standard type of fold table to its original state
-dStandardFalzart	Displays all data sets of he standard type of fold table
-rStandardfalzName	Resets only the standard fold name table to its original state
-dStandardfalzName	Displays all record sets of the standard fold name table
-rKonfiguration	Resets only the configuration table to its original state
-dKonfiguration	Displays all record sets of the configuration table
-rFehler	Resets only the error table to its original state
-dFehler	Displays all data sets of the error table
-rExtKontrolle	Resets only the ExtControl table to its original state
-dExtKontrolle	Displays all data sets of the ExtControl table

If, for instance, the data base must be updated after the installation of a new software version, all data bases can be reset with the command *gui –rAll*. The picture below shows the display after the successful execution of this command.

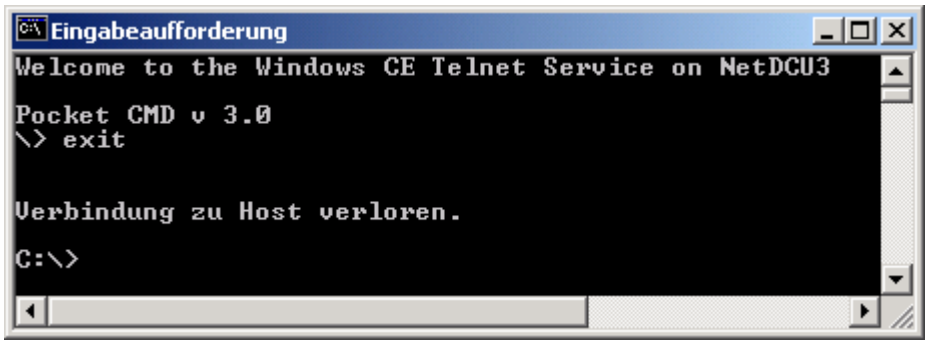


Please note: During a reset of all data base data, all the saved jobs as well as the currently saved machine settings are lost irrecoverably! Do this only if you really want it. At the moment, there is no possibility to save and re-load jobs, but it will become available in a future version.

With the command *gui –dBlattFormat,* it is, for instance, possible to display all standard sheet sizes that have been saved:



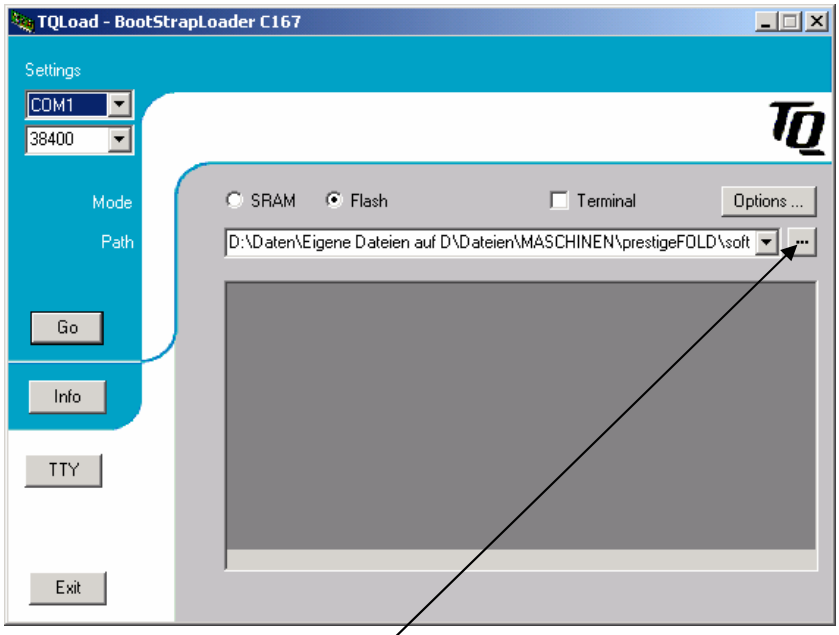
When the administration is completed, the communication with the display should be terminated by the command *exit*. The following message should appear:



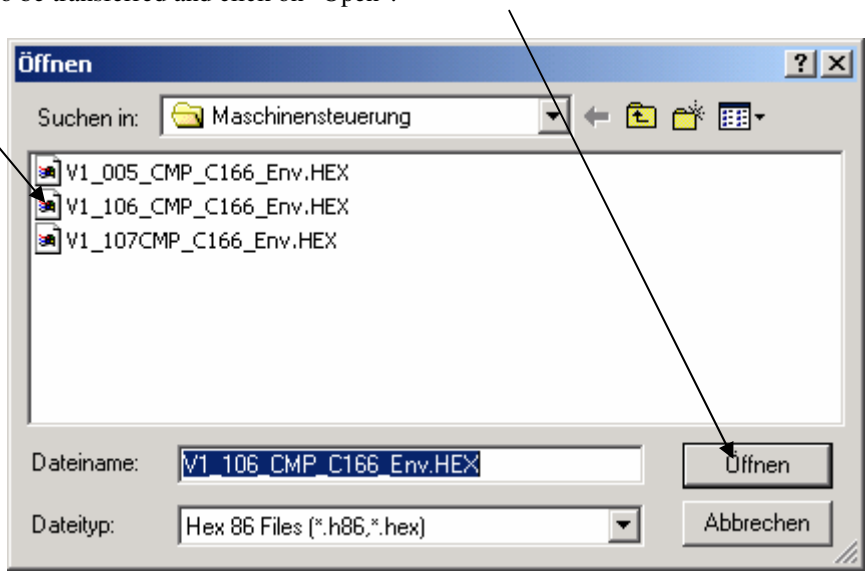
Then the DOS-window can be closed.

4.8 Machine Software (Control Board)

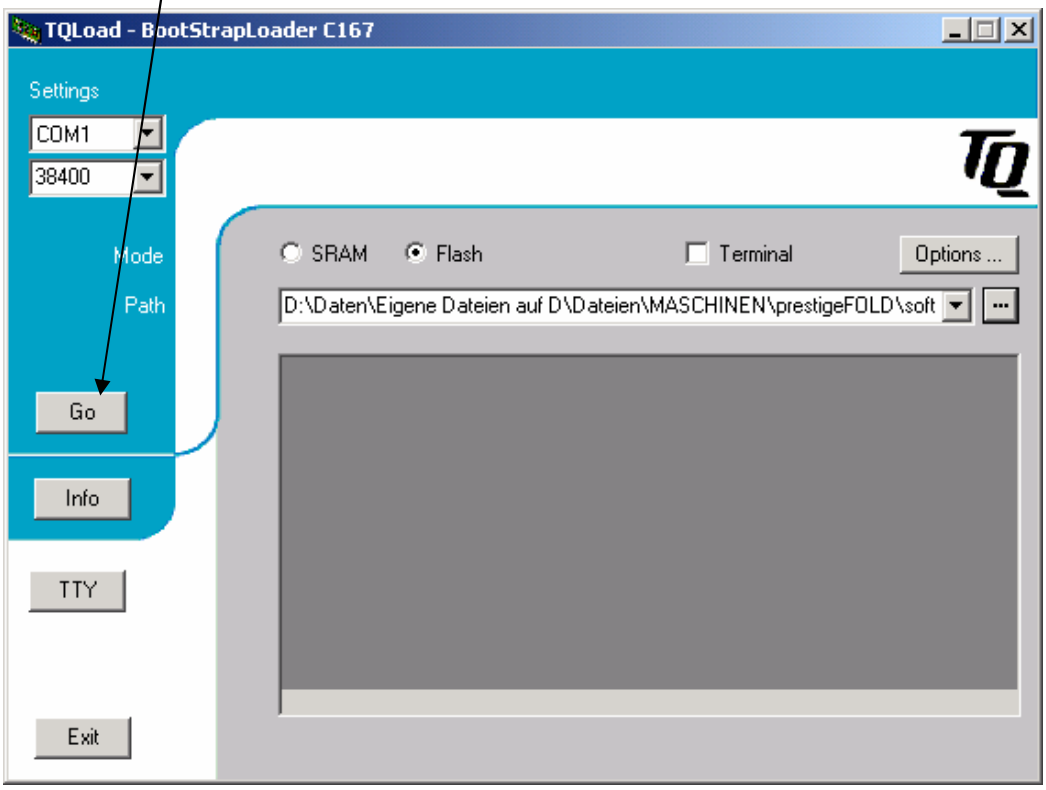
- Start programm TQLoad of the Service-CD.



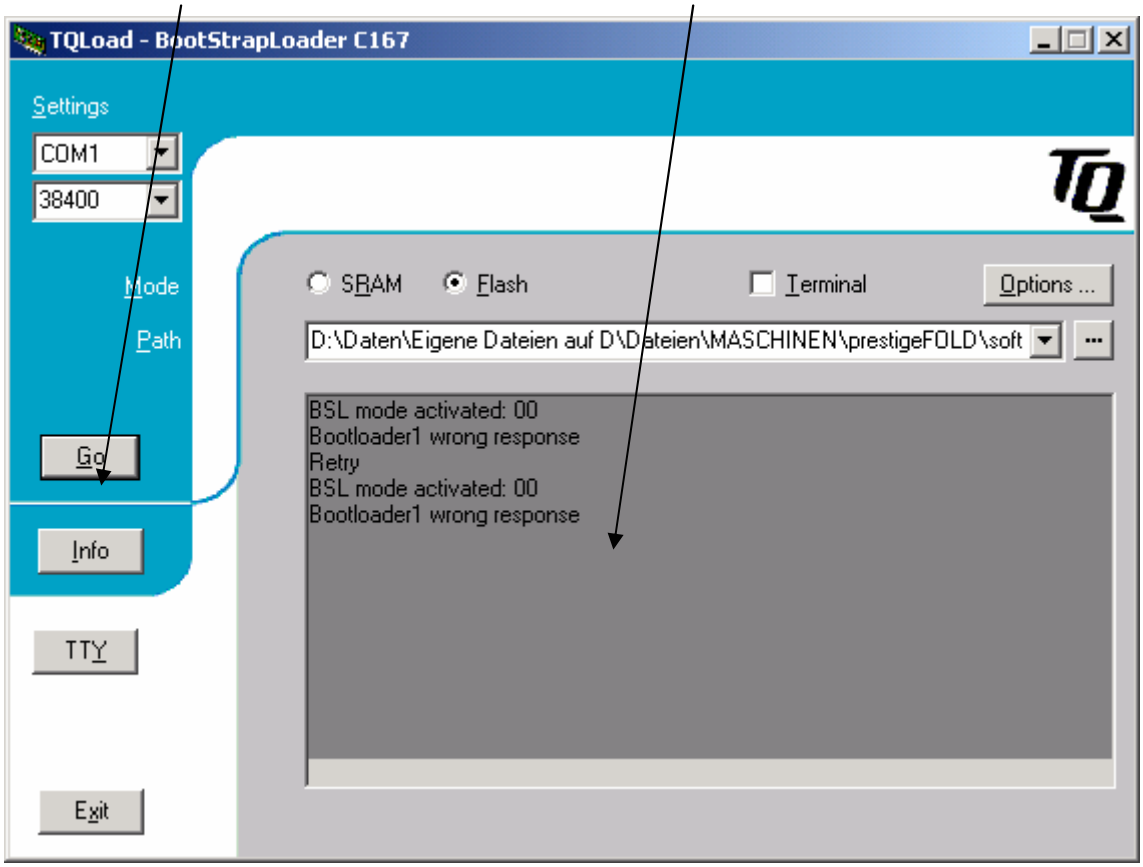
-Select the file to be transferred and click on "Open".



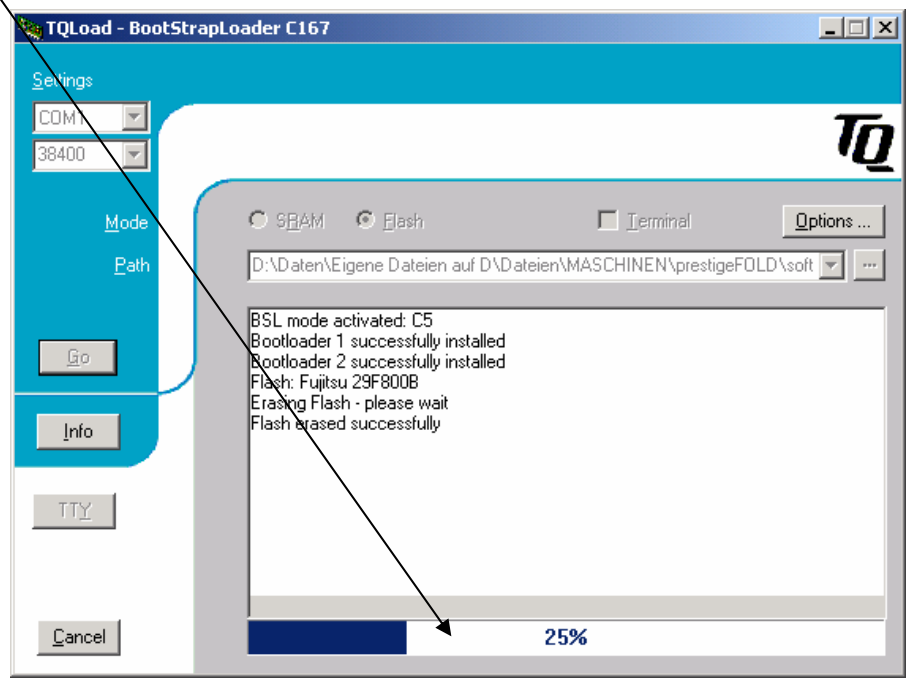
- Start transfer with "Go".



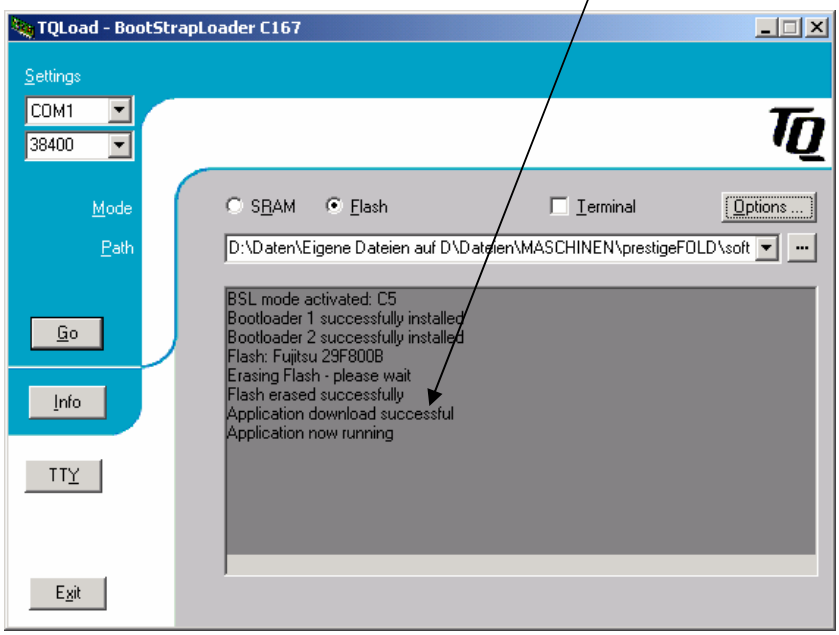
- Repeat the transfer with "Go", if this error message appears during the first transfer.



- Transfer is running.



- After the successful transfer, the message "Application now running" should appear.



- Turn off the main switch and then on again. If necessary, terminate the display program by pressing the "End" button.

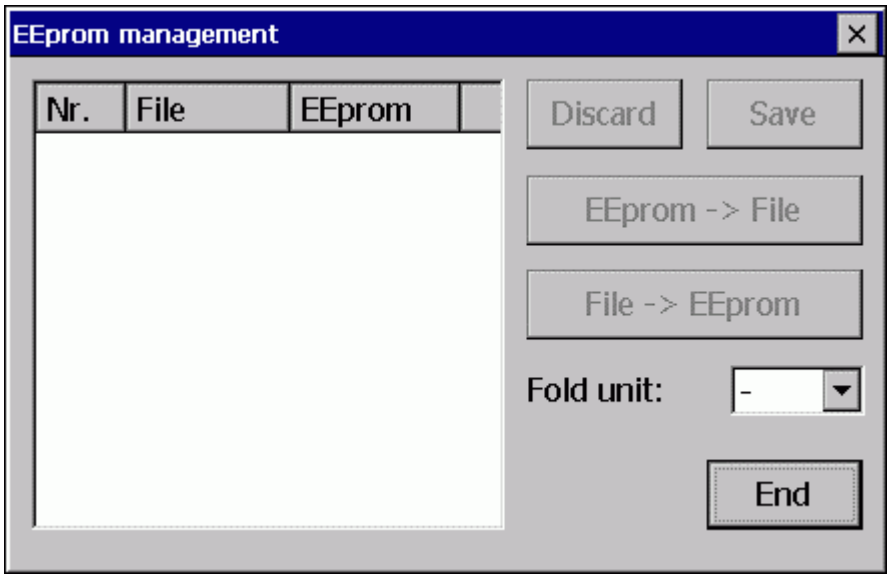
- The new software version should now appear in the menu window "Configuration".

4.9 EEprom Management

With the EEprom Manager, you can read out and write the EEprom values of every fold unit. If, for example, a chip needs to be replaced, it is possible to save the current EEprom values in a file and to re-import them from the backup file once the chip has been replaced. You can thus avoid a re-adjustment of fold plates, fold rollers, etc.

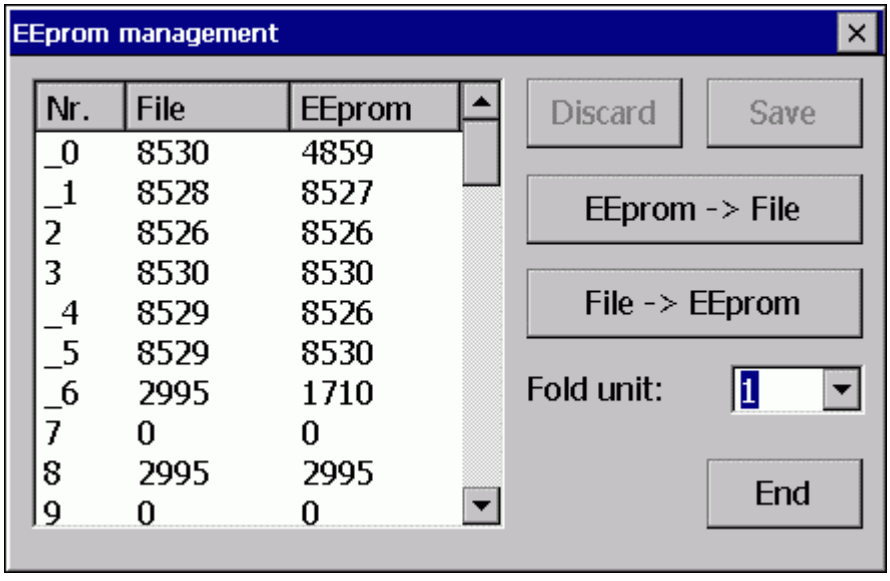
4.9.1 Readout

The following window will appear after the start of EEprom Management:



Now just select the desired fold unit in the Checkbox "Fold unit". After a short time (all values are loaded from the machine EEprom), all data received are displayed in the table on the left-hand side.

The following window should be displayed after a successful loading process:



The following columns should be visible in the left section of the table:

Nr.	Current memory number of the EEprom. Later it is documented in a chart which number contains which value.
File	Current value from the EEprom.
EEprom	Current value from the backup file.

The values in the file column are only visible if a backup file for the particular fold unit exists. This file is automatically created when you make a backup of the EEprom data and shows the format:
EEpromBackupFu[fold unit number].
If the values of the EEprom and the file are not identical, an underscore precedes the current number.

4.9.2 Saving EEprom values

To save the EEprom values in a backup file, you just have to press the "EEprom -> File" button. All values are now written into the appropriate file and the table is up-dated. The values of the EEprom and the file should now be identical.

4.9.3 Writing EEprom values

Press the "File -> EEprom" button to write values from a backup file into the EEprom. When pressing it all values that are not identical are sent to the EEprom and saved there.

4.9.4 Memory numbers of the EEprom

The memory numbers of the EEprom are defined as follows:

No.	Intended use
00-05 (6)	
06-17 (12)	
18-21 (4)	Paper thickness for memories 1-4
22-25 (4)	AD-values of the paper thickness for memories 1-4
26-33 (8)	Zero-point AD-values for the rollers, front
34-41 (8)	Zero-point AD-values for the rollers, rear
42-47 (6)	Reference point AD-values for fold plates 1-6
48	Sheet counter (total machine counter) LOW
49	Sheet counter (total machine counter) HIGH

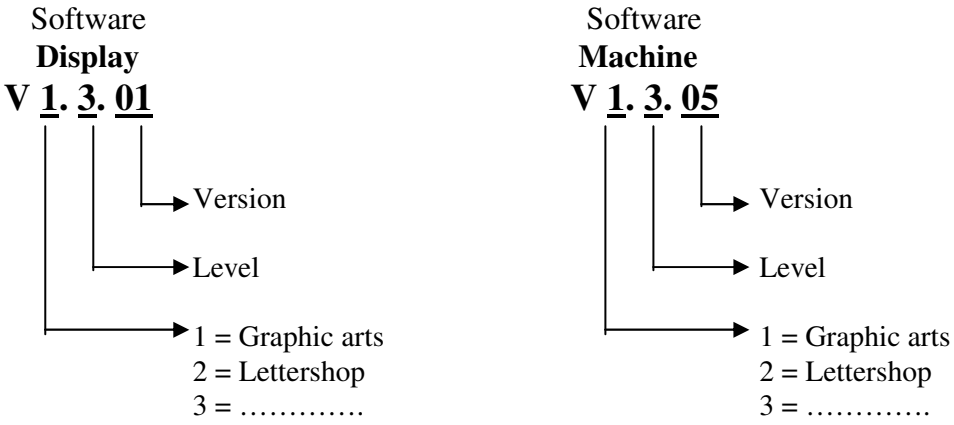
To determine the machine counter, use the values 48 and 49 as follows:

Machine counter = [49] * 65535 + [48]

4.10 Software Versions

The different software versions for the prestigeFOLD are defined as follows:

Example:



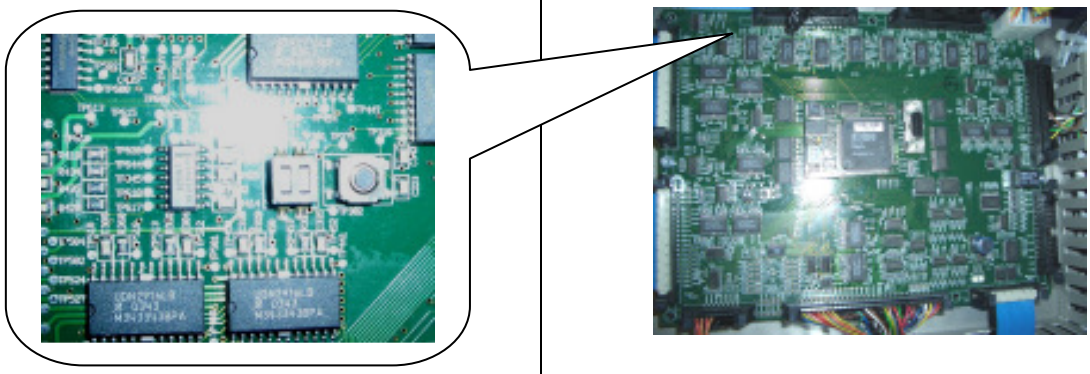
Explanations:

- **The first digit** indicates whether it is software for graphic arts or lettershop machines or other software. The software of the display and that of the machine **must** show the same digits.
- **The second digit** indicates the software level. Different software versions between display and machine, but with the same level are compatible. **However, malfuctions may occur if the software of the display and that of the machine have different levels.**
- **The third digit** indicates the software version. The versions may be different as long as the software levels are the same, see above.

5 Electronic Hardware

5.1 Setting the Address on the Control Board

1. The address for the fold units shown below must be set on the two DIP-switches on the control board.

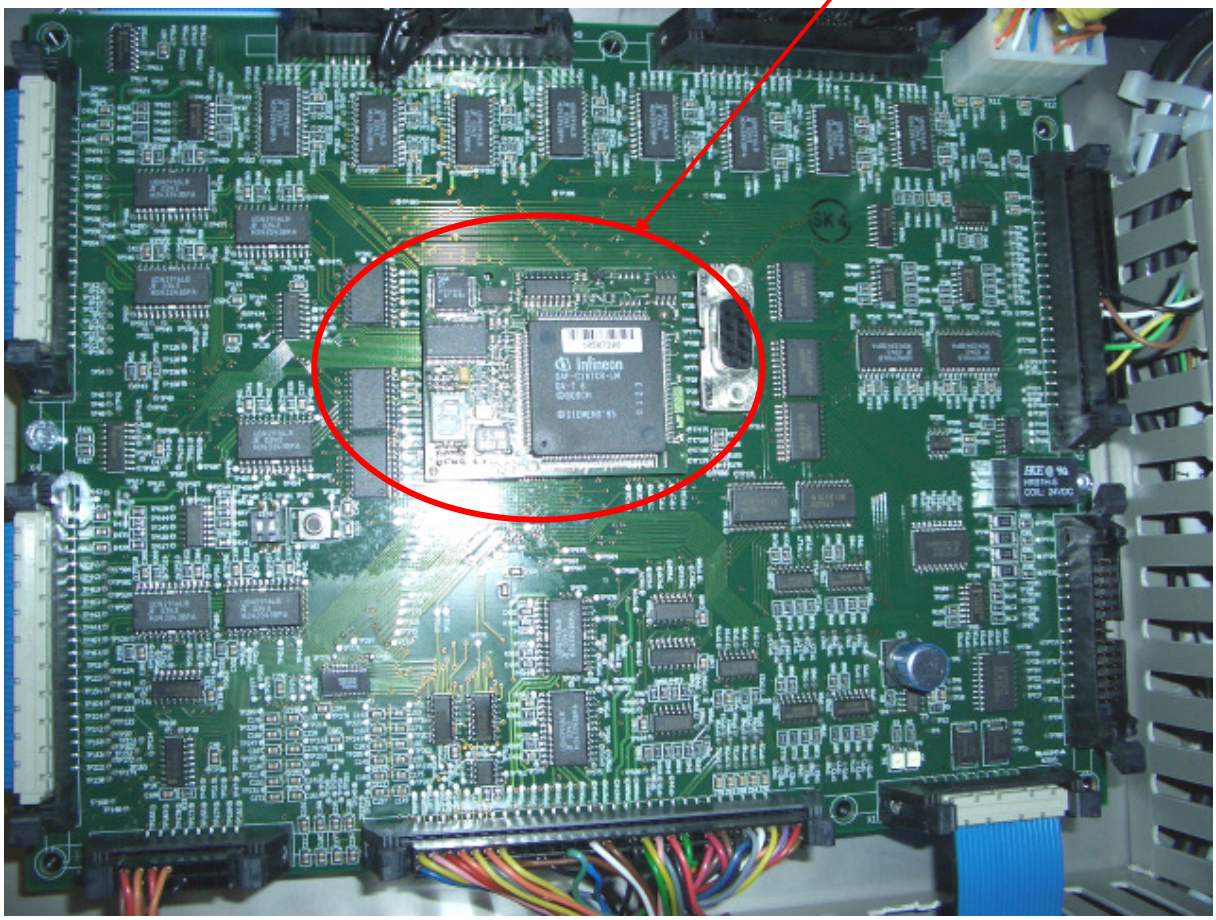


Folder (1st fold unit), width 52 cm	DIP: 1 = OFF, 2 = OFF
Folder (1st fold unit), width 38 cm	DIP: 1 = ON, 2 = OFF
Folder (2nd fold unit)	DIP: 1 = OFF, 2 = ON
Folder (3rd fold unit)	DIP: 1 = ON, 2 = ON

AD-Value [Bit]	Switch Position	Fold Unit
< 150	S1: off, S2: off	Fold Unit-ID = 1, Width = 52 cm
< 265	S1: off, S2: on	Fold Unit-ID = 2
< 520	S1: on, S2: on	Fold Unit-ID = 3
< 775	S1: on, S2: off	Fold Unit-ID = 1, Width = 38 cm
>= 775	?	Undefined

5.2 Information about the Control Board

The processesor and the **Flash-Eprom** are located on a separate circuit board (A) within the control board.



The following information is saved in the Flash-Eprom:

- **Software for control board**
- **Correction values of the fold rollers**
- **Correction values of the fold plates**

!!! Please note !!!

If a control board including the additional board (A) is be replaced, the following steps must be performed:

1. **Install software**
2. **Readjust ALL rollers in this fold unit**
3. **Readjust ALL fold plates in this fold unit**

When replacing the control board, it is recommended to use the existing additional board (A). This will make it unnecessary to carry out the above-mentioned steps.

!! Also see Chapter 4.4 EEprom Management !!

5.3 Setting Instructions for the Reflection Light Sensors

General information:

The reflection light sensors of the double sheet detection are factory-set.

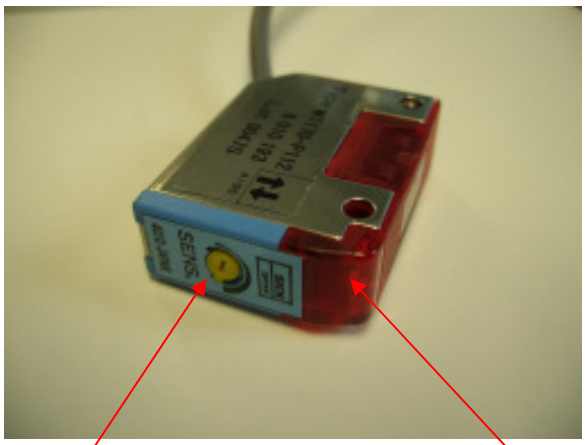
If malfunctions occur, check whether there has been a change in the sensitivity of the light sensors.

Setting the sensitivity:

Introduce a dull black paper (on both sides) between light sensor and reflection plate. Adjust the sensitivity at the integrated potentiometer (A) so that the paper is just barely recognized. (The red LED (B) lights up.)

Function check:

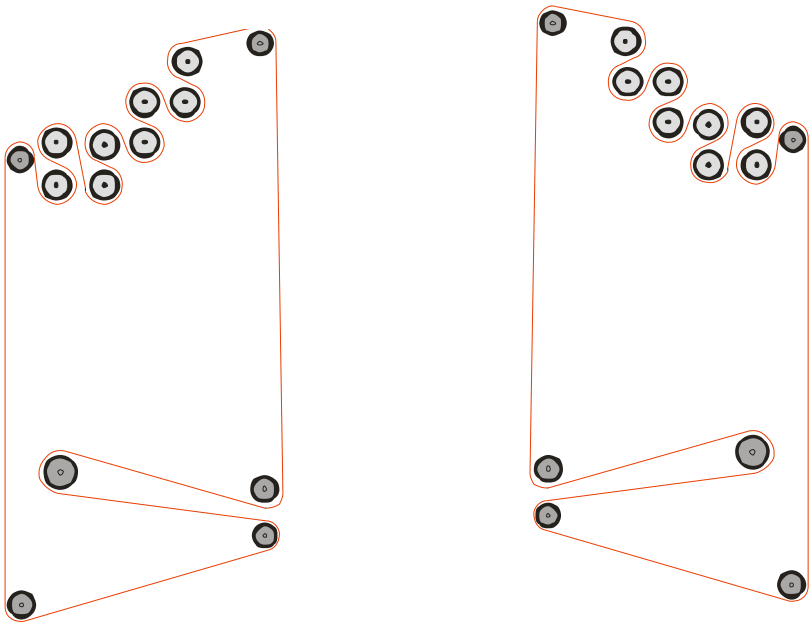
Lighting-up of the red light-emitting diode (B) signals recognition.
For reflection light sensors with inverted function, the red light-emitting diode (B) goes out when recognizing the dull black paper.



6 Mechanical Hardware

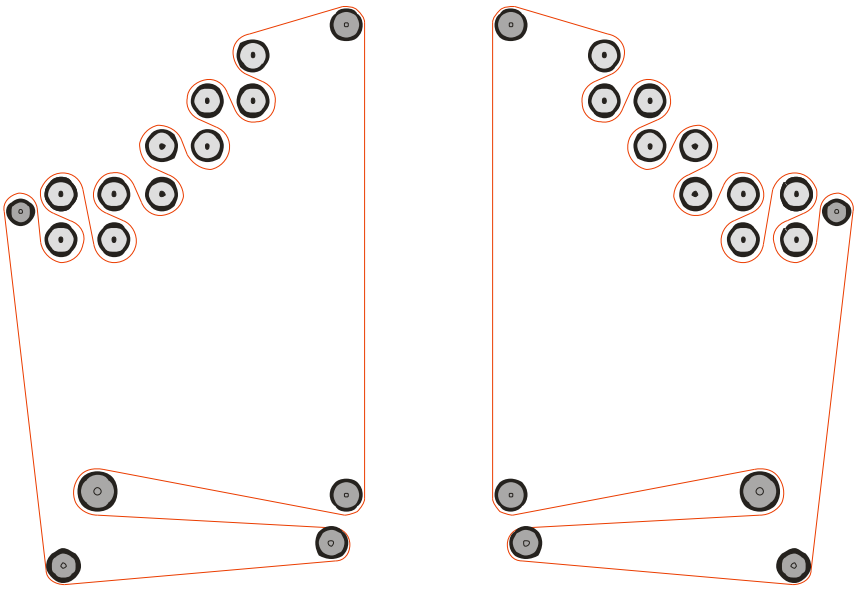
6.1 Belts for Fold Roller Drive

Fold unit with 4 fold plates



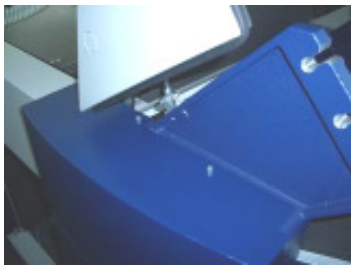
Operator side Opposite side

Fold unit with 6 fold plates



Operator side Opposite side

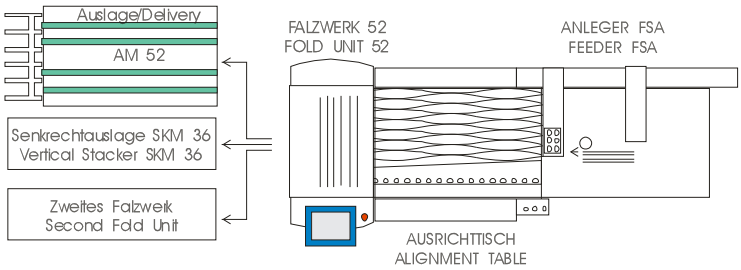
6.2 Replacing the Fold Rollers

DISASSEMBLY	
1. In the CORRECTION Menu - "Rollers", set all fold rollers to 0.10 mm.	
2. Open the rear panel as follows: - Loosen the two Allen screws (1) and remove the side panel.	
3. Remove the hand wheel as follows: - Pry open the plastic cover. - Loosen the screw (1). - Pull off the hand wheel.	
4. Open the cover at the operator side as follows: - Open the lock mechanism (1). - Swing open the door to the left.	
5. Remove the flat belts at the operator and the opposite side.	

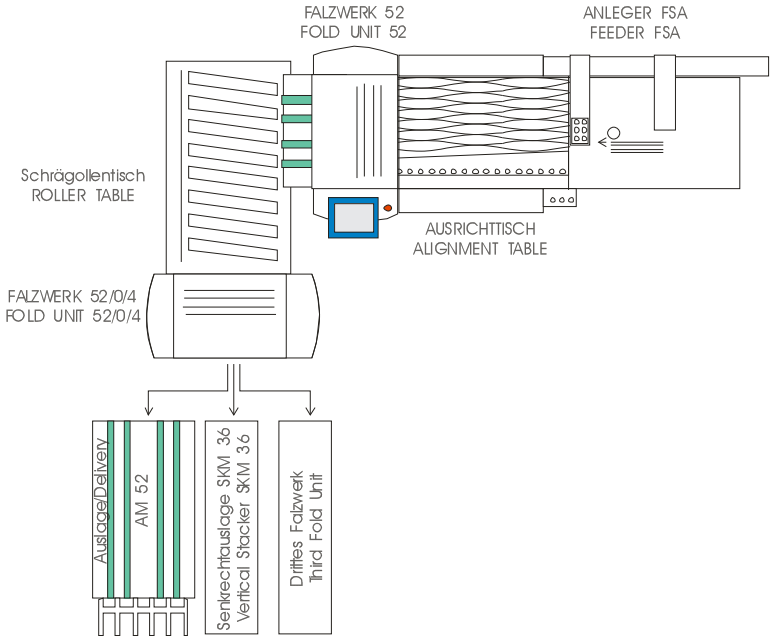
6. Remove the pulleys at the operator side **and** the opposite side. - Keep the fold roller from turning with a 15 mm open end wrench.	
7. Use a marker pen to number all roller levers at the operator side to make sure that they are re-installed in the same position.	
8. Disengage all springs at the operator side.	
9. Remove all C-clips at the operator side.	
10.Remove the roller levers at the **Operator side** and pull out the rollers in this direction.	
INSTALLATION	
1. Re-install the rollers with the matching roller levers one after the other (observe the numbers).	
2. Replace all springs.	
3. Mount all C-clips.	
4. Mount the pulleys on both sides.	
5. Replace the flat belts on both sides.	
6. Carry out the roller adjustment.	

7 System Configurations

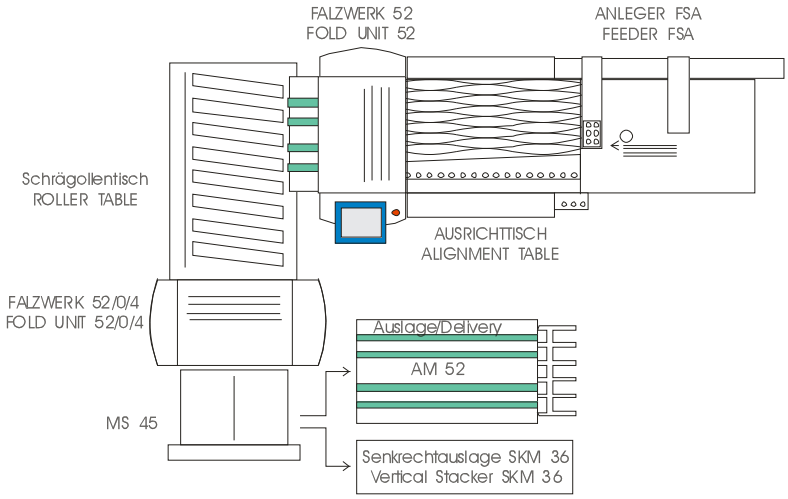
a) Parallel folding machine prestigeFOLD NET 52/4 (or 6) - FSA



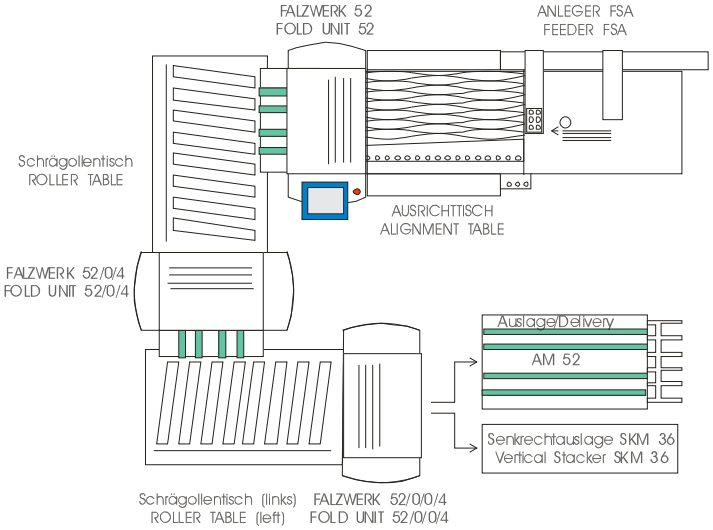
b) prestigeFOLD NET 52/4*(6)*/4*(6)* – FSA

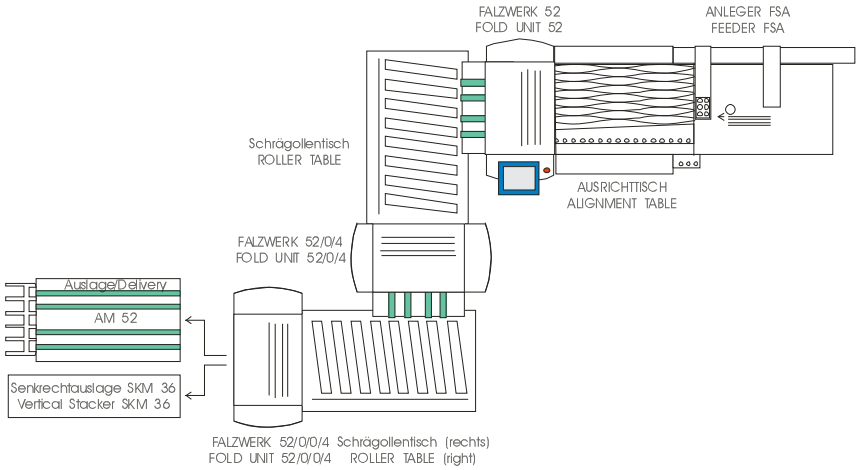


c) prestigeFOLD NET 52/4*(6)*/4*(6)*-MS 45 - FSA



d) prestigeFOLD NET 52/4*(6)*/4*(6)* - 52/0/0/4 – FSA





7.1 Options

The following options and accessories are available at the moment in connection with the prestigeFOLD NET 52:

a) Small format vertical stacker **SKM 36** with kicker (Option)

b) **Mobile knife fold unit MS 45**
Please note that when using the MS 45 in connection with the shingle delivery AM 52, the delivery rollers cannot be set automatically. A fine adjustment by push-button is necessary.

c) **Additional fold unit KF 31**
Please note that when using the KF 31 in connection with the shingle delivery AM 52, the delivery rollers cannot be set automatically. A fine adjustment by push-button is necessary.

d) Anti-static devices

e) Gate fold plate **FFT 52**

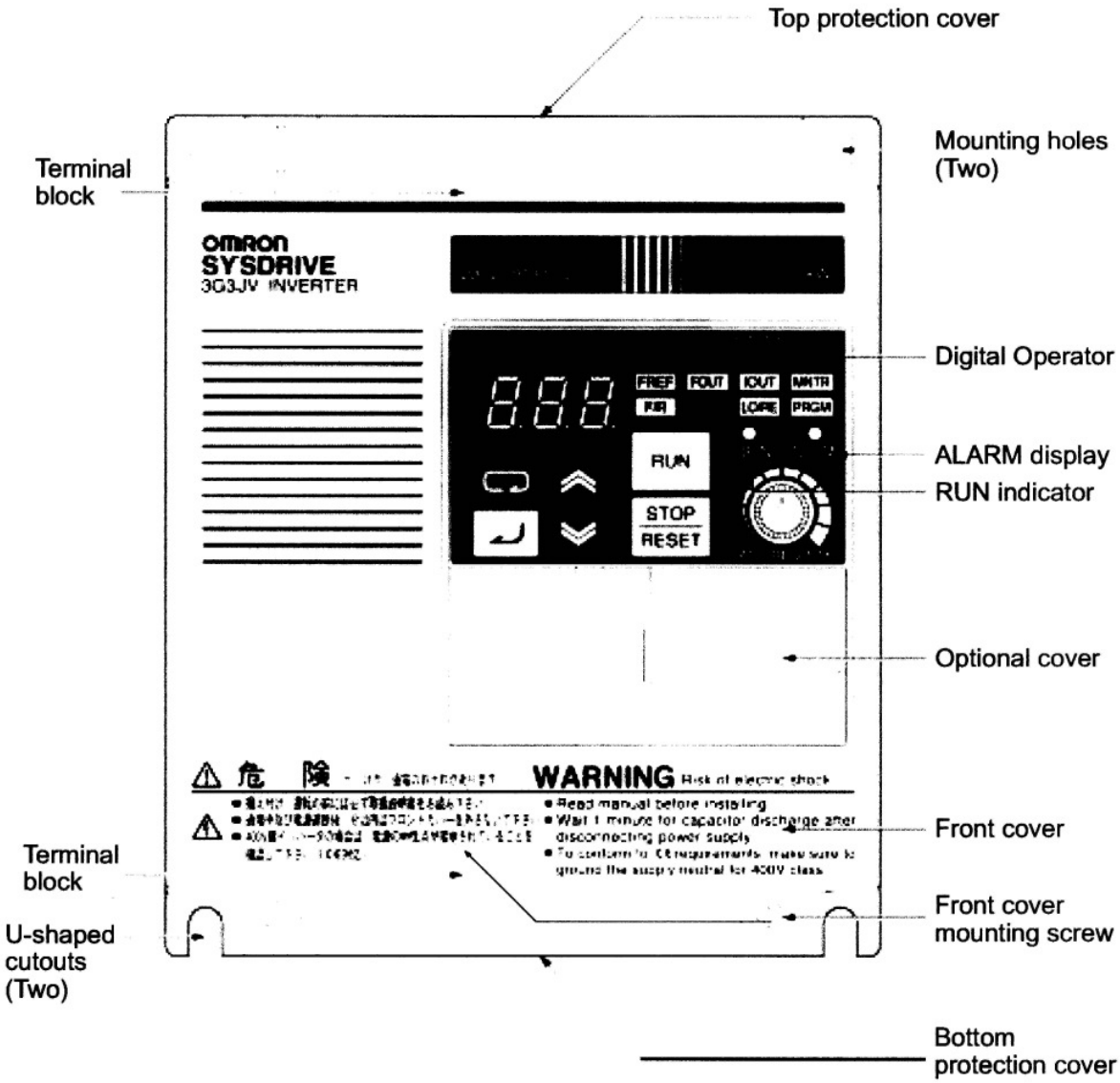
f) Slitting, scoring and perforating devices, trimming, center-strip cut-out

g) FSA-Single blower

h) Kicker option for AM 52

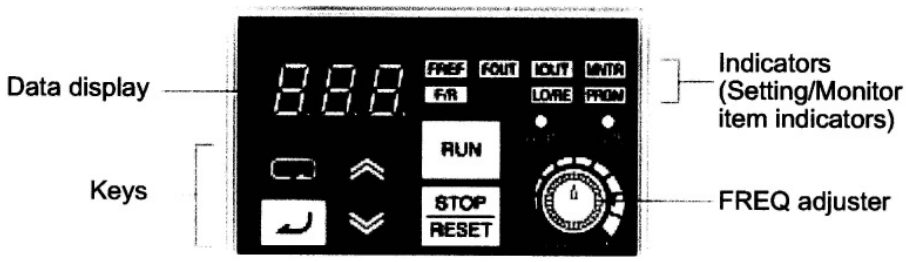
8 Omron Inverter

8.1 Control Panel



Note 1. The front cover functions as a terminal cover. The Digital Operator Unit cannot be removed.

Note 2. Instead of mounting holes, each of the following models has two U-shaped cut-outs located diagonally.
3G3JV-A2001 (0.1 kW), 3G3JV-A2002 (0.25 kW), 3G3JV-A2004 (0.55 kW), and 3G3JV-A2007 (1.1 kW)
3G3JV-AB001 (0.1 kW), 3G3JV-AB002 (0.25 kW), and 3G3JV-AB004 (0.55 kW)



Appearance	Name	Function
	Data display	Displays relevant data items, such as frequency reference, output frequency, and parameter set values.
MIN MAX FREQUENCY	FREQ adjuster	Sets the frequency reference within a range between 0 Hz and the maximum frequency.
FREF	FREF indicator	The frequency reference can be monitored or set while this indicator is lit.
FOUT	FOUT indicator	The output frequency of the Inverter can be monitored while this indicator is lit.
IOUT	IOUT indicator	The output current of the Inverter can be monitored while this indicator is lit.
MNTR	MNTR indicator	The values set in U01 through U10 are monitored while this indicator is lit.
F/R	F/R indicator	The direction of rotation can be selected while this indicator is lit when operating the Inverter with the RUN Key.
LO/RE	LO/RE indicator	The operation of the Inverter through the Digital Operator or according to the set parameters is selectable while this indicator is lit. **Note** This status of this indicator can be only monitored while the Inverter is in operation. Any RUN command input is ignored while this indicator is lit.
PRGM	PRGM indicator	The parameters in n01 through n79 can be set or monitored while this indicator is lit. **Note** While the Inverter is in operation, the parameters can be only monitored and only some parameters can be changed. Any RUN command input is ignored while this indicator is lit.

8.2 Fault Display

8.2.1 Fault detection (major faults)

The Inverter will detect the following faults if the Inverter or motor burns or the internal circuitry of the Inverter malfunctions. When the Inverter detects a fault, the fault code will be displayed on the Digital Operator, the fault contact output will operate, and the Inverter output will be shut off causing the motor to coast to a stop. The stopping method can be selected for some faults, and the selected stopping method will be used with these faults. If a fault has occurred, refer to the following table to identify and correct the cause of the fault. Use one of the following methods to reset the fault after restarting the Inverter. If the operation command is being input, however, the reset signal will be ignored. Therefore, be sure to reset the fault with the operation command turned off.

- Turn on the fault reset signal. A multi-function input (n36 to n39) must be set to 5 (Fault Reset).
- Press the STOP/RESET Key on the Digital Operator.
- Turn the main circuit power supply off and then on again.

■ Fault Displays and Processing

Fault display	Fault name and meaning	Probable cause and remedy
oC	**Overcurrent (OC)** The Inverter output current is as high as or higher than 200% of the rated output current.	• A short-circuit or ground fault has occurred and at the Inverter output. → Check and correct the motor power cable. • The V/f setting is incorrect. → Reduce the V/f set voltage. • The motor capacity is too large for the Inverter. → Reduce the motor capacity to the maximum permissible motor capacity. • The magnetic contactor on the output side of the Inverter has been opened and closed. → Rearrange the sequence so that the magnetic contactor will not open or close while the Inverter has current output. • The output circuit of the Inverter is damaged. → Replace the Inverter.

Fault display	Fault name and meaning	Probable cause and remedy
ou	**Overvoltage (OV)** The main circuit DC voltage has reached the overvoltage detection level (410 V DC).	• The deceleration time is too short. → Increase the deceleration time. • The power supply voltage is too high. → Decrease the voltage so it will be within specifications. • There is excessive regenerative energy due to overshooting at the time of acceleration. → Suppress the overshooting as much as possible.
Uu 1	**Main circuit undervoltage (UV1)** The main circuit DC voltage has reached the undervoltage detection level (200 V DC for the 3G3JV-A2□ and 160 V DC for the 3G3JV-AB□).	• Power supply to the Inverter has phase loss, power input terminal screws are loose, or the power cable is disconnected. → Check the above and take necessary countermeasures. • Incorrect power supply voltage → Make sure that the power supply voltage is within specifications. • Momentary power interruption has occurred. → Use the momentary power interruption compensation (Set n47 so that the Inverter restarts after power is restored) → Improve the power supply. • The internal circuitry of the Inverter is damaged. → Change the Inverter.
oH	**Radiation fin overheated (OH)** The temperature of the radiation fins of the Inverter has reached 110°C ± 10°C.	• The ambient temperature is too high. → Ventilate the Inverter or install a cooling unit. • The load is excessive. → Reduce the load. → Decrease the Inverter capacity. • The V/f setting is incorrect. → Reduce the V/f set voltage. • The acceleration/deceleration time is too short. → Increase the acceleration/deceleration time. • The ventilation is obstructed. → Change the location of the Inverter to meet the installation conditions. • The cooling fan of the Inverter does not work. → Replace the cooling fan.

Fault display	Fault name and meaning	Probable cause and remedy
oL 1	**Motor overload (OL1)** The electric thermal relay actuated the motor overload protective function.	• The load is excessive. → Reduce the load. → Decrease the Inverter capacity. • The V/f setting is incorrect. → Reduce the V/f set voltage. • The value in n11 for maximum voltage frequency is low. → Check the motor nameplate and set n11 to the rated frequency. • The acceleration/deceleration time is too short. → Increase the acceleration/deceleration time. • The value in n32 for rated motor current is incorrect. → Check the motor nameplate and set n32 to the rated current. • The Inverter is driving more than one motor. → Disable the motor overload detection function and install an electronic thermal relay for each of the motors. The motor overload detection function is disabled by setting n32 to 0.0 or n33 to 2. • The motor protective time setting in n34 is short. → Set n34 to 8 (the default value).
oL2	**Inverter overload (OL2)** The electronic thermal relay has actuated the Inverter overload protective function.	• The load is excessive. → Reduce the load. • The V/f setting is incorrect. → Reduce the V/f set voltage. • The acceleration/deceleration time is too short. → Increase the acceleration/deceleration time. • The Inverter capacity is insufficient. → Use an Inverter model with a higher capacity.

Fault display	Fault name and meaning	Probable cause and remedy
oL3	**Overtorque detection (OL3)** There has been a current or torque the same as or greater than the setting in n60 for overtorque detection level and that in n61 for overtorque detection time. A fault has been detected with n59 for overtorque detection function selection set to 2 or 4.	• The mechanical system is locked or has a failure. → Check the mechanical system and correct the cause of overtorque. • The parameter settings were incorrect. → Adjust the n60 and n61 parameters according to the mechanical system. Increase the set values in n60 and n61.
GF	**Ground fault (GF)** The ground fault current at the output of the Inverter has exceeded the rated output current of the Inverter.	• A ground fault has occurred at the Inverter output. → Check the connections between the Inverter and motor and reset the fault after correcting its cause.
EF□	**External fault □ (EF□)** An external fault has been input from a multi-function input. A multi-function input 1, 2, 3, or 4 set to 3 or 4 has operated. The EF number indicates the number of the corresponding input (S2 to S5).	• An external fault was input from a multi-function input. → Remove the cause of the external fault. • The sequence is incorrect. → Check and change the external fault input sequence including the input timing and NO or NC contact.
F00	**Digital Operator transmission fault 1 (F00)** An initial memory fault has been detected	• The internal circuitry of the Inverter has a fault. → Turn the Inverter off and on. → Replace the Inverter if the same fault occurs again.
F01	**Digital Operator transmission fault 2 (F01)** A ROM fault has been detected.	• The internal circuitry of the Inverter has a fault. → Turn the Inverter off and on. → Replace the Inverter if the same fault occurs again.

Fault display	Fault name and meaning	Probable cause and remedy
F04	**Initial memory fault (F04)** An error in the built-in EEPROM of the Inverter has been detected.	• The internal circuitry of the Inverter has a fault. → Initialize the Inverter with n01 set to 8 or 9 and turn the Inverter off and on. → Replace the Inverter if the same fault occurs again.
F05	**Analog-to-digital converter fault (F05)** An analog-to-digital converter fault has been detected.	• The internal circuitry of the Inverter has a fault. → Turn the Inverter off and on. → Replace the Inverter if the same fault occurs again.
F07	**Digital Operator fault (F07)** An error in the built-in control circuit of the Digital Operator has been detected.	• The internal circuitry of the Digital Operator has a fault. → Turn the Digital Operator off and on. → Replace the Digital Operator if the same fault occurs again.
StP	**Emergency stop (STP)** An emergency stop alarm is input to a multi-function input. (A multi-function input 1, 2, 3, or 4 set to 19 or 21 has operated.)	• An emergency stop alarm is input to a multi-function input. → Remove the cause of the fault. • The sequence is incorrect. → Check and change the external fault input sequence including the input timing and NO or NC contact.
OFF	**Power supply error** • Insufficient power supply voltage • Control power supply fault • Hardware fault	• No power supply is provided. → Check and correct the power supply wire and voltage. • Terminal screws are loosened. → Check and tighten the terminal screws. • The Inverter is damaged. → Replace the Inverter.

8.2.2 Warning detection (minor faults)

The warning detection is a type of Inverter protective function that does not operate the fault contact output and returns the Inverter to its original status once the cause of the error has been removed. The Digital Operator flashes and display the detail of the error. If a warning occurs, take appropriate countermeasures according to the table below.

Note Some warnings or some cases stop the operation of the Inverter as described in the table.

■ Warning Displays and Processing

Fault display	Fault name and Meaning	Probable cause and remedy
Uu (flashing)	**Main Circuit Undervoltage (UV)** The main circuit DC voltage has reached the undervoltage detection level (200 V DC for the 3G3JV-A2□ and 160 V DC for the 3G3JV-AB□).	• Power supply to the Inverter has phase loss, power input terminal screws are loose, or the power line is disconnected. → Check the above and take necessary countermeasures. • Incorrect power supply voltage → Make sure that the power supply voltage is within specifications.
ou (flashing)	**Main Circuit Overvoltage** The main circuit DC voltage has reached the overvoltage detection level (410 V DC).	• The power supply voltage is too high. → Decrease the voltage so it will be within specifications.
oH (flashing)	**Radiation fin overheated (OH)** The temperature of the radiation fins of the Inverter has reached 110°C ± 10°C.	• The ambient temperature is too high. → Ventilate the Inverter or install a cooling unit.
oL3 (flashing)	**Overtorque detection (OL3)** There has been a current or torque the same as or greater than the setting in n60 for overtorque detection level and that in n61 for overtorque detection time. A fault has been detected with n59 for overtorque detection function selection set to 1 or 3.	• The mechanical system is locked or has a failure. → Check the mechanical system and correct the cause of overtorque. • The parameter settings were incorrect. → Adjust the n60 and n61 parameters according to the mechanical system. Increase the set values in n60 and n61.

Fault display	Fault name and Meaning	Probable cause and remedy
SEr (flashing)	**Sequence error (SER)** A sequence change has been input while the Inverter is in operation. Local or remote selection is input while the Inverter is in operation. **Note** The Inverter coasts to a stop.	• A sequence error has occurred. → Check and adjust the local or remote selection sequence as multi-function input.
bb (flashing)	**External base block (bb)** The external base block command has been input. **Note** The Inverter coasts to a stop.	• The external base block command has been input as multi-function input. → Remove the cause of external base block input. • The sequence is incorrect. → Check and change the external fault input sequence including the input timing and NO or NC contact.
EF (flashing)	**Forward- and reverse-rotation input (EF)** The forward and reverse commands are input to the control circuit terminals simultaneously for 0.5 s or more. **Note** The Inverter stops according to the method set in n04.	• A sequence error has occurred. → Check and adjust the local or remote selection sequence.

Fault display	Fault name and Meaning	Probable cause and remedy
STP (flashing)	**Emergency stop (STP)** The Digital Operator stops operating. The STOP/RESET Key on the Digital Operator is pressed while the Inverter is operating according to the forward or reverse command through the control circuit terminals. **Note** The Inverter stops according to the method set in n04.	• The parameter setting was incorrect. → Turn off the forward or reverse command once, check that the n06 parameter setting for STOP/RESET Key function selection, and restart the Inverter.
	The emergency stop alarm signal is input as multi-function input. A multi-function input 1, 2, 3, or 4 set to 20 or 22 has been used. **Note** The Inverter stops according to the method set in n04.	• An emergency stop alarm is input to a multi-function input. → Remove the cause of the fault. • The sequence is incorrect. → Check and change the external fault input sequence including the input timing and NO or NC contact.
FAn (flashing)	**Cooling fan fault (FAN)** The cooling fan has been locked.	• The cooling fan wiring has a fault. → Turn off the Inverter, dismount the fan, and check and repair the wiring. • The cooling fan in not in good condition. → Check and remove the foreign material or dust on the fan. • The cooling fan is beyond repair. → Replace the fan.

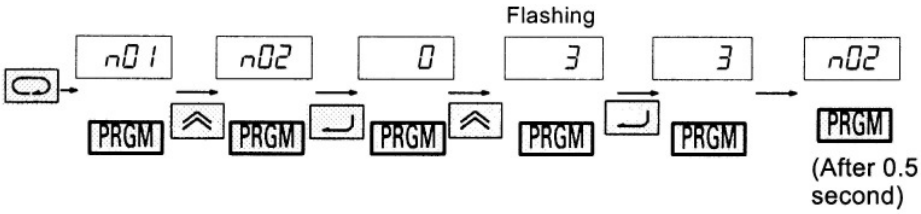
8.3 Parameter Setting

8.3.1 Description of parameter setting

Example:

Changing the value of constant no. 02 (operation mode selection) to "3."

Key operation	Indicator	Example of data display	Explanation
	PRGM	n01	Press the Mode Key until the PRGM indicator lights up.
	PRGM	n02	Press the Increment Key. "n02" appears in the data display section.
	PRGM	0	Press the Enter Key. The value of constant no. 02 is displayed.
	PRGM	Flashing 3	Change the value to "3" by pressing the Increment Key. The data display section flashes (indicating that the value is yet to be registered).
	PRGM	3	Press the Enter Key. The data display section stops flashing.
	PRGM	n02	After approximately 0.5 second, the data display section returns to the constant no. display ("n02").



Note 1. If the new data is not to be registered, press the Mode Key instead of the Enter Key. The new data becomes invalid and the constant no. display ("n02") is returned.

Note 2. Holding down the Increment Key or Decrement Key changes data quickly.

List of Parameters

File name:
Date: 14.07.2004
Time: 9:11 AM

Series Name: 3G3JV
Installation type/Option: A
Voltage Class: 2
Maximum Motor Capacity: 007
Specifications:
Special Specifications:
Software Number: 20

Description:

n01	Parameter write prohibit/Parameter initalisation	1
n02	Operation mode selection	1
n03	Frequency Reference Selection	2
n04	Stopping Method Selection	0
n05	Reverse Prohibit	0
n06	STOP/RESET Key function Selection	1
n07	Key sequential Frequency setting	0
n08	Freq Ref Sel in Local Mode	0
n09	Maximum Frequency (FMAX)	86.0 Hz
n10	Maximum Voltage (VMAX)	220 V
n11	Maximum Voltage Frequency (FA)	50.0 Hz
n12	Mid. Output Frequency (FB)	1.5 Hz
n13	Mid. Output Frequency Voltage (VC)	15 V
n14	Minimum Output Frequency (FMIN)	1.5 Hz
n15	Minimum Output Frequency Voltage (VMIN)	15 Hz
n16	Acceleration Time 1	1.2 Sec
n17	Deceleration Time 1	1.2 Sec
n18	Acceleration Time 2	10.0 Sec
n19	Deceleration Time 2	10.0 Sec
n20	S-shape Accel/Decel characteristic	0
n21	Frequency Reference 1	6.0 Hz
n22	Frequency Reference 2	0.0 Hz
n23	Frequency Reference 3	0.0 Hz
n24	Frequency Reference 4	0.0 Hz
n25	Frequency Reference 5	0.0 Hz
n26	Frequency Reference 6	0.0 Hz
n27	Frequency Reference 7	0.0 Hz
n28	Frequency Reference 8	0.0 Hz
n29	Inching frequency command	6.0 Hz
n30	Frequency Reference Upper Limit	100%
n31	Frequency Reference Lower Limit	0%
n32	Motor Rated Current	3.4 A
n33	Motor Protection characteristics	0
n34	Motor protective time setting	8 Min
n35	Cooling Fan Operation Function	0
n36	Multi-Func Input 1(Input terminal S2)	5
n37	Multi-Func Input 2(S3)	3
n38	Multi-Func Input 3(S4)	4

n39	Multi-Func Input 4(S5)	21
n40	Multi-Func Output (MA/MB and MC output terminals)	0
n41	Analog Frequency Reference Gain	100%
n42	Analog Frequency Reference Bias	12%
n43	Analog Freq Ref Filter Time	0.10 Sec
n44	Analog Monitor Output Item Selection	0
n45	Analog Monitor Output Gain	1.00
n46	Carrier Frequency Selection	4
n47	Momentary power interruption compensation	0
n48	Fault Retry	0 Time(s)
n49	Jump Frequency 1	0.0 Hz
n50	Jump Frequency 2	0.0 Hz
n51	Jump Frequency width	0.0 Hz
n52	DC Injection Control Current	50%
n53	Interruption DC Inj control Time	0.5 Sec
n54	Startup DC Inj control Time	0.0 Sec
n55	Stall Prevention during Deceleration	0
n56	Stall Prevention level during acceleration	170%
n57	Stall Prevention level during operation	160%
n58	Frequency Detection Level	0.0 Hz
n59	Overtorque detection function selection	0
n60	Overtorque Detection Level	160%
n61	Overtorque Detection Time	0.1 Sec
n62	UP/DOWN Command Freq Memory	0
n63	Torque Compensation Gain	1.0
n64	Motor Rated Slip	2.5 Hz
n65	Motor No-Load Current	55%
n66	Slip Compensation Gain	0.0
n67	Slip Compensation Time ConSKMnt	2.0 Sec
n68	Time over detection selection	0
n69	Setting unit selection of transmission freq reference/freq monito	0
n70	Slave Address	0
n71	Baud rate selection	2 bps
n72	Parity selection	0
n73	Send waiting time	10 mSec
n74	RTS Control	0
n75	Low-Speed carrier Freq Reduction Selection	0
n76	Copy Function Selection	0
n77	Parameter read out selection	0
n78	Error Log	0
n79	Software Number	20

9 Cleaning and Maintenance

9.1 General Information / Maintenance Instructions

Cleaning and maitenance:
Cleaning and maintenance contribute to a long life of the machine and a consistent quality.
Therefore it is important to clean and service the machine in regular intervals. The interval between maintenance jobs depends on the workload.

Minimum requirements:

Cleaning: Once a week, the operator should remove paper- or print powder dust from all fixed and movable parts of the machine.

!! Do not use any solvents such as Aceton or Toluol !!

Maintenance: A service technician should conduct a maintenance service twice per year.

This maintenance should comprise the following jobs:
- Check the proper function of air- and vacuum controls
- Clean the rear edge separator
- Check lifting suckers for wear; replace, if necessary
- Check that moving parts move freely
- Check all safety switches for proper function
- Check whether chains are damaged
- Check drive elements for premature wear
- Check movable parts of the fold plates incl. deflector for free movement
- Clean air filter of the compressor
- Clean fold rollers
- Check roller setting; re-adjust if necessary
- Check software version

9.2 Cleaning the Fold Rollers and Transport Rollers

Cleaning the fold rollers: At the operator panel, set all fold plate stops to 262 mm.
Turn off the main switch.
Remove the fold plates.

!! Place the fold plates on a table or stand them on their sides, never on the deflector!!
Turn on the folder at the main switch and choose the lowest motor speed.
Dampen the rollers with a special roller cleaning solution.
Remove dirt from the fold rollers with a soft cloth shaped into a ball.

!! Do not use any solvents such as Aceton or Toluol !!
!! Exercise caution when the machine is running !!
!! Serious injury may result !!

Repeat the cleaning process several times, if necessary, if there is a thick layer of deposits on the fold rollers.
Turn off the main switch.
Check the fold plates for damage and clean them, if necessary.
Grease all moving parts with Molykote grease (white).
Re-install the fold plates.

10 Special Tools

The following special tools are required:

For loading software:	1x 4.008.899	Data cable PC => Control *- Serial cable; 1:1 ; Plug: Pins / Socket*
	1x 4.008.898	Data cable PC => Display / Operator panel *- Serial cable; cross-connected; Plug: Socket / Socket*
	1x 4.008.920	Network cable
	1x Tec-CD TA 52	

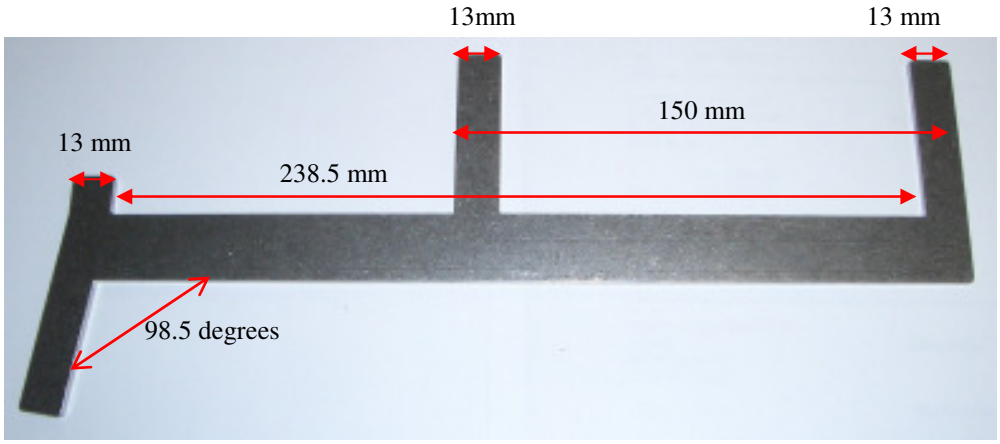
Program: ***RemoteAdmin***
for PC => Display / Operator panel

Program: ***TQ-Load***
for PC => Control

Notice: ***Programs run from a CD, there is NO need to install them***

Program: ***Core FTP Lite (FTP-Server)***
This program MUST be installed

For basic settings:	1x 4.008.900	Extension cable for fold plates
	2x 2.024.014	Setting gauge



11 Revision History

Rev No.	*Date*	*Version*	*Executed by:*	*Action taken:*
01 02	08/01/02 20.09.2004	V 1.1_07/04 V1.2	Gerhard Heisel Andreas Wollny	Compilation of Service Manual *(N)* Revision of the headline structure (C) and adding the A/D converter values (N)
03	12.11.2004	V 1.3	Gerhard Heisel	Mistakes in layout eliminated (C) Values for basic settings positions + alignment rails corrected (C) New tool (setting gauge 2.024.014) (N)
04	29.11.2004	V 1.4	Gerhard Heisel	Various mistakes in layout eliminated (C) Various values for basic settings corrected (C) Information about control board compiled (N) Table with standard folds compiled (N)
05	27.06.2005	V 2.0	Gerhard Heisel	New Software (N) functions FTP – Server (N) EEprom management (N) Screen shots inserted (Ä) Setting heights for installation (N)
				(N) = New *(C) = Change*

12 Feedback

Sender:

Name / Company: ……

Town / Street: …… Phone: ……

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Service Department

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Did you come across any misprints or typing errors in our Service Manual or do you have any suggestions for improvement?

Please inform us if this is the case.

Misprints resp. typing errors :……...

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Suggestions for improvement: ……

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