MODEL **S-311+I**

OPERATING INSTRUCTIONS

TABLE OF CONTENTS

A - INTRODUCTION

1. GENERAL INFORMATION

The electronic eylet buttonhole machine with Indexer enables automatic sewing of buttonholes which can be specified in number and distance between them. Typ stehu, odkaz na modely

Models of S-311 Indexer machine:

a) AF ST JT
This model is designed to be used for sewing single thread chain stitch buttonholes on ready-tailored jacket sleeves. The device enables sewing of various buttonhole types (see S311 section A, chapter 4 Specifications) with or without cut during one sewing cycle. There is a thread nipper attached to the device, which facilitates better quality of finished buttonholes.

Buttonholes commonly used on jackets sleeves:
- buttonhole with an eye
- with cut or without cut
- crossbar or round end

b) CT 16-20mm DT JT
This model is designed to be used for sewing double thread chain stitch buttonholes on ready-tailored jacket sleeves. The device enables sewing of various buttonhole types (see S311 section A, chapter 4 Specifications) with or without cut during one sewing cycle. There is a thread nipper attached to the device, which facilitates better quality of finished buttonholes.
Contrary to the version S311 AF ST JT the length of a buttonhole is limited for sewing within the range of 16-20 mm

Buttonholes commonly used on jackets sleeves:
- buttonhole with an eye
- with cut or without cut
- crossbar or round end

c) CT 16-20mm DT JS, 20-24 DT SJ
This model is designed for sewing double thread chain stitch buttonholes with gimp on trousers or jeans front sections. The device enables sewing of various buttonhole types (see S311 section A, chapter 4 Specifications) with or without cut during one sewing cycle. Contrary to the version S311 AF ST JT the length of a buttonhole is limited for sewing within the range of 16-20 mm/20-24mm.

Buttonholes commonly used on trousers front sections:
- buttonhole with an eye
- with cut
- flybar buttonhole

ABBREVIATIONS USED IN THE MANUAL	
AF	Adjustable flybar
CT	Cord trim - trimming all threads - short tail of bottom thread
ST JT	Single thread chain stitch - used on jackets
DT JT	Double thread chain stitch - used on jackets
DT JS	Double thread chain stitch - used on jeans (trousers)

A - INTRODUCTION

2. SAFETY LABELS AND EQUIPMENT

Indexer
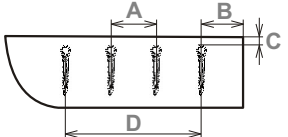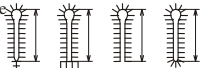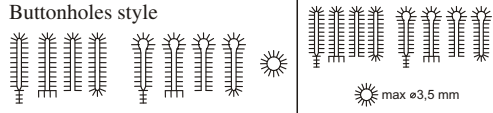For detailed description, see S-311 (section A, chapter 2, pages 1-2, 1-3).

㉙ Indexer

![AMF REECE - Better Ideas, Better Made]
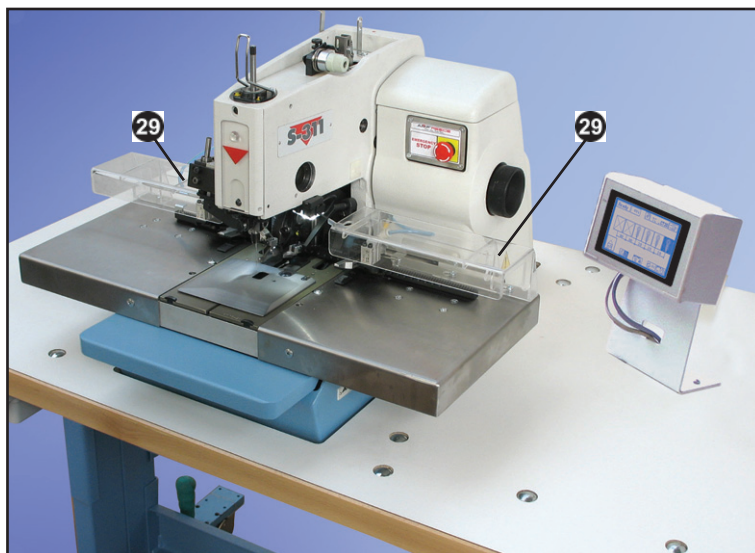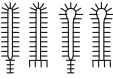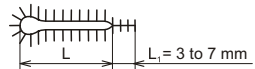
A - INTRODUCTION

3. SPECIFICATIONS

S-311+I

Machine models	AF ST JT	CT 16 - 20 mm DT JT	CT 16 - 20 mm DT JS	CT 20 - 24 mm DT JS	
Application	Jacket Sleeve	Jeans Fly Front			
Stitch Type	Single chainstitch	Double chainstitch with or without gimp			
Number of Buttonholes	1 - 6 buttonhole				
Distance between Buttonholes	8 - 160 mm				**A**
Distance from Fabric Edge (horizontal)	31 mm				**B**
Distance from Fabric Edge (vertical)	9 - 19 mm				**C**
Max. Horizontal Feed Amount	160 mm				**D**

Jacket Sleeve   Jeans Fly Front

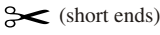|					
Thread Nipper	Yes		No		
Sewing Speed	1000 - 2000 stitches/min (500 - 1000 rev/min of the drive shaft)				
Buttonhole Length	10 - 50 mm	16 - 20 mm		20 - 24 mm	
Stitch Density	0,5 to 2,0 mm (increments of 0,1 mm)				
Number of Stitches in the eye	4 to 20				
Stitch Bite	2,1 mm (± 0,3 mm electronic adjustment); 2,7 mm (± 0,3 mm electronic adjustment)				
Stitch Bite (Crossbar)	2,1 mm (± 0,3 mm electronic adjustment); 2,7 mm (± 0,3 mm electronic adjustment)				
Buttonholes style	max ⌀3,5 mm				
Eye type	No Eye; 2,2 x 3,0 mm; 2,8 x 4,2 mm; 3,0 x 4,6 mm; 3,2 x 5,0 mm; 3,4 x 4,2 mm				
Fly Bar Length	3,0 - 20,0 mm	See section D 3.3 - manual S-311			
Length of Crossbar	4 - 8 mm	4-6 mm			
Crossbar density	0,5 - 1,5 mm	0,5-1,5 mm			
Number of Stitches in the round end	4 to 20	——			
Clamp Foot Height	12 mm				
Sewing Thickness	in 8,0 mm				
Buttonhole Cutting	Cut before (CB), cut after (CA), no cut (OFF)				
Cutting Space	- 0,50 to + 1,2 mm				
Cut position (Y axis)	± 1,5 mm				
Bedplate movement	64 mm				
Needle system	02.0558.0.111 (Nm 100)	02.0558.1.112 (Nm 110)			
Recommended threads*	80, 100, 120, gimp size 30-100	80, 100, 120, gimp size 10-30 standard **.			
Upper thread trimming ✂	✂				
Lower thread and gimp trimming	——	✂ (short ends)			
Cutting space ✂		L = 16 to 20 mm L+L₁ = 23 to 27 mm		L = 20 to 24 mm L+L₁ = 27 - 31 mm	
Operating Condition	According to IEC 364-3, IEC 364-5-51 temperature from +5°C do 40°C, relative air humidity from 30 to 80%				
Air pressure	0,55 MPa = 80 PSI				
Machine db Level	L_{wA}=86,9db; L_{pfA}=74,8 db; Noise measurement according to EN ISO 3746:1995				
Machine Head Dimension	530 mm (height) x 370 mm (width) x 560 mm (depth)				
Machine Head Weight	64 kg				
Table Dimensions	730 mm (height) x 1100 mm (width) x 700 mm (depth) + 150 mm distance				
Machine Weight	180 kg				
Electrical requirements	1NPE~60Hz 230 V/TN/S; 1NPE~50Hz 230 V/TN/S				
Line Circuit Breaker	Min. 10A Characteristic C (EN60947-2)				

In the "Lower thread and gimp trimming" row, the $L_1 = 3$ to 7 mm diagram is shown.

*** Note:** If a customer uses thread size 100 and less, the manufacturer recommends to use the left looper 17.0069.4.019
If you use poor quality threads on the machine, the thread can burn at the needle (producer recommend decrease machine´s speed).

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B - MACHINE ASSEMBLY

S-311+I   AF - PNEUMATIC SYSTEM CONNECTION

① clamp feet up/down
② clamp feet spreading
③ upper thread draw-off
④ upper thread trimming
⑤ ⑨ thread nipper
⑥ cutting
⑧ suction
⑩ indexer

Tubes identification **J X X X**

— air distribution
0, 1, 2 — X => distribution from a regulator
0, 1, 2 — X pneumatic cylinder identification
A ; B; C   (the first number is 0 but is not marked)
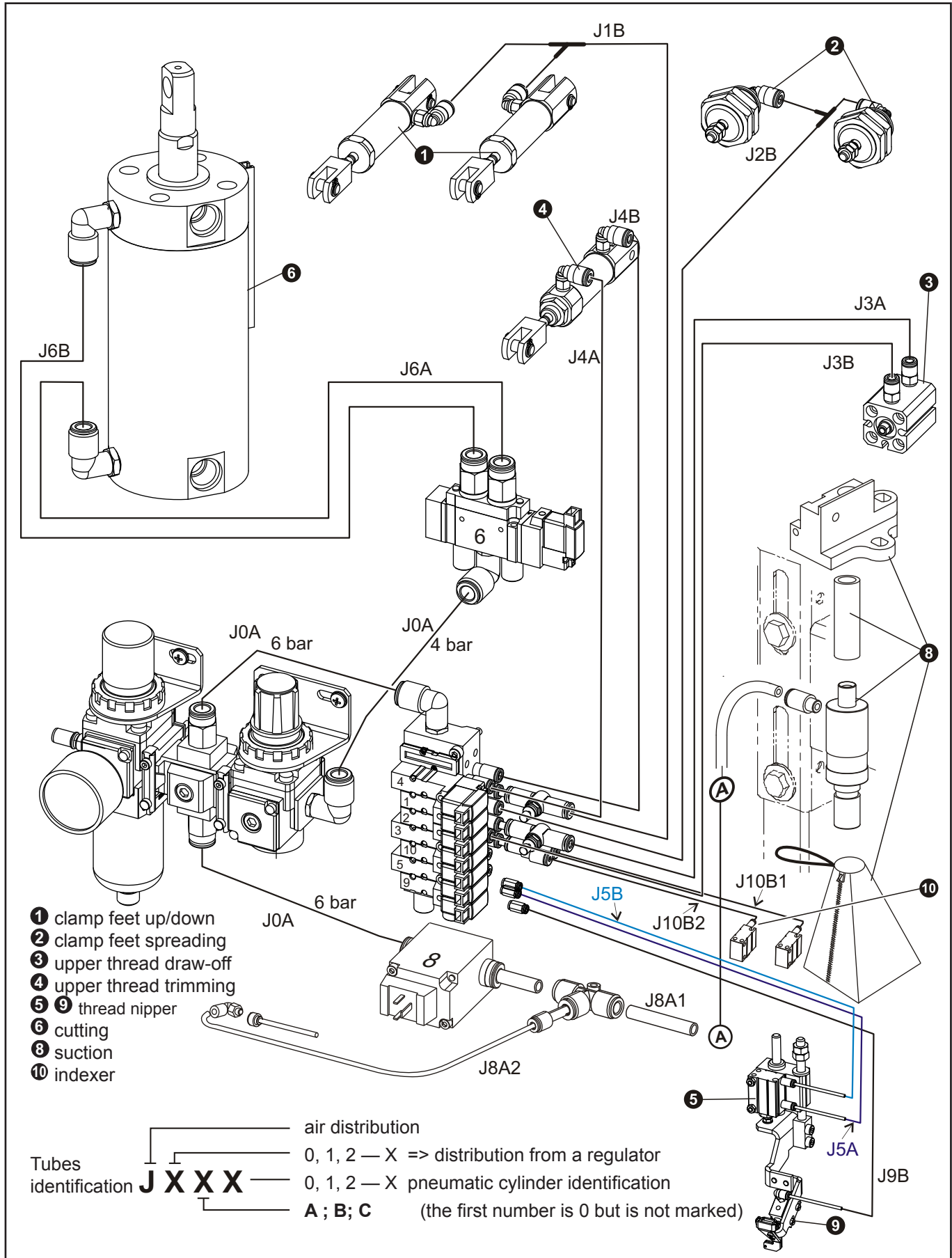
B - MACHINE ASSEMBLY

S-311+I   CT - PNEUMATIC SYSTEM CONNECTION

J1B

J2B

2

3

J3A

J3B

4

J4B

J4A

6

J6B

J6A

6

4 bar

J0A

J0A   6 bar

7   J7B

8

A

J10B1

J5B

J10B2

10

6 bar

J0A

8

J8A1

J8A2

5

J5A

J9B

9

❶ clamp feet up/down
❷ clamp feet spreading
❸ upper thread draw-off
❹ upper thread trimming
❺ ❾ thread nipper
❻ cutting
❼ bottom thread trimming CT
❽ suction
❿ indexer

Tubes
identification

J X X X

air distribution

0, 1, 2 — X => distribution from a regulator

0, 1, 2 — X pneumatic cylinder identification

A ; B ; C   (the first number is 0 but is not marked)

C - PROPER APPLICATION

1. SETTING MACHINE INTO HOME POSITION TO START SEWING

1.1. Turn the switch clockwise to the position **I** to switch it on.

1.2. The display is activated and illuminated. The screen ❻ displaying information of the manufacturer and numbers of programs uploaded in the machine appears. Wait until the main screen ❸ appears on the display.

1.3. If **E01** error message is shown in the box ❹ on the display (the machine is not in the home position), press the button 🏠 ❺. If another error message occurs, see the section Troubleshooting.

1.4. The machine is ready to start operation once the **Ready** message on the display in the box ❹ is on.
(Display description on page 1-28, S-311).

1.5. If you wish to operate the machine in the Indexer mode, follow the instructions in section D, chapter 2. Setting Indexer Display, page 1-16 I.
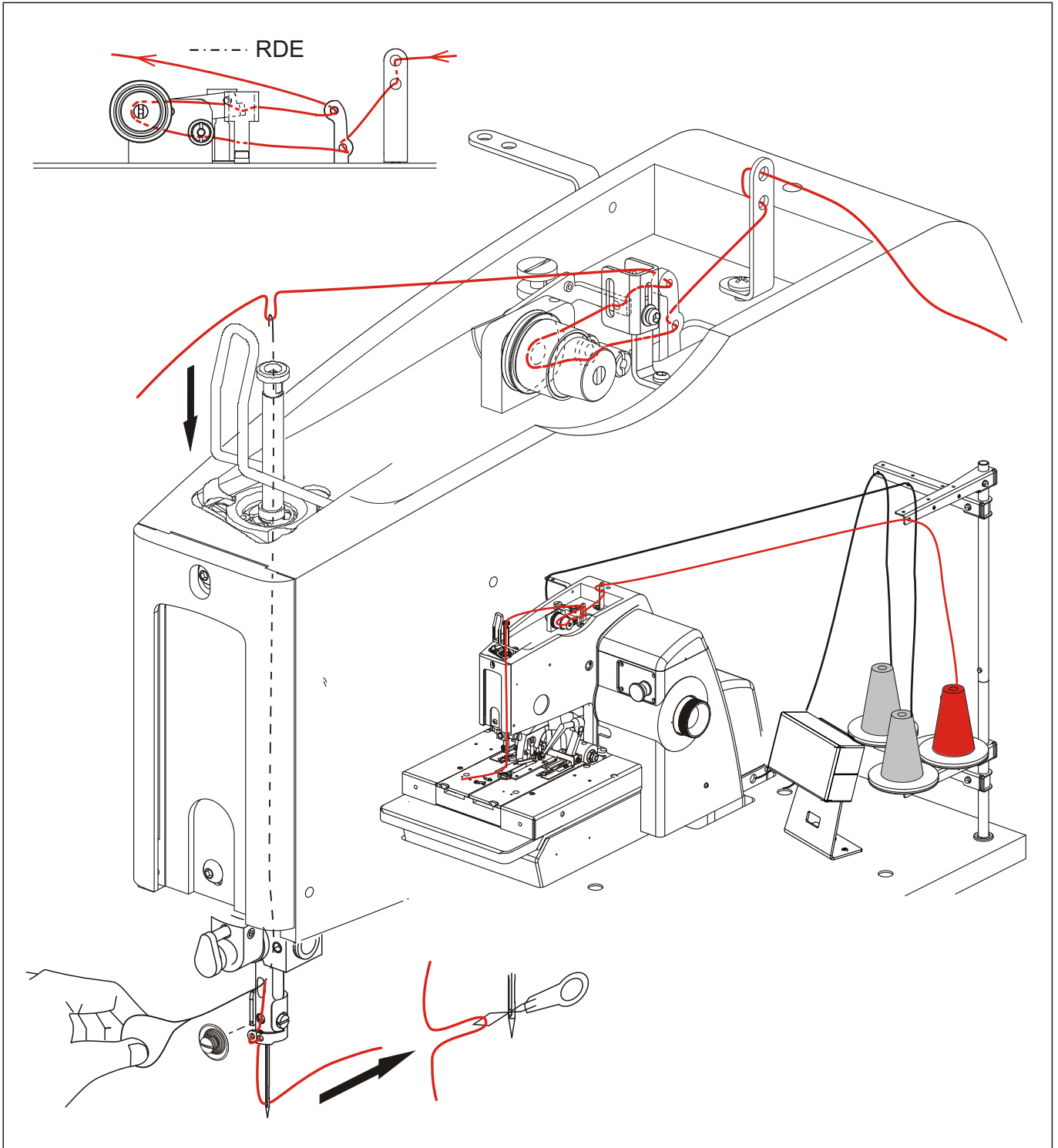
Displej indexeru
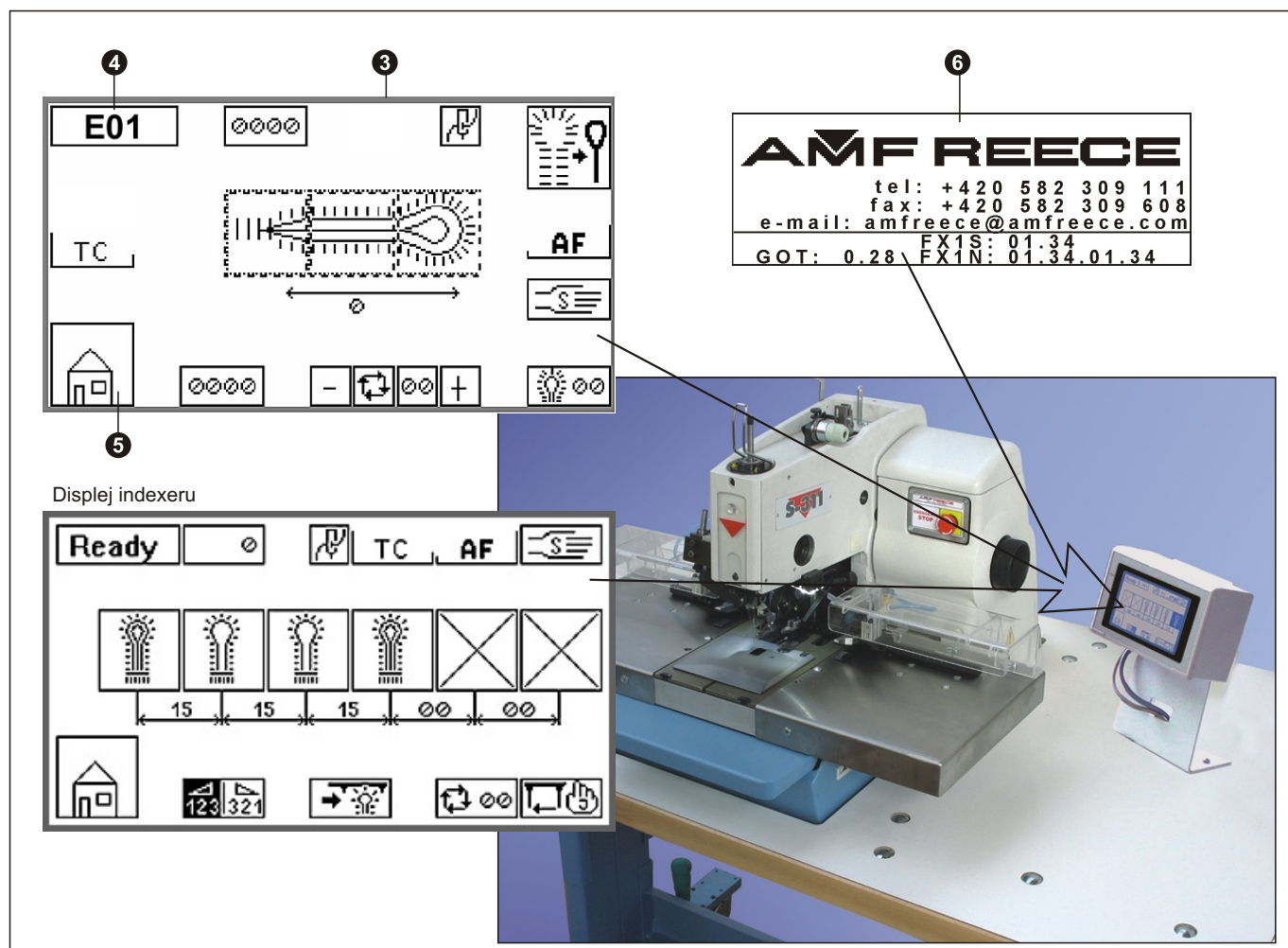
C - PROPER APPLICATION

2. THREADING

Threads are threaded as shown in the pictures below. For easy threading use threading devic ❶ from the machine accessory. Threading device ❷ can be ordered separately (order number 12.0008.6.200).
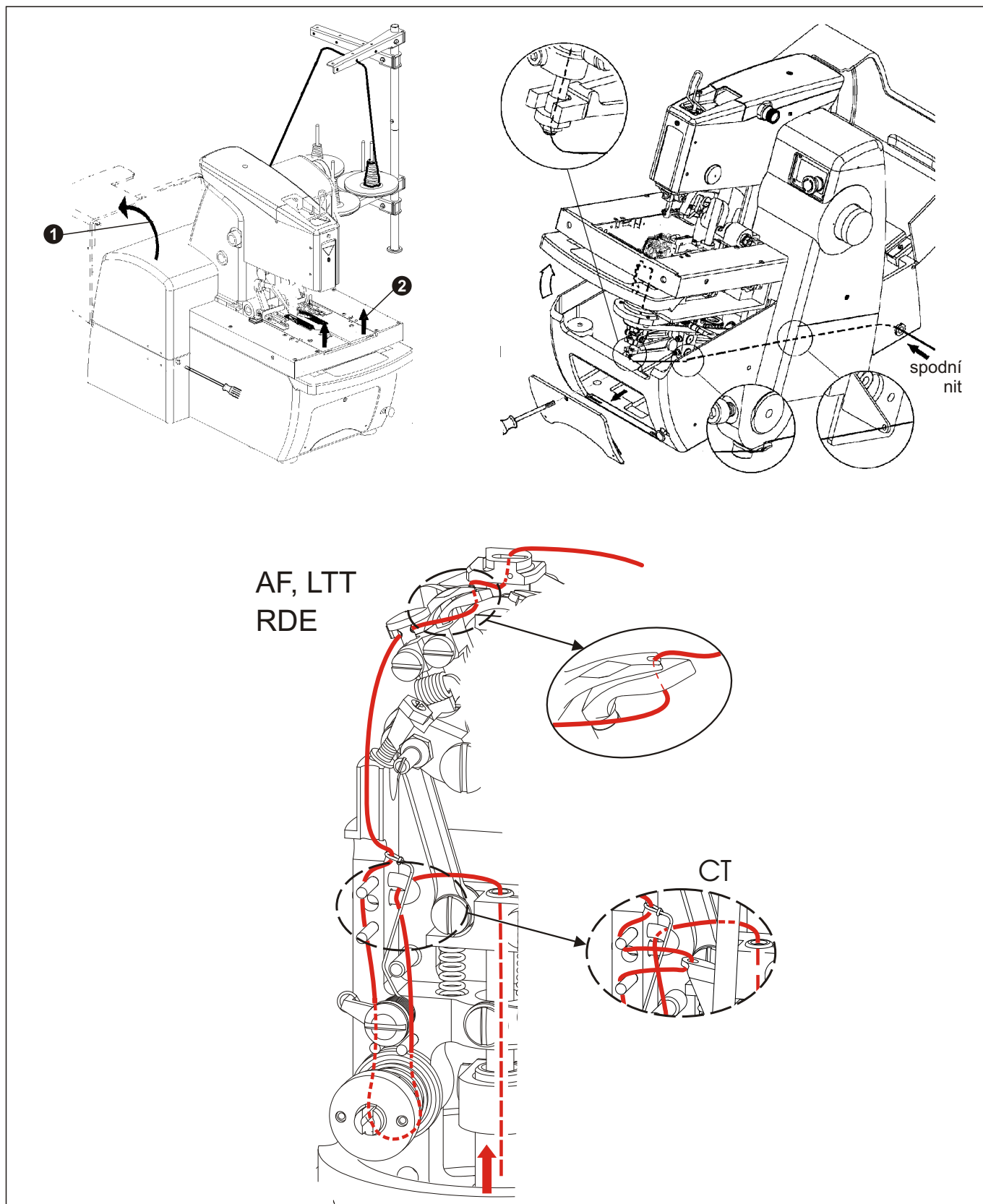Thread tension can be adjusted with nuts ❸, ❹ according to sewing conditions as needed.

2.1. Upper thread threading

2.2. Lower thread threading
— can be done after tilting the back cover ❶ and lifting the machine arm ❷.

spodní
nit

AF, LTT
RDE

CT

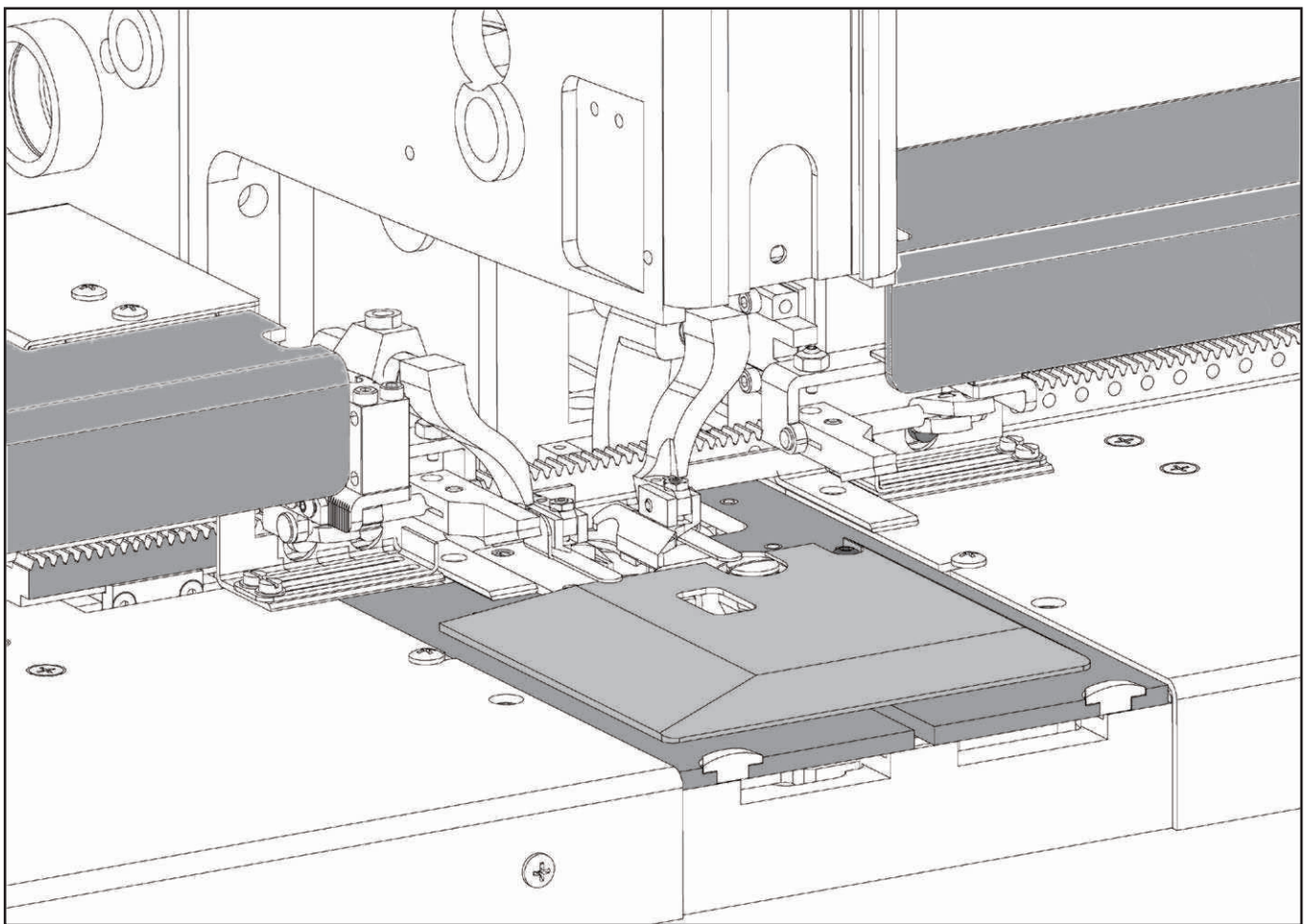# C - PROPER APPLICATION

2.3. Threading the machine S-311 CT+I

If you thread lower thread or gimp for the first time, it is necessary to dismantle the Indexer.

a) Loose screws and remove safety covers ❶.

b) Disconnect air pipes from cylinders.

c) Loose screws ❷ of the right side feet holder and take it out.

d) Hold the device ❸ and pull it to the left to take it out.

e) Remove the clamp plates ❹ and thread lower thread or gimp.

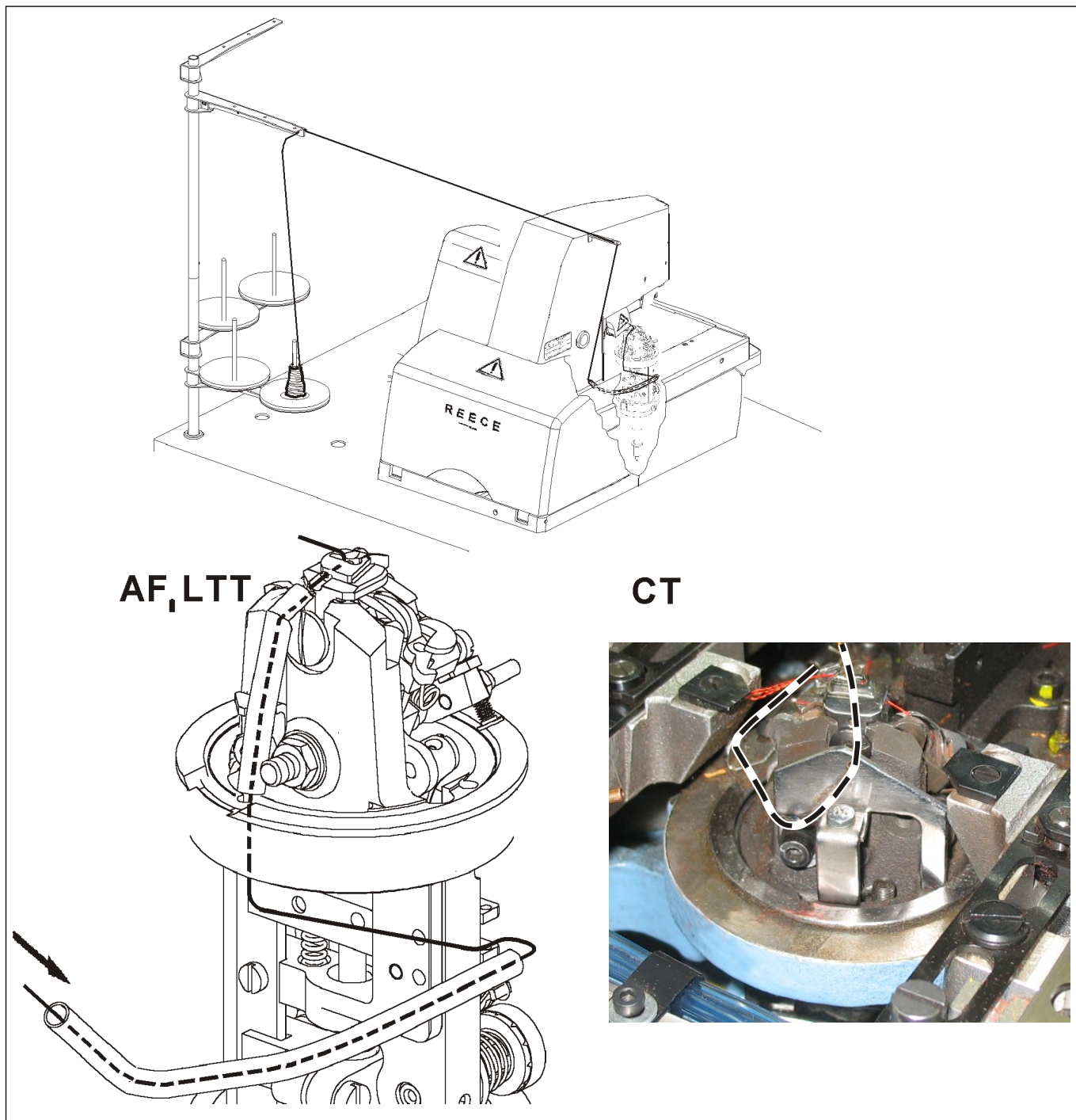f) Mount the mechanism back into the machine.

Note:
When assembling the right clamp foot, it is necessary to keep minimal distance of 0,5 mm.
See section E, chapter 1.
If the lower thread has just slipped out of the stitching plate, loose the screw ❺ and remove the clamp feet cover ❻.

C - PROPER APPLICATION

2.4. Gimp threading

AF,LTT

CT

The appearance and quality of the buttonhole may be affected by one or more of the following:

- stitch density (number of stitches in the first and the second row of stitches)
- number of stitches in the eye
- amount of fabric spread
- cutting space
- tension of upper and lower thread
- type of thread (size, etc.)
- needle bite
- sewn material (thickness, density)

D - MACHINE CONTROLS

1. SEWING A BUTTONHOLE

1.1. Set the machine into the home position as in section **C1** of this chapter. Before starting sewing, let the machine warm up in this condition for about 3 minutes.

1.2. Check, if threads are correctly threaded as indicated in section **C3**, and place the work piece under the machine clamps. Correct placement of the buttonhole on the work piece will facilitate front stopper ❶ and side stopper ❷ that have adjustable lenghts.

1.3. Pressing slightly the foot pedal into the first position will activate clamping and the work piece will be clamped. (Releasing the foot pedal will lift the clamps up again).
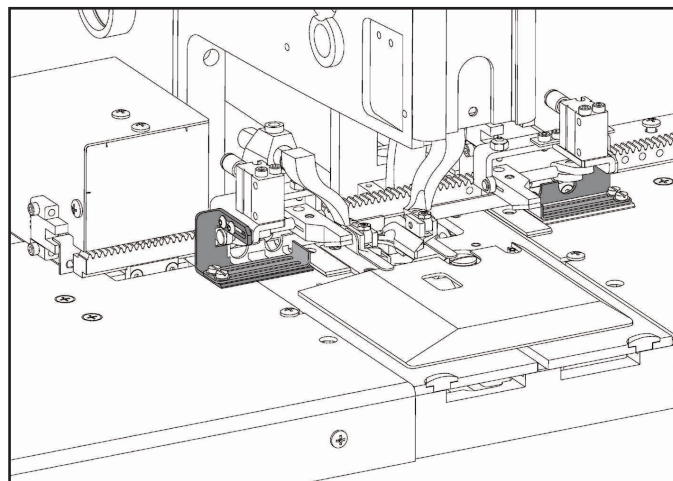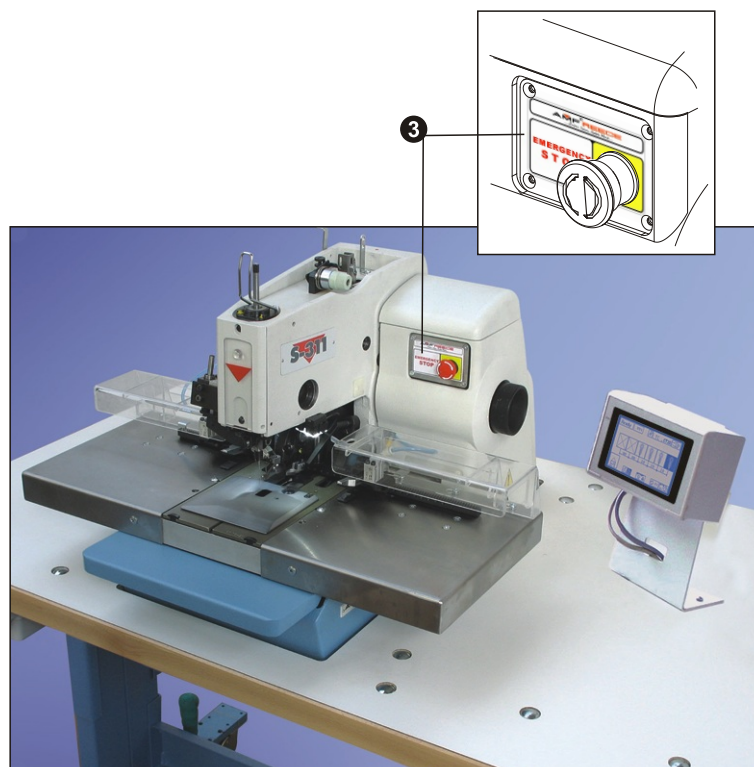
1.4. Pressing the foot pedal down (into the second position) will start sewing the buttonhole, which has been selected in the program. Once the buttonhole is sewn, fabric cut and upper thread trimmed, the clamps go up and the machine comes back into the home position.

1.5. Once the clamps are lifted up, it is possible to move the work piece in order to sew another buttonhole. If the Indexer device is activated, the fabric is moved automatically.

1.6. The machine can be stopped by the button STOP ❸ which is located on the machine arm, at any phase of the cycle.
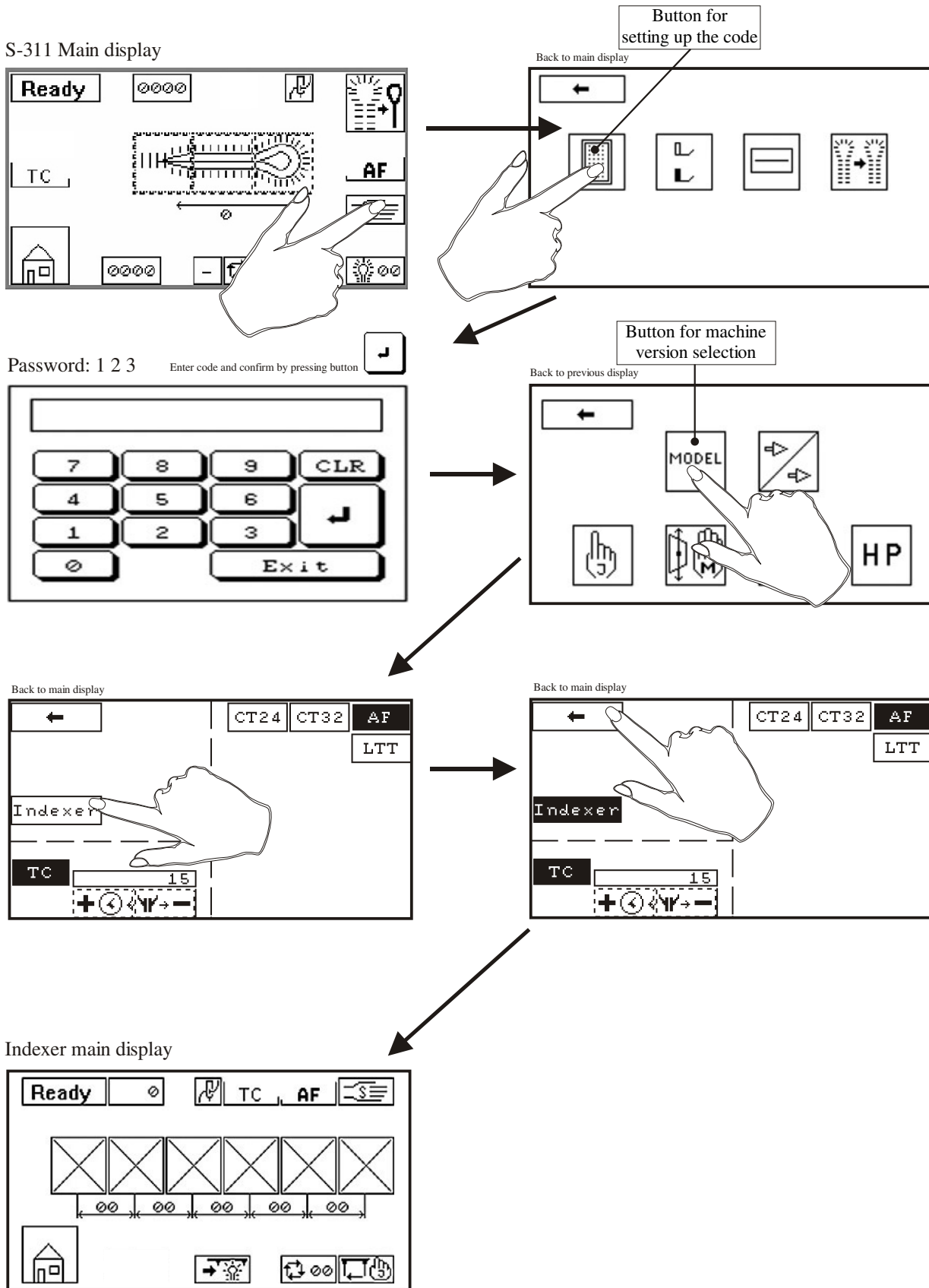Releasing this button will stop the machine (Error E01, see section Troubleshooting).

1.7. Once sewing finished, switch the machine off. We also recommend unplugging the power cable from the socket and shutting the air supply off.
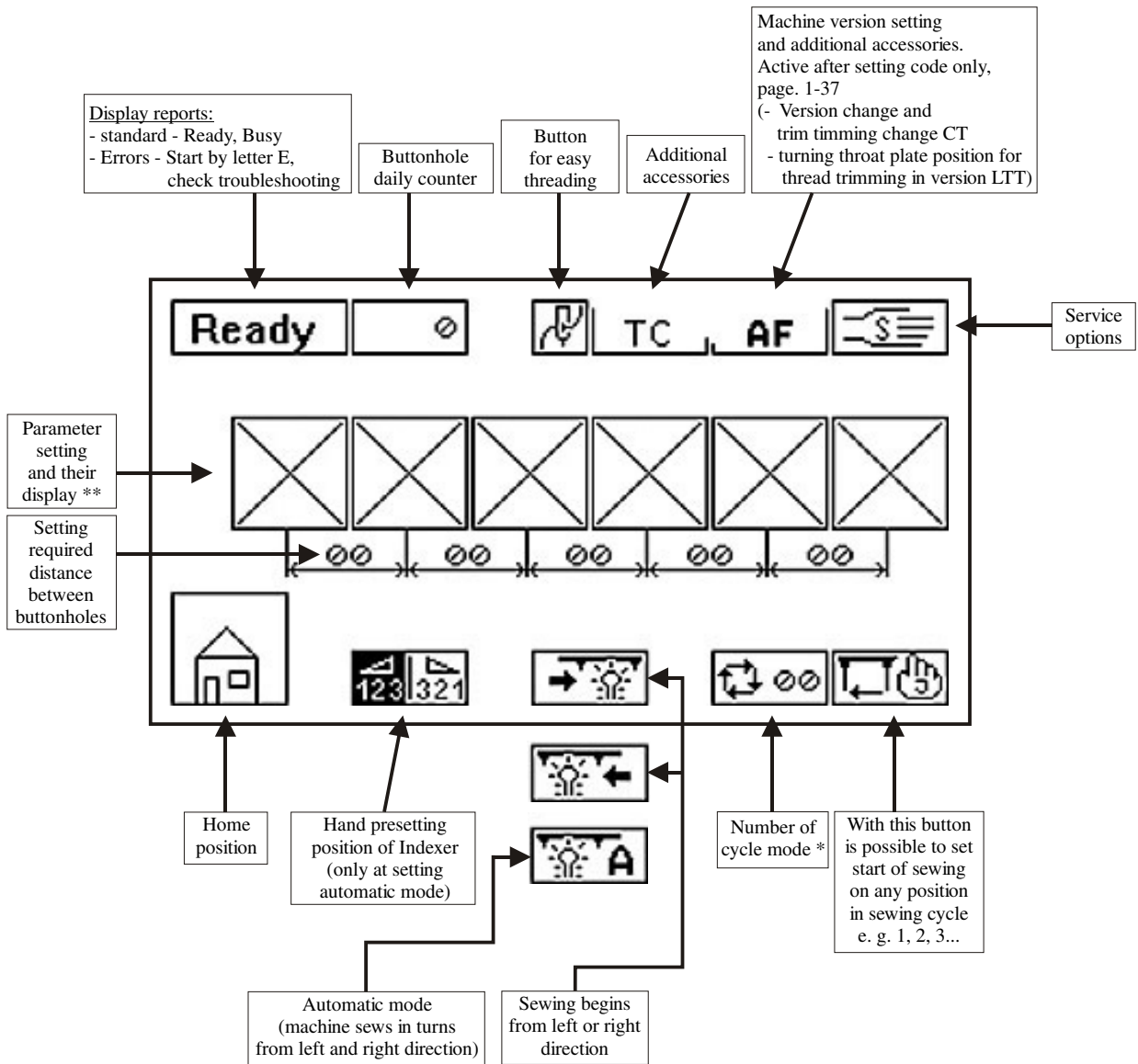
D - MACHINE CONTROLS

2. SETTING UP THE INDEXER DISPLAY

S-311 Main display

Button for
setting up the code

Back to main display

Password: 1 2 3   Enter code and confirm by pressing button

Button for machine
version selection

Back to previous display

Back to main display

Back to main display

Indexer main display

D - MACHINE CONTROLS

3. INDEXER SCREEN DESCRIPTION

Display reports:
- standard - Ready, Busy
- Errors - Start by letter E, check troubleshooting

Buttonhole daily counter

Button for easy threading

Additional accessories

Machine version setting and additional accessories. Active after setting code only, page. 1-37
(- Version change and trim timming change CT
- turning throat plate position for thread trimming in version LTT)

Service options

Parameter setting and their display **

Setting required distance between buttonholes

Home position

Hand presetting position of Indexer (only at setting automatic mode)

Automatic mode (machine sews in turns from left and right direction)

Sewing begins from left or right direction

Number of cycle mode *

With this button is possible to set start of sewing on any position in sewing cycle e. g. 1, 2, 3...
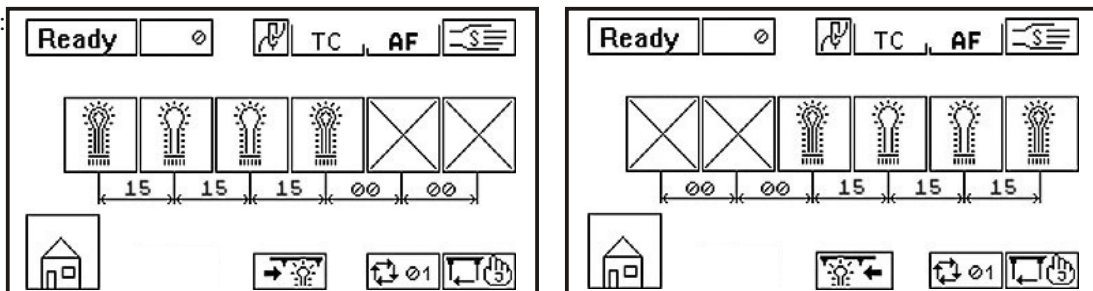
* 1 - 50 Function cycle mode
  0 - Disfunction cycle mode (at setting "0" machine sews only one buttonhole, without Indexer move.

** Buttonholes are represent on display the way they will be sewn in reality.
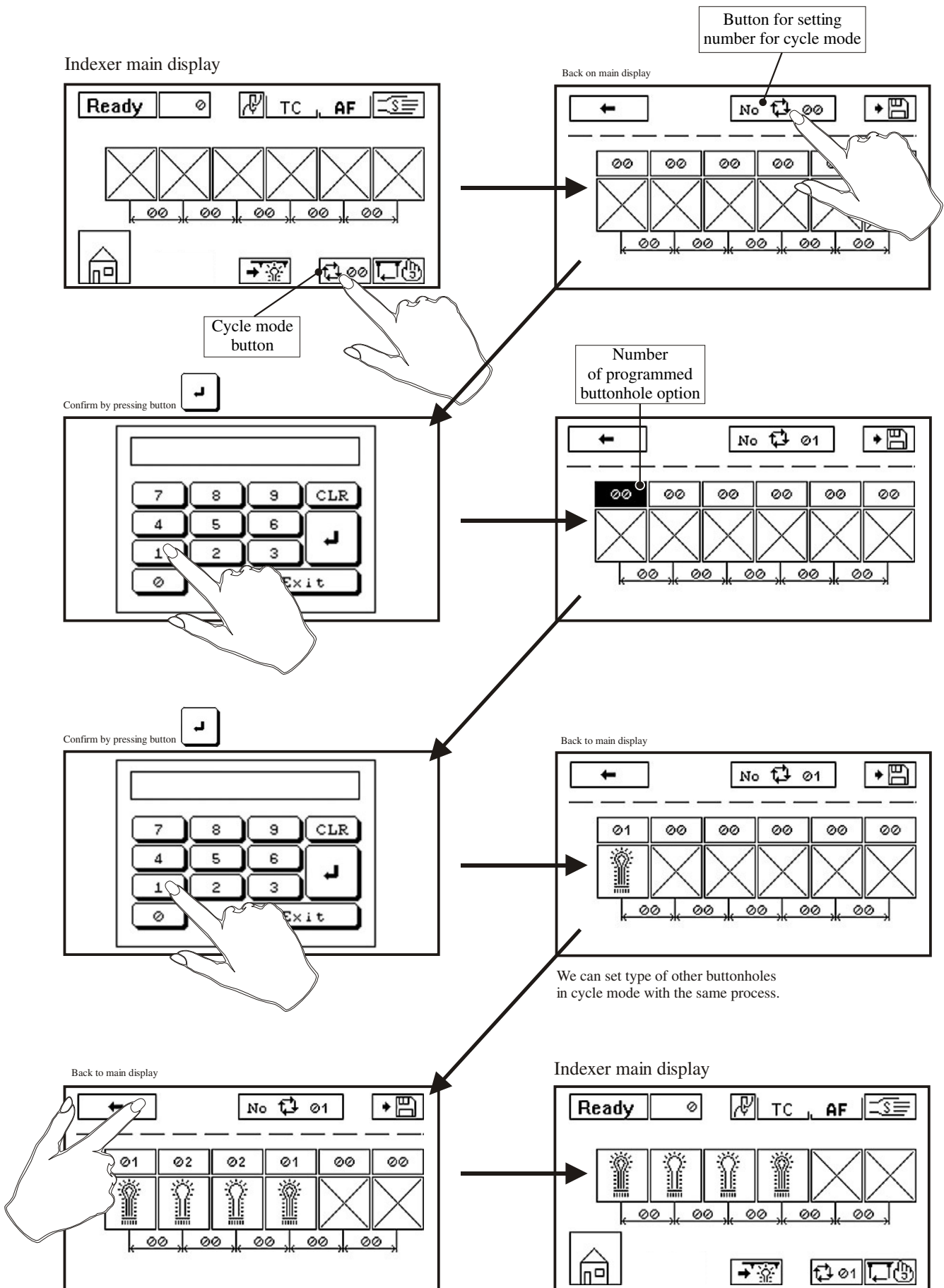If we change direction of sewing, buttonholes are automaticaly displaced to the opposite position.
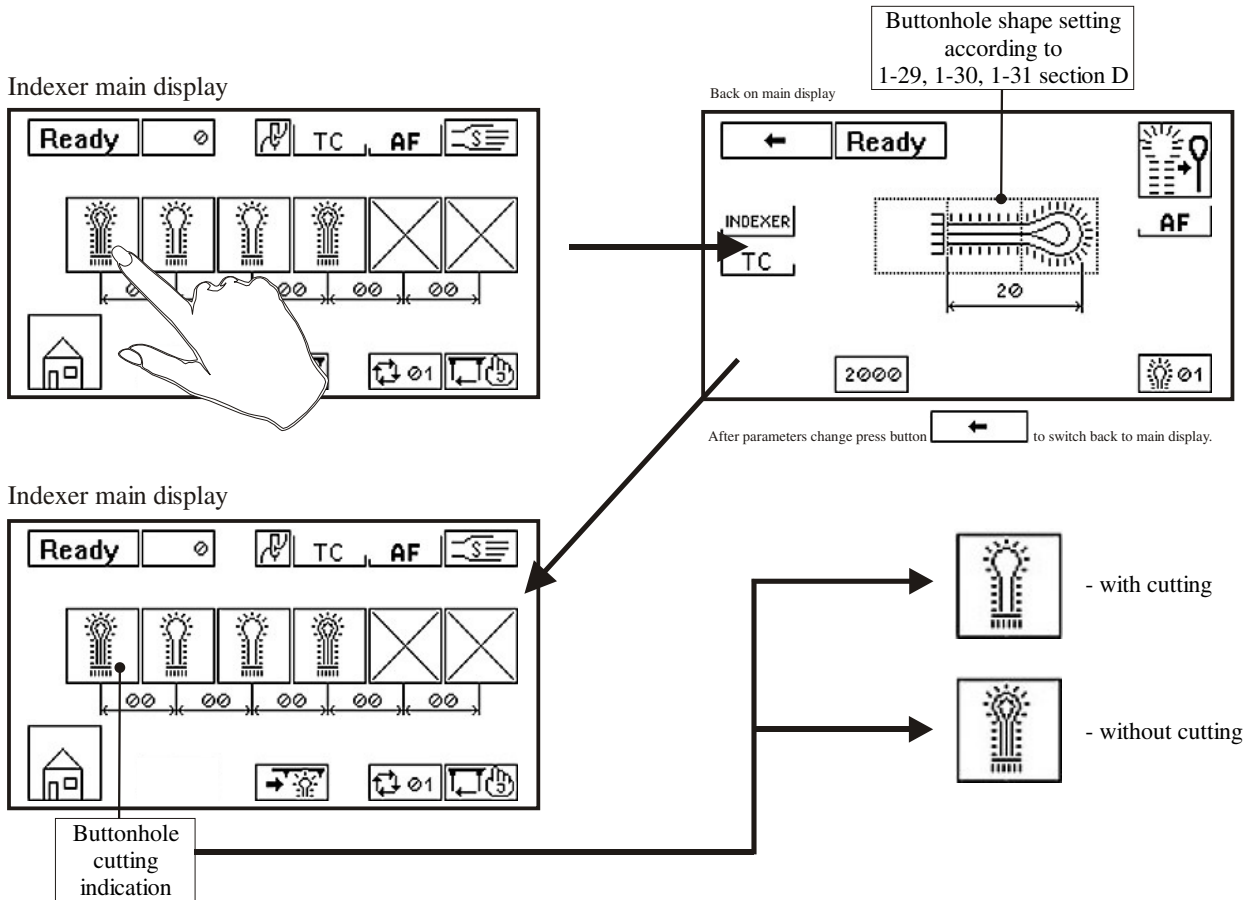E. g.: Right and left sleeve application.

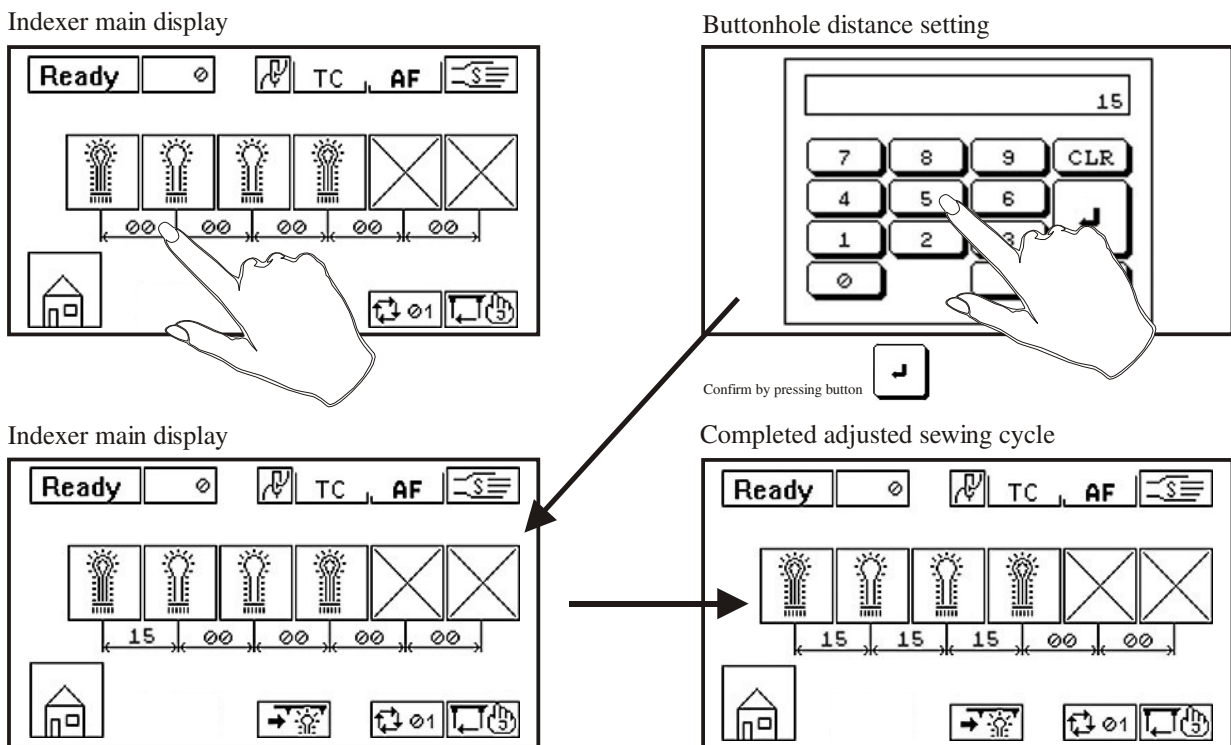Example:

D - MACHINE CONTROLS

4. BUTTONHOLE TYPE SETTING

Indexer main display

Button for setting
number for cycle mode

Back on main display

Cycle mode
button

Confirm by pressing button

Number
of programmed
buttonhole option

Confirm by pressing button

Back to main display

We can set type of other buttonholes
in cycle mode with the same process.

Back to main display

Indexer main display

D - MACHINE CONTROLS

5. CHANGE OF BUTTONHOLE PARAMETERS SETTING

Indexer main display

Buttonhole shape setting
according to
1-29, 1-30, 1-31 section D

Back on main display

After parameters change press button ← to switch back to main display.

Indexer main display

- with cutting

- without cutting

Buttonhole
cutting
indication

6. BUTTONHOLE DISTANCE SETTING

Indexer main display

Buttonhole distance setting

Confirm by pressing button ↵

Indexer main display

Completed adjusted sewing cycle

We can set distance for other buttoholes
in cycle mode with the same process.

D - MACHINE CONTROLS

7. INDEXER ERROR REPORTS

Indexer main display

Back to main display
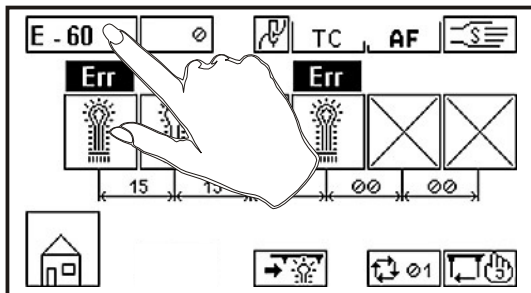
If we see on display error message
press button ⬜•⬜ for display detailed
information about trouble and its removing.
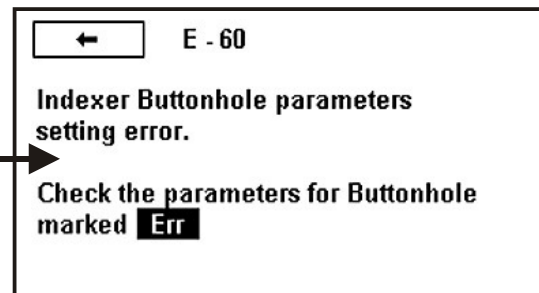
After parameters change press button ⬜←⬜ to switch to main display.

For detailed trouble description and its removing see the troubleshooting section.
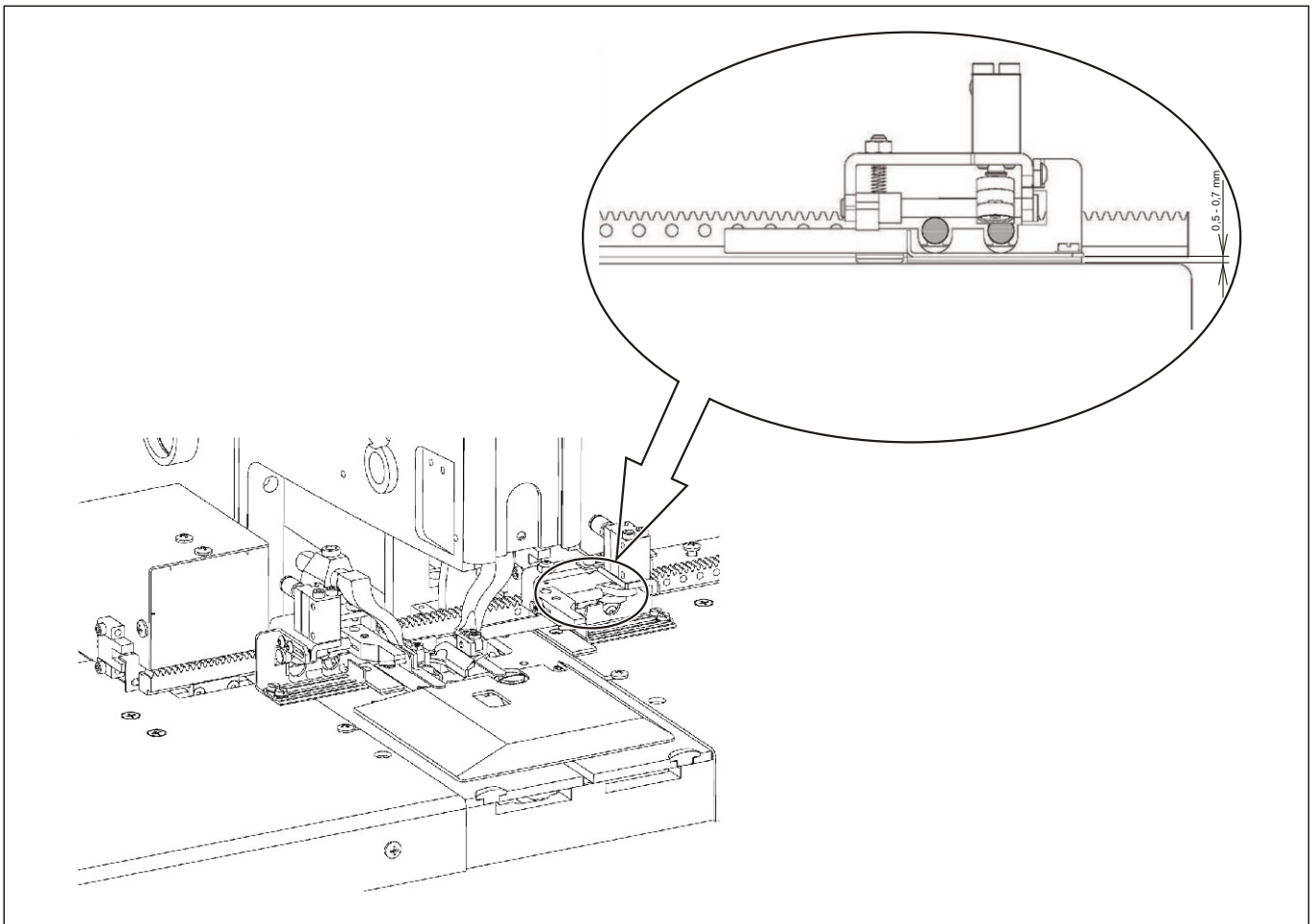
E - STANDARD MACHINE ADJUSTMENT

1. SETTING UP THE HEIGHT OF CLAMPING FEET

In order for the Indexer to function correctly, it is important to set up correct height of Indexer clamping feet above the desktop.

1.1. Loose clamp holders screws ❶ on the left and right side of the Indexer.

1.2. Set up a gap of 0,5 - 0,7 mm between feet and desktop (feeler gauge can be used).

1.3. Verify the setting by pressing the button 🏠. The device must move freely without stopping.

1.4. If the device stops, it is necessary to increase the gap between feet and desktop according to instructions in 1.1, 1.2.

Note:
The above-mentioned adjustment is necessary every time you change the distance between the clamping feet according to the size of workpiece and number of buttonholes sewn.

E - STANDARD MACHINE ADJUSTMENT

2. SETTING UP MINIMAL PLAY BETWEEN INDEXER FEET AND CLAMPING MAT

It is important to set up the minimal play between Indexer feet ❶ and clamping mat ❷. correctly so that the spreading mechanism on the sewing head operates correctly. It is necessary to hold the minimal play.

2.1. Check, whether the play on the machine is set onto 2mm in both positions of the Indexer. Use this display buttons [→] [←] to make a move.

2.2. If the 2-mm distance is not adjusted on the machine, loose screws ❸ and move sensors ❹ into the required position. The distance increases in the direction of A and decreases in the direction of B.

2.3. Secure the setting by tightening screws ❸.

2.4. Check the setting by pressing the button 🏠. The device must move freely without stopping.

Note:
If the distance is smaller than 2 mm, the fabric will not be properly stretched during sewing an eye!
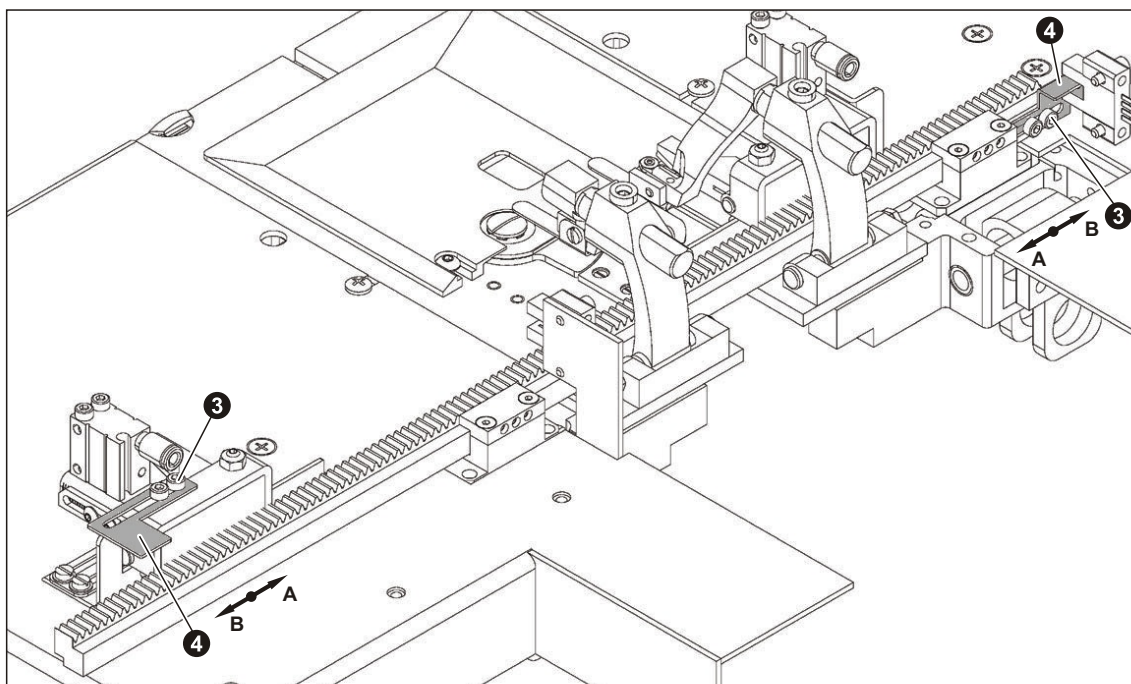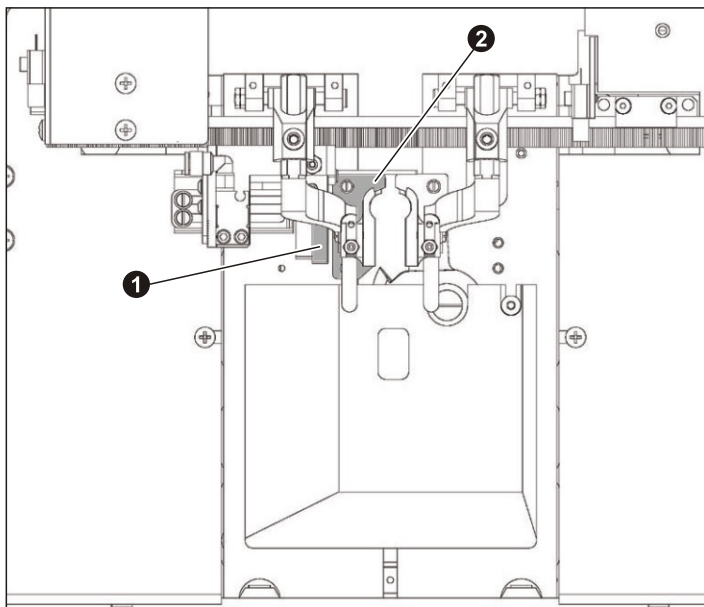
E - STANDARD MACHINE ADJUSTMENT

3. SETTING UP THE DISTANCE BETWEEN CLAMPING FEET

Change the distance between clamping feet ❶ if you want to change workpiece or number of buttonholes to be sewn.

3.1. Take out screws ❷ of the right holder ❸ and adjust the required distance X between the Indexer clamping feet ❶ and clamping mats ❹ of the sewing head feet.

3.1.1. The minimal distance **X** can be found in display pre-set parameters.
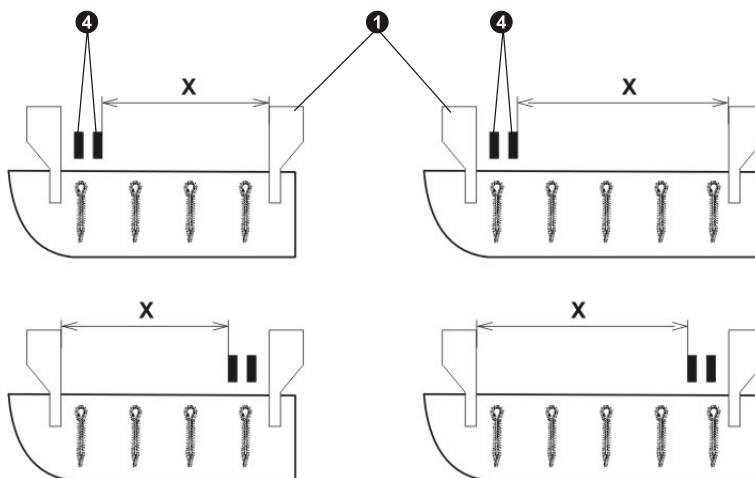
Example:
You wish to sew 4 buttonholes with the distance of 25 mm between them. The total length is 75 mm (the first buttonhole is always sewn in indexer home position).

X = (number of buttonholes -1 fixed in place) x distance between them + 2 mm (minimal play between Indexer feet and clamping mat of the sewing head; see chapter 2).

X = (4-1) x 25 +2 = 77 mm

Minimal distance must be adjusted to 77 mm.
If the minimal distance is shorter, the display signals an error message $\boxed{\text{E-61}}$ – the required operation cannot be performed.

3.2. Secure the correct position by screws.
Do not forget to adjust the play between a clamping foot and desktop (see chapter 1).

3.3. Check the setting by pressing the button ⌂. The device must move freely without stopping.

Note:
Setting up the distance between clamping feet needs to be done always by changing the position of the right clamping foot of the Indexer only!