



Supply for Mini-stops

Dodatek pro Mini-stop

Nachtrag für Mini-stops

Supplément pour Mini-stop

Aditamento para Mini-stop

4180i

4280i

4120i

4220i

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The instructions for assembling with Mini-Stops

1. Safety instructions



Caution !

Assembly of the machine must only be carried out by appropriately trained technician.

Any operations to be performed on the electric installation of the sewing machine are to be done only by a competent electrician.

SAFETY INSTRUCTIONS OF THE DRIVE MANUFACTURER

The drive for the MINI-STOP sewing machines is manufactured and tested according to the valid safety regulations and enables in this way a safe and dependable operation. For maintaining this condition and a safe running, the user needs to be acquainted with all hints and cautions contained in these instructions, as well as in the instructions of the drive manufacturer.

The MINI-STOP is destined for the sewing industry and for being run in clean and dry rooms. It may not be put into operation when the machine, in which it is incorporated, does not comply with all regulations and provisions. It is not allowed to use the drive in outer humid spaces or in spaces with possible explosion risk. It is necessary to observe the hints of the manufacturer concerning the running, attendance and maintenance. The MINI-STOP works in a safe and dependable way when there are maintained the hints of the instructions and the purpose of the driver use. These instructions should be carefully read before unpacking and putting the drive into operation. Before the first putting of the MINI-STOP, its accessories and supplements into operation, be sure in being acquainted with the hints concerning the assembly, attendance, running and maintenance. All activities connected with the drive may be carried out only when observing the respective regulations and when respecting the given safety rules described in the following parts of the instructions. All persons concerned must be acquainted with these safety warnings. The inobservance of these hints may cause injuries of persons, damage of objects or breakdowns or damage of the drive.

It is necessary to observe the regulations concerning accidents, safety and skilled labour being in force in the given country.

The MINI-STOP may be installed and put into operation only by qualified persons. This will reduce to a minimum the consequences of breakdowns with the possible health injury of persons.

Operations carried out on the machine or on its parts under high voltage are not allowed. Exceptions thereof are regulated by the EN 50110 standard.

Before removing guards, assembling additional devices or accessories, e.g. sensors of the pedal position, photocell etc., the drive must be disconnected from the mains and the drive must be put into its idle condition. The operating box may be opened only after having run 10 minutes! owing to the risk of burning, fire, electric shock or injury, any reconstructions or eventual modifications of the MINI-STOP are prohibited. During the running thereof, its guards or protective devices may not be removed. Before leaving the work place, the mains switch must be out into the OFF condition. When the drive is out of use for some time, the mains plug is to be disconnected from the mains and the drive must be secured against an accidental switching on.

In the event of having connected additional devices or operational means to the drive, these may be fed only with low voltage from a safety transformer.

Never operate the drive when the air vents thereof are clogged. Be sure in avoiding the presence of dust or fibres therein. Do not insert and avoid falling of any object, e.g. needles, into these vents. Do not use MINI-STOP when working with aerosols and sprays or with oxygen. The cautions mentioned in the following parts serve for ensuring further safety.

The MINI-STOP may be operated only with a protective conductor connected on a protective system which complies with all regulations and service provisions.

2. The way of machine supply

The contents of supply will be determined in agreement between the supplier and buyer. There are following possibilities:

2.1 Complete head with accessories

In this case the supply contains:

- Complete head with motor, control electronics and connecting head cable.
- Chosen spare parts in the bag under the presser element (see parts indicated * in catalogue of spare parts).
- Standard accessories (it contains tools-see module in catalogue of spare parts).
- Special accessories (it contains some components of a stand and upper belt cover-see module in catalogue of spare parts).

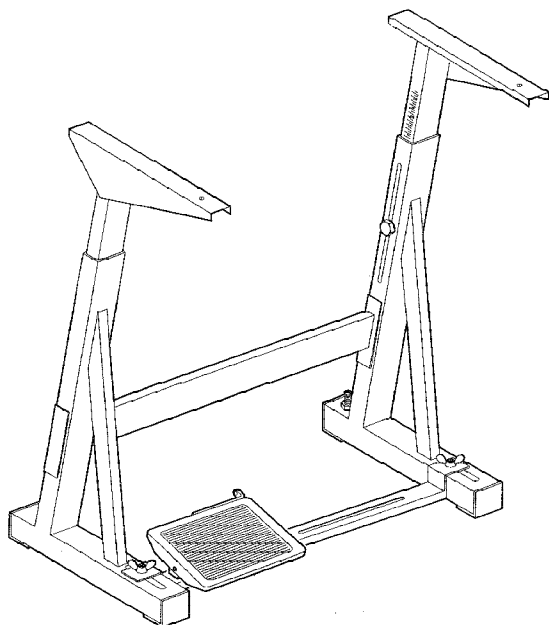
The supply like this is not complete. Buyer will provide missing components himself or he can put in an extra order to get them according to the following paragraphs.

2.2 Stand

Delivery contains components of a stand, however, without components of a stand included in special accessories supplied with machine head (see par. 2.1) and without any electrical components. If it hasn't been agreed otherwise, the stand is supplied in separate pieces. If the assembled stand is asked, special accessories are used from head supply.

Stand (ordered number S400 019000 for subclasses with Mini-stop) contains following items:

MG55 000501	Stand frame
MG53 002501	Big treadle
MG53 007511	Set of parts for a stand
S615 000318	Table top



3. Table top

In case buyer will provide his own table top its drawing is shown in supplement.

4. Machine assembly

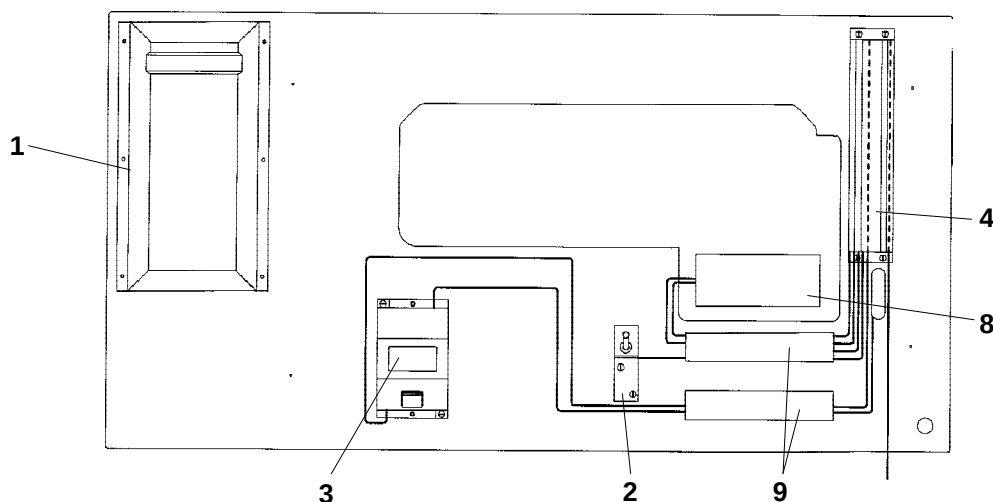
It is described machine assembly with stand here which is supplied in separate pieces. Otherwise use these instructions adequate.

4.1 Stand frame assembly

A frame is assembled according to the picture.

4.2 Assembly of components on the bottom of table top and connecting to the mains

- Put down antiskid (rubber) bands on the stand frame.
- Turn the table top its underside upwards and place it on the prepared bands.
- Screw on the drawer (1) using wood screws.
- Screw on the pedal position sensor holder (2) using wood screws and the pedal position sensor thereon using screws.
- Screw on the lighting transformer (3), if any, using wood screws.
- Connect the supply of the lighting transformer (3) lead to the terminals of the network lead of the electronics box (4) of the Mini-stop (8). For doing this, it is necessary to remove the left-hand lateral from the electronic box.
- Screw on the box (4) of the Mini-Stop (8) electronics using wood screws.
- Screw on the installation ducts (9) using wood screws.
- Install the electric line of the network conductors using clamps. Place the conductors, led within the Mini-stop electronics box, into the installation ducts.



The Mini-Stop is a device of the protection class I, which means that the protection against the dangerous contact of lifeless parts is ensured by means of a protective conductor. The Mini-Stop is destined to be connected to an earthed alternating mains with the voltage from **190 to 240 V 50/60 Hz**. The connection thereof to the mains may be done only by means of a multipolar plug with a protective contact. No fixed connection is permitted. Mind the uniform distribution of the power in the three-phase mains. On every **16 A** protected phase only 3 Mini-Stops may be connected, to avoid the overload of the medium conductor (N).



The MINI-STOP may be operated only with the protective conductor connected to a functional protective system complying with all local regulations and provisions with regard to avoiding accidents of persons owing to electric current or fire. This protection should not be cancelled e. g. by any extending cord without protective conductor.



The MINI-STOP will become dangerous when the protective conductor inside or outside the drive will be broken, as well as with broken protective conductor with protective system. Any intentional breaking thereof is forbidden.

The connecting conductors should comply with the power load and the min. H05VV version. The conductor cross-section should be at least 1 mm², The length thereof should not exceed 5 m. The voltage on the protective conductor should not exceed 3,3 V with the 10 A current.



Caution!

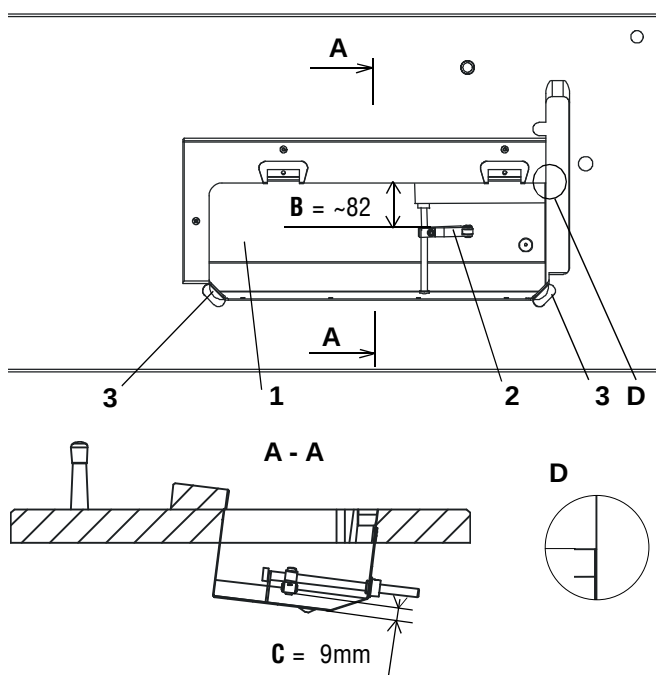
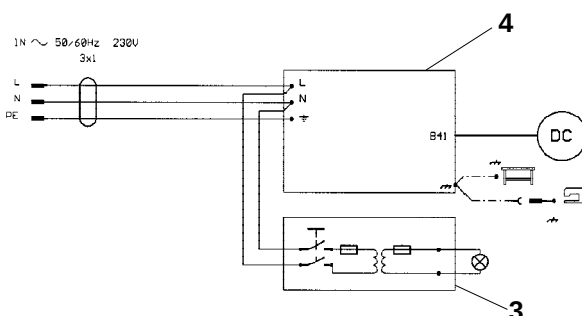
The voltage in the mains must be in conformity with the voltage indicated on the drive plate.



Caution!

The transformer of the bulb for the sewing area is not switched off by the main switch (EN 60204-31). Before proceeding to any repair operation in the transformer box (such as a fuse exchange) the plug categorically must be taken out of the socket. Such operations may be carried out only by persons with adequate electrotechnical skill.

Circuit layout



4.3 Assembly of a table top on a stand frame, assembly of oil tank

- Turn the table top around and screw it down to the frame by means of screw $\varnothing 8 \times 35$ mm. When applying a frame different from that recommended by the producer, be sure to adapt its position so as to ensure the stability of the machine head in its tilted state.
- Screw on the microswitch (which is a component part of the interconnecting cable) on the oil tank (1).
- Oil tank (1) with assembled lever (2) insert through the bottom part into the cut hole in the table top and put down as shown in detail (D) in that way, that the edge of the tank would fit in with the edge of the cut hole in the table top. Set the height of the tank according to the section A-A. Tank may not protrude out of upper surface of a table top. Nail down the tank with nails $\varnothing 2 \times 40$ mm.
- Adjust the lever (2) to the dimensions "B" and "C".
- Stick rubber inserts (3) into the cut-out of the table top.



4.4 Assembly of machine head onto a stand

- Stick down rubber inlays (2) with glue into the groove in a wedge (1) and put the wedge down on the table top (3).
- Assemble hangers (4) on the head.
- Put the head down into the rubber inlays (2) and (5).
- Screw the wedge down to the table top with screws $\varnothing 5 \times 30$ mm.
- Screw on hinges, using wood screw $\varnothing 5 \times 40$ mm and screw M5 (the hinge above the motor), to the table top. Tighten the wood screw and the screw in such a way, so that the oscillation of the head on rubber inserts is not limited.
- Insert supporting pin (6).

4.5 Electric connection of the machine head to the box of the drive electronics

4.5.1 Connecting cable

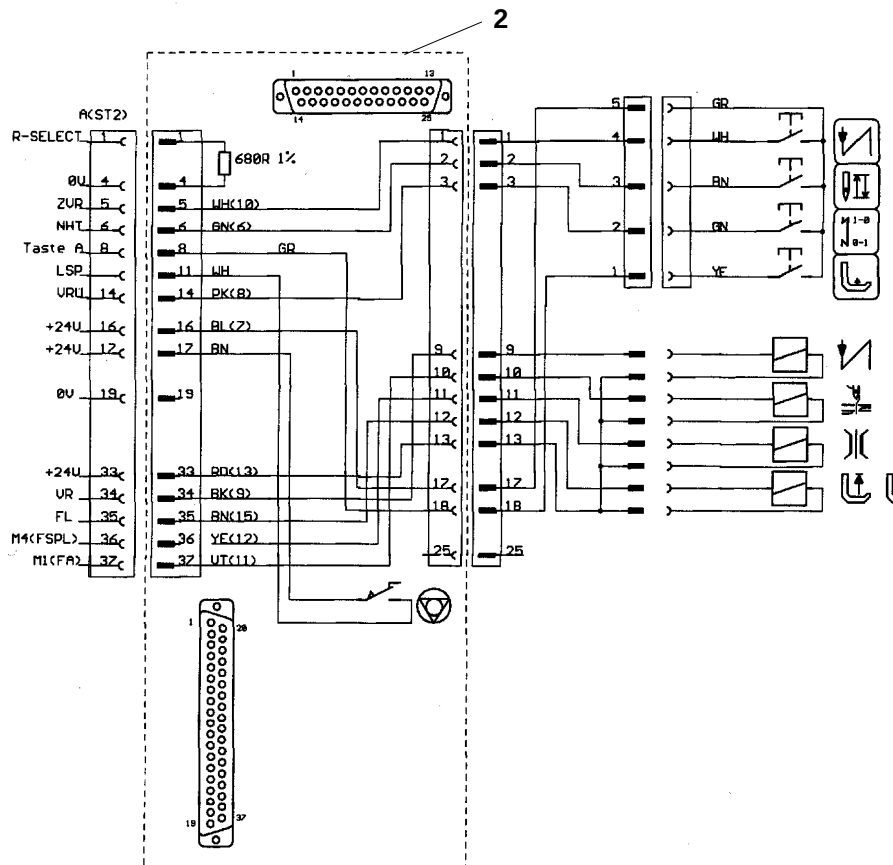
Together with the machine head there is supplied a connecting cable for the drive.

For the information sake, there are given the respective circuit layout.

The colours are indicated with numbers in brackets (6 – green, 7 – blue, 8 – pink, 9 – black, 10 – white, 11 – violet, 12 – yellow, 13 – red, 14 – grey, 15 – brown).

Power connecting cable is marked off with dotted line in circuit layout.

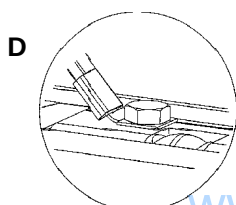
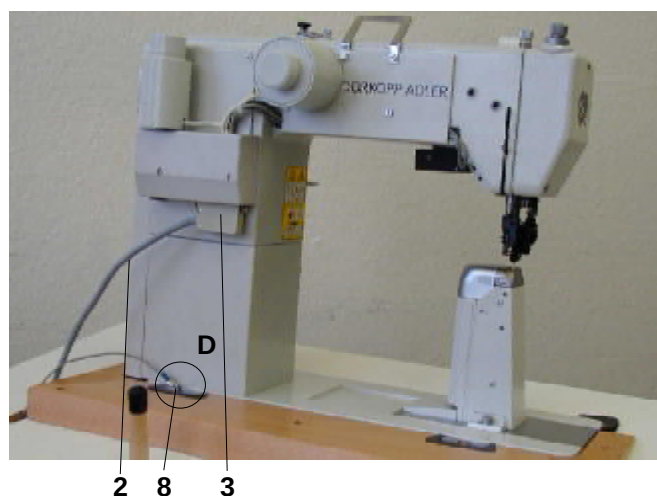
Circuit layout



4.5.2 Proper electric connection

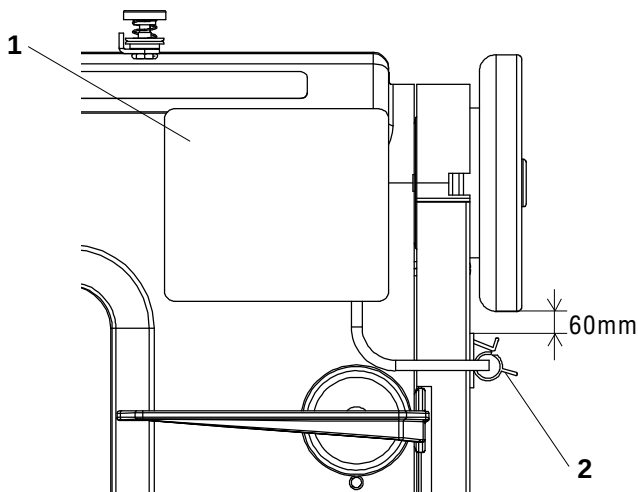
4.5.2.1 DC 1550/DA321

- Connect the 5-polar plug of the stator motor winding into the socket B41 on the rear side of the electronics box.
- Connect the 9-polar plug of the commutation motor sensor into the socket B2 on the rear side of the electronics box.
- Connect the 9-polar plug of the pedal sensor into the socket on the rear side of the electronics box B80.
- Connect the 9-polar socket of the panel, if any, into the plug on the rear side of the electronics box B776.
- Connect the 25-polar socket (3) of the connecting cable (2) with the plug on the machine head, connect the 37-pole plug of this cable into the 37-polar socket of the electronics box A.
- Connect the 9-polar plug of the synchronizer IPG 001 into the socket B18 (only for the gear ratio 26/36).
- Secure all D-SUB connectors against falling out by screwing in the screws.
- Place the cables into the installation ducts.
- Mount the lighting, if any, and connect its cable with the transformer cable.
- Proceed to electric interconnecting of the motor head, hinge (8), box of the Mini-Stop electronics and stand.



4.5.2.2 HVP-70-4ED

- Connect the 4-polar plug of the stator motor winding into the socket M on the rear side of the electronics box.
- Connect the 9-polar plug of the commutation motor sensor into the socket M on the rear side of the electronics box.
- Connect the 9-polar socket from the foot pedal into the plug marked with the pedal symbol on the back side of the electronics cabinet.
- Connect the 9-polar socket of the panel into the plug marked with the panel symbol on the back side of the electronics cabinet.
- Connect the 25-pole (3) socket of the connecting cable into the plug on the machine head, connect the 37-pole plug of this cable into the 37-pole socket of the electronics cabinet.
- Connect the 8-pole plug of the synchronizer into the 8-pole socket marked with the synchronizer symbol on the back side of the electronics cabinet.
- Secure all D-SUB connectors against falling out by screwing in the screws.
- Place the cables into the installation ducts.
- Mount the lighting, if any, and connect its cable with the transformer cable.
- Proceed to electric interconnecting of the motor head, hinge (8), box of the Mini-Stop electronics and stand (see detail „D“).



4.5.3 Fastening control panel of Mini-Stop

4.5.3.1 DC 1550/DA321

- Stick the panel V810 or V820 (1) on the machine head (if any). Defat the contact surface properly. Stick the clip (2) on the cover belt.

4.5.3.2 HVP-70-4ED

- Mount the control panel (1) of the Mini-stop, using the holder (2) and the screws (3) on the machine head.
- For the thread guide, use the holes (4) of the holder, see Figure.



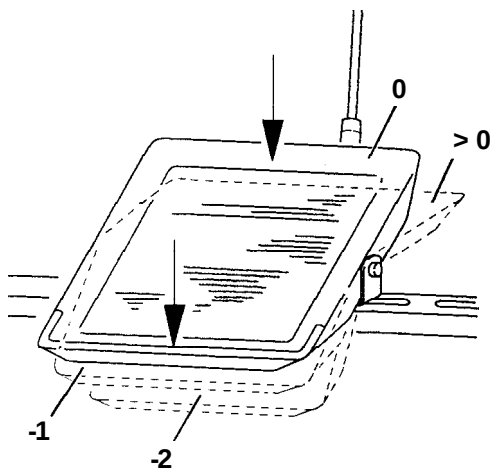


4.5.4 Fastening the thread stand

- Assemble the thread stand so that its arms would be parallel to the longer edge of a table top.

4.5.5 Control of sewing by means of control elements

4.5.5.1 Via treadle (treadle positions and function possibilities)



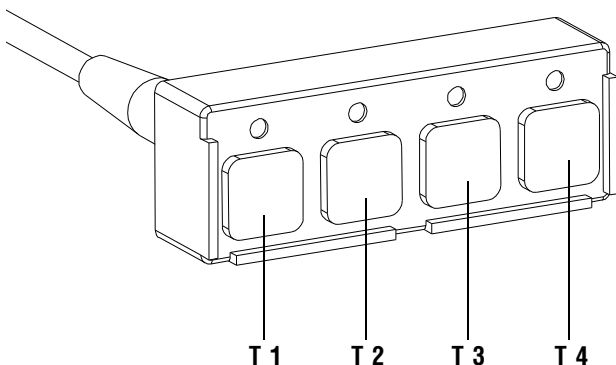
Treadle position	Treadle	Meaning
-2	Foot full backwards	Command for thread trimming (seam finishing)
-1	Foot slightly	Command lifting the top roller up
0	Neutral position	Note
1	Slightly forwards	Command releasing top roller
2	Continually forwards	Sewing at minimum speed (1. gear)
> 2	More forwards	higher speeds

Note: It is possible to pre-adjust the needle position (up/down) and foot position (up/down) by stopping in seam (introducing the treadle in neutral position). Foot position (up/down) after seam finishing (pressing the treadle by foot fully backwards).

4.5.5.2 Via pushbutton panel

There are four built-in pushbuttons in the panel with fixed adjustable functions:

- T1 - bar operation (by pressing this pushbutton during sewing the sewn work is feed back)
- T2 - needle up/down (each press of the pushbutton changes the needle position)
- T3 - temporary cancelling (recalling) bar (in case) the bar is pre programmed at the start and end of the seam, by pressing the pushbutton down will uniformly switch off; if it is not chosen it will switch on by pressing the pushbutton
- T4 - additional functions according to the stopmotor used



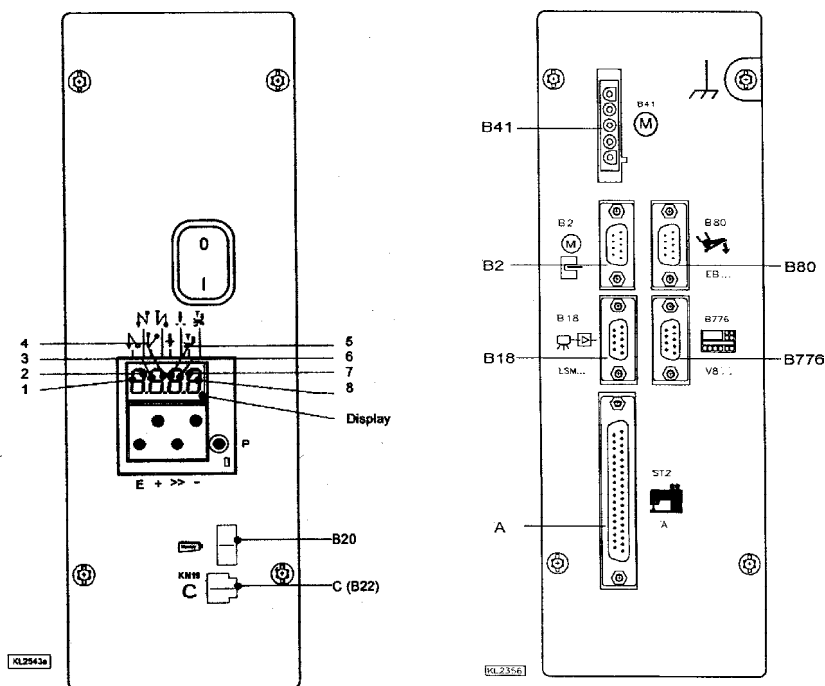
5. Basic setting of the Mini-stop

5.1 Generally

The Mini-stops do not necessarily need any control panels. All parameters can be set by means of press buttons and the display on the electronics cabinet, the control panels will however enable the operative a more comfortable attendance owing to its location.

5.2 Setting of Mini-stop EFKA DC 1550/DA321

Elements of the electronics box



Front side

Button P	calling or leaving the programming mode
Button E	option of initial bartack (switched off, simple, double) within the programming mode of the confirmation of changes
Button +	option of final bartack (switched off, simple, double) within the programming mode of enhancing the displayed value
Button -	position of the presser foot when stopping in the seam (down, up) position of the presser foot after trimming (down, up) within the programmed mode of reduction of the displayed value
Button »	position of the needle when stopping in the seam (down, up) within the programming mode of shifting to the next digit
Segment 1	indication for the start single bar
Segment 2	indication for the start double bar
Segment 3	indication for the end single bar
Segment 4	indication for the end double bar
Segment 5	indication for automatic presser foot lifting when stopping in the seam
Segment 6	indication for automatic presser foot lifting after having ended the seam (trimming)
Segment 7	indication for stopping in the seam with the needle in its bottom position
Segment 8	indication for stopping in the seam with the needle in its top position
B20	USB connector for connecting the flash memory
C (B22)	connection of the knee switch

Rear side

B2	connection of the commutating motor scanner
B18	connection of the light barrier module (photocell)
B41	connection of the motor stator winding
B80	connection of the pedal set value initiator
B776	connection of the panel V810/V820
A (ST2)	connection of electric elements of the sewing machine (electromagnets, electropneumatic valves, push-buttons ...)

5.2.1 Setting of parameters without the panel V810/V820

The procedure is identical as with the panel V810/V820.

Procedure of changing parameters without the panel V810/V820

- depress the button **P** and then switch on the network switch on the front side of the electronics box, the display will show **Cod**
- depress the button **»**, the 1st digit blinks
- using the button **+** and **-**, set the 1st digit to the value **3**
- depress the button **»**, the 2nd digit blinks
- in the same way, set the 2nd, the 3rd and the 4rd digits, so that the display shows **3112** (the code number for the access to all parameters)
- depress the button **E**, the display will show **2.0.0** (parameter number 200)
- using the buttons **»**, **+** and **-**, set the required parameter number and depress the button **E**, the display will show the parameter value
- using the buttons **+** and **-**, set the required parameter value
- depress the button **E** (the following parameter number will be displayed) or the button **P** (the original parameter number will be displayed)
- proceed to the termination of changes by depressing the button **P** (you will leave the programming mode) and you will return into the sewing mode

Note: To store the change in memory permanently, it is necessary to tread the pedal forward (sewing of at least one stitch) before switching of the network switch.

5.2.2 Setting of positions

For correct function of the machine, it is necessary to define the so-called reference position (angular setting of the machine with regard to the drive). This is to be ensured by the parameter **170**.

When removing the indented belt for any reason, it is necessary to reset the reference position (par. 170).

Procedure

- set the parameter number **170**, depress the button **E**
- the display will show **Sr1**
- depress the button **»**, **Po** will be displayed (the symbol **o** is rotating)
- turn the handwheel, until the rotating symbol **o** disappears and **P** is displayed
- turn now the handwheel to the value of the angle **105°** (the needle point is at the level of the throat plate)
- depress 2x the button **P** (return into the sewing mode)

Other important positions, i.e. the 1st position of the needle given by the parameter **171 1E** and the 2nd position given by the parameter **171 2 E** have been preset by the manufacturer of the drive.

5.2.3 Setting of the parameter of the microswitch of the running blocking when tilting the machine

For the purpose of enhancing the safety of the operator of the machine and when unintentionally treading the pedal, the motor running is blocked. To get a correct working of this function, it is necessary to mount a microswitch (which is component part of the interconnecting cable) on the rear side of the oil tray and to set the parameter **241** to the value **8**. When the machine head is in its working position, the microswitch must be switched on. The microswitch can be set when bending its lever.

5.2.4 Changes of setting parameters of the Mini-stop with regard to the original setting of the manufacturer

It is possible to change the parameters of the drive using :

- panel of the operating box
 - external panel V810/V820
 - memory USB flash (used in personal computers), files *.par:
 - par 510 – storing of parameters from DA321 on USB flash
 - par 511 – storing of parameters from USB flash into DA321
 - par 512 – comparison of parameters in USB flash and DA321
 - par 513 – erasure of the file from USB flash
- For detailed information refer to the drive manufacturer.

Parameters for the machine with the gear ratio 36/36 teeth (without external synchronizer)

Parameter number	Parameter value	Parameter description
290	1	class of the machine
111	-	max. revolutions (according to the machine type)
170	-	reference position

When it is not possible to set the parameter 290 on the value 1, it is necessary to set the following parameters:

Parameter number	Parameter value	Parameter description
001	3	number of stitches in the section 1 of the initial bartack
003	2	number of stitches in the section 3 of the final bartack
111	-	max. revolutions (according to the type of machine)
116	180	revolutions of the thread cutter
170	-	reference position
241	8	function A/11
242	1	function A/6 needle upwards/downwards

Parameters for the machine with conversion 26/36 teeth (the external synchronizer is necessary)

Parameter number	Parameter value	Parameter description
290	2	class of the machine
111	-	max. revolutions (according to the machine type)
170	-	reference position

When it is not possible to set the parameter 290 on the value 2, it is necessary to set the following parameters:

Parameter number	Parameter value	Parameter description
270	6	selection of positioning
272	722	gear ratio
001	3	number of stitches in the section 1 of initial bartack
003	2	number of stitches in the section 3 of final bartack
111	-	max. revolutions (according to the machine type)
116	180	revolutions of the thread cutter
170	-	reference position
241	8	function A/11
242	1	function A/6 needle upwards/downwards
471	6	regulation constant P
473	5	regulation constant D

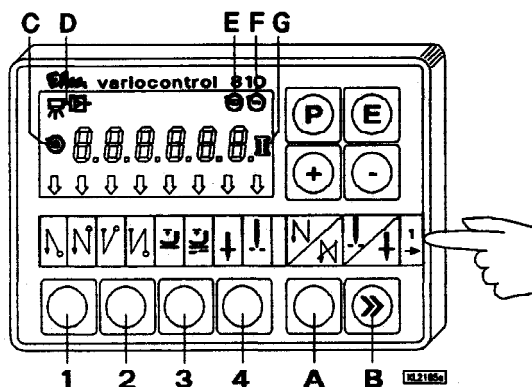
5.2.5 Control panels Efka V 810/V 820

These functions are standardly assigned to the pushbuttons A, B:

A - cancelling (recalling) the bar (the same function as T3 of the pushbutton panel)

B - needle up/down (the same function as T2 of the pushbutton panel)

Note: function of the A, B pushbuttons can be changed by different adjustment of parameters 293, 294 (see the parameters list of driving unit Efka DA321).



5.2.5.1 Panel V 810

Functioning pushbuttons engagement:

Pushbutton P	Recalling and program mode termination
Pushbutton E	Confirmation of program mode changes
Pushbutton +	Increase of value displayed in program mode
Pushbutton -	Decreasing value displayed in program mode
Pushbutton 1	Start bar SINGLE/DOUBLE/OFF
Pushbutton 2	End bar SINGLE/DOUBLE/OFF
Pushbutton 3	Automatic top roller lifting after stopping at the seam ON/OFF
	Automatic top roller lifting after thread trimming (end of seam) ON/OFF
Pushbutton 4	Basic position of needle UP/DOWN
Pushbutton A	For cancelling respectively recalling the bar
Pushbutton B	For switch over the needle position UP/DOWN respective shift pushbutton in program mode
Symbol C	Connection of automatic revolutions
Symbol D	Connection of lighting barrier
Symbol E	The machine is running
Symbol F	The revolutions limitation switch on
Symbol G	Connection of lower thread controller, flashing light indicator symbol when the threads supply on the bobbin is running out

The arrows on the display indicate switching the functions which are displayed by symbols above the pushbuttons on.

Adjustment by means of buttons with fixed setting function

Note: It is important to finish the seam in order to reach effective button pressing (press the treadle fully backwards down).

Setting start bar:

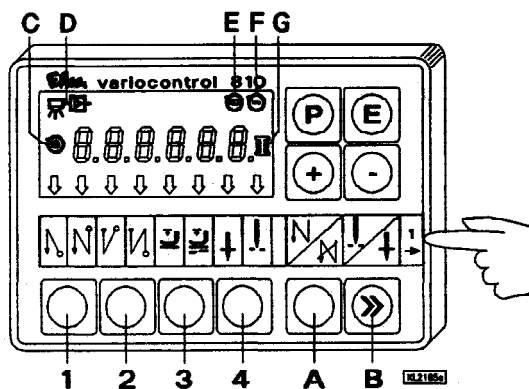
Drive enables sewing start bar automatically. It is necessary to choose the type (single, double, off) and number of stitches which will be sewn forwards and backwards.

The arrow above its symbol shows the type of bar (chosen by gradually pressing pushbutton 1). It will be displayed following after pressing pushbutton 1.

Arv (SAv) XXX - number of stitches of start (fancy) bar forwards or

Arr (SAr) XXX - number of stitches of start (fancy) bar backwards) for about 3 sec.

At this time you can change the number of stitches by gradually pressing the pushbutton + or -.



Setting end bar:

The same applies to the start bar (setting by the means of pushbutton 2).

Erv (SEv) XXX - end (fancy) bar number of stitches forwards

Err (SEr) XXX - end (fancy) bar number of stitches backwards

Note: The last section of end bar must have at least 3 stitches.

Foot position adjustment by stopping at the seam (by neutral position of treadle) and after finishing seam (by neutral position of treadle):

Setting is by means of pushbutton 3, arrow indication above the corresponding symbol.

Needle position adjustment by stopping at the seam:

Setting is by means of pushbutton 4.

Setting by means of parameters

Drive memory contains the parameters which enables sewing system tuning. These parameters have exact meaning and they are divided into 3 levels. Further parameters which are available only for operation will be quoted. Each parameter has its (sequence) number and value.

General procedure by changing parameters of operation level:

- switch the main switch on or finish the seam by pressing the treadle fully backwards down
- press pushbutton P on the panel V 810
- it will be displayed on the display F 000 (000 it is the number of parameter)
- by several times pressing + (or -) set the requested number of parameter
- push pushbutton E down and it will be shown the value of parameter on the display
- you can change the value by means of pushbutton + or -
- by pushing pushbutton E down you will change the sequence to the following number of parameter
- by pushing pushbutton P down you will leave the mode of changing parameters

Note: 1. For permanent memory storing of changed parameter, it is necessary to press treadle forwards down after changing of parameters.

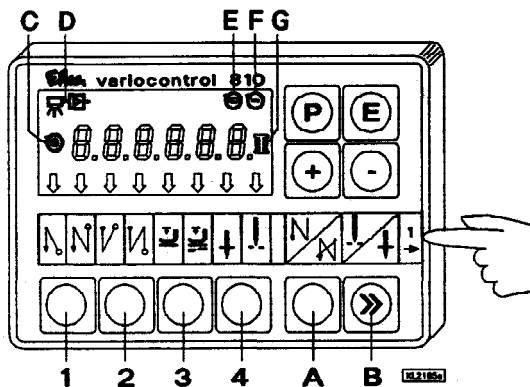
2. Mode of changing parameters is possible only after finishing of the seam.

Procedure of changing parameters of the higher level

- depress the pushbutton P on panel and switch on thereafter the main switch
- on the display there will appear C 0000, the 1st digit flashes
- using pushbutton + - set the 1st digit on the value 3
- depress the pushbutton >>, the 2nd digit flashes
- in the same way set the remaining digits in the way to get displayed on the display C 3112 (the number of the code for the possibility of changing all parameters of the drive)
- depress the pushbutton E, on the display will appear F 200 (parameter number 200)
- using pushbuttons >>, +, - set the required parameter number and depress the button E
- using pushbuttons +, - set the required parameter value
- depress the pushbutton E (a parameter number following in the sequence will appear) or P (the same parameter number will appear)
- carry out the termination of changes in depressing the pushbutton P (return to the respective sewing mode)

You will find a detailed information in the original directins for use of the drive (www.efka.net).

Note: To get the change of parameters permanently stored, it is necessary, after having changed the parameter, to depress the pedal in forward direction.



Number of stitches in bars:

Number of stitches is stored in parameter's number.

No. of parameter	Value range of parameter	Description of parameters
000(080)	0-254	Number of stitches of start (fancy) bar forwards
001(081)	0-254	Number of stitches of start (fancy)bar backwards
002(082)	0-254	Number of stitches of end (fancy) bar backwards
003(083)	0-254	Number of stitches of end (fancy)bar forwards

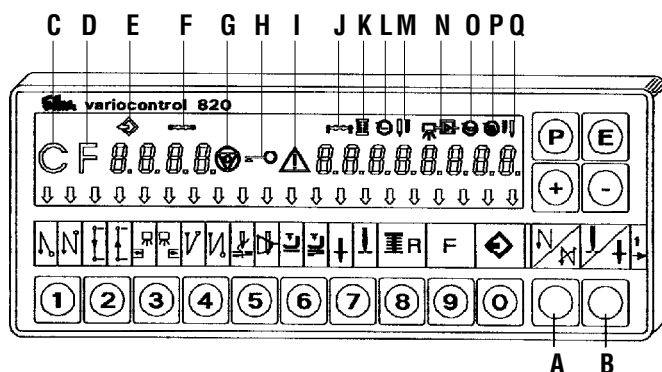
Sewing according to sewing program:

Drive with panel V810 automatically enables sewing of 1 seam with setting number of stitches. It is necessary to set in corresponding number of stitches, and initialisation of sewing program.

No. of parameter	Value range of parameter	Description of parameters
007	0-254	Number of stitches
015	ON/OFF	ON/OFF sewing under sewing program

ON/OFF thread trimmer:

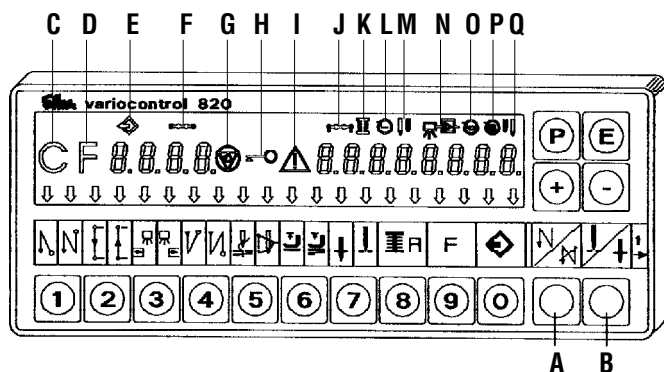
No. of parameter	Value range of parameter	Description of parameters
013	ON/OFF	Thread trimmer ON/OFF



5.2.5.2 Panel V 820

Functioning pushbuttons engagement:

Pushbutton P	Call and termination of programming mode
Pushbutton E	Confirmation when changing programming mode
Pushbutton +	Increasing the value displayed in programmingmode
Pushbutton -	Reducing the value displayed in programming mode
Pushbutton 1	Start bar SINGLE/DOUBLE/OFF
Pushbutton 2	Stitch counting FORWARD/BACK/OFF
Pushbutton 3	Light barrier function
Pushbutton 4	End bar
Pushbutton 5	SINGLE/DOUBLE/OFF
Pushbutton 6	Function
Pushbutton 7	TRIMMING/TRIMMING+EJECTOR/OFF
Pushbutton 8	Automatic top roller lifting after having stopped inside the seam ON/OFF
Pushbutton 9	Automatic top roller lifting after trimming ON/OFF
Pushbutton 0	Basic needle position UP/DOWN
Pushbutton 1	Lower thread waste controlling ON/OFF
Pushbutton 2	Operation pushbutton - programmable
Pushbutton 3	Programming/processing of 40 possible sewing sections (seams)



Pushbutton A	For cancelling or calling the bar
Pushbutton B	For switching needle position UP/DOWN, resp. shifting pushbutton in the programming mode
Symbol C	Designating symbol C for code number
Symbol D	Designating symbol F for parameter number
Symbol E	Programme number in TEACH IN mode
Symbol F	Seam number in TEACH IN mode
Symbol G	Run blocking ON
Symbol H	Blocked insertion by pushbutton
Symbol I	Fault reporting
Symbol J	Insertion of stitch number in TEACH IN mode
Symbol K	Connected lower thread controller, flashing symbol when running out thread reserve on bobbin
Symbol L	Limitation of revolutions ON
Symbol M	Right needle disconnected
symbol N	Evening stitches for light barriee in the TEACH IN mode
Symbol O	Machine is running
Symbol P	Automatic revolutions ON
Symbol Q	Left needle disconnected

The arrows on the display indicate switching the functions which are displayed by symbols above the pushbuttons on.

Adjustment by means of buttons with fixed setting function

Note: It is important to finish the seam in order to reach effective button pressing (press the treadle fully backwards down).

Setting start bar:

Drive enables sewing start bar automatically. It is necessary to choose the type (single, double, off) and number of stitches which will be sewn forwards and backwards.

The arrow above its symbol shows the type of bar (chosen by gradually pressing pushbutton 1). It will be displayed following after pressing pushbutton 1.

Arv (SAv) XXX - number of stitches of start (fancy) bar forwards or

Arr (SAr) XXX - number of stitches of start (fancy) bar backwards for about 3 sec.

At this time you can change the number of stitches by gradually pressing the pushbutton + or -.

Setting end bar:

The same applies to the start bar (setting by the means of pushbutton 4).

Erv (SEv) XXX - end (fancy) bar number of stitches forwards

Err (SEr) XXX - end (fancy) bar number of stitches backwards

Note: The last section of end bar must have at least 3 stitches.

Foot position adjustment by stopping at the seam (by neutral position of treadle) and after finishing seam (by neutral position of treadle):

Setting is by means of pushbutton 6, arrow indication above the corresponding symbol.

Needle position adjustment by stopping at the seam:

Setting is by means of pushbutton 7.

Trimming switched ON/OFF:

To be set using pushbutton 5.

Sewing programme ON:

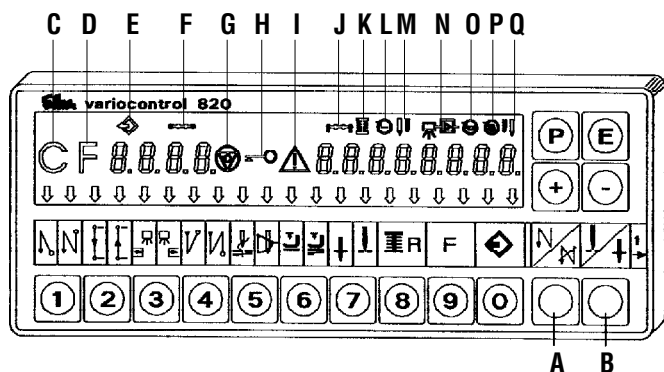
To be switched on using pushbutton 0.

Switching ON/OFF the function of the pushbutton F:

The pushbutton F on panel can have assigned one of the following functions: Sst - softstart

SrS - fancy bar

Frd - reverse angle after trimming



Setting by means of parameters

Drive memory contains the parameters which enables sewing system tuning. These parameters have exact meaning and they are divided into 3 levels. Further parameters which are available only for operation will be quoted. Each parameter has its (sequence) number and value.

General procedure by changing parameters of operation level:

- switch the main switch on or finish the seam by pressing the treadle fully backwards down
- press pushbutton **P** on the panel V 820
- on the display there is no data shown
- by depressing the pushbutton **E** several times, set the required parameter (without having displayed the parameter number)
- you can change the value using pushbuttons **+** or **-**
- by depressing the pushbutton **E** you will pass in the given sequence to the following parameter
- by depressing the pushbutton **P** down you will leave the mode of changing parameters

Note: 1. For permanent memory storing of changed parameter, it is necessary to press treadle forwards down after changing of parameters.
2. Mode of changing parameters is possible only after finishing of the seam.

Procedure of changing parameters of the higher level

- depress the pushbutton **P** on panel and switch on thereafter the main switch
- on the display there will appear **C 0000**, the 1st digit flashes
- using pushbutton **0 ÷ 9** set **C 3112** on the display (code number for possible changing of all drive parameters)
- depress the pushbutton **E**, on the display will appear **F 200** (parameter number **200**)
- using pushbutton **0 ÷ 9**, set the required parameter number and depress the pushbutton **E**
- using pushbutton **+**, **-**, set the required parameter value
- depress the pushbutton **E** (there will appear further parameter number in the given sequence) or **P** (return to the given sewing mode)
- the termination of changes is to be done in depressing the pushbutton **P** (return to the sewing mode)

A detailed information is in the original directions for use of the drive (www.efka.net).

Note.: To get the change of parameters permanently stored, it is necessary, after having changed the parameter, to depress the pedal in forward direction.

Number of stitches in bars:

Number of stitches is stored in parameter's number.

No. of parameter	Value range of parameter	Description of parameters
000(080)	0-254	Number of stitches of start (fancy) bar forwards
001(081)	0-254	Number of stitches of start (fancy) bar backwards
002(082)	0-254	Number of stitches of end (fancy) bar backwards
003(083)	0-254	Number of stitches of end (fancy) bar forwards

The drive with the panel V 820 enables sewing automatically up to 40 seams distributed up into eight programmes with the given stitch numbers and sewing direction (forwards/rearwards). For more detailed information see the original driving instructions (www.efka.net).

5.2.6 Indication of faults

Generation information			
Display of the electronics box	V810	V820	Meaning
A1	InF A1	InF A1	When switching on the machine, the pedal is not in the zero position.
A2	-StoP- blinks	-StoP- blinks + symbol blinks	Blocking of the motor running.
A3	InF A3	InF A3	The reference position is not set.
A5	InF A5	InF A5	Autoselect not set or erroneous.

Programming of functions and values			
Display of the electronics box	V810	V820	Meaning
Jump back to 000 or to the last parameter number	Jumb back to 000 or to the last parameter number	InF F1	Erroneous code or parameter number inserted.

Serious state			
Display of the electronics box	V810	V820	Meaning
E1	InF E2	InF E1	External synchronizer (e.g. IPG) not connected or defective.
E2	InF E2	InF E2	Low woltage in the network or short period of time between the network switching on and off.
E3	InF E3	InF E3	Machine blocked or without attaining the required revolutions.
E4	InF E4	InF E4	Interference due to insufficient earthing or defective contact.
E9	InF E9	InF E9	EEPROM defective.

Hardware failure			
Display of the electronics box	V810	V820	Meaning
H1	InF H1	InF H1	Commutation signal or invertor defective.
H2	InF H2	InF H2	Processor defective.

5.3 Setting of the Mini-stop HO HSING HVP-70-4-ED

5.3.1 Setting of parameters on the panel of the control cabinet panel

The access to the parameters is in 5 levels:

The level **1** enables changing parameters with the numbers 1 until 46.

Procedure:

Switch on the mains switch (the LED display on the display lights up) and then depress the button P. The display will show 001.H. The number 001 indicates the parameter number. The letter H is a letter symbol of this parameter. In depressing anew P, the parameter number increases (at the same time, the letter symbol changes) in the same way as with depressing „the initial bartack“ button. When depressing the button of the „final bartack“, the parameter number decreases. The parameter value related to the parameter number will be displayed, if the button S is depressed. It is possible now to change the parameter value (each of them has got its value limits) using the buttons A, B, C, D under the display. The storage of the changed parameter value will be done in depressing the button S, and the return into the respective sewing mode is done by depressing anew the button S.

Note: The letter parameter symbol on the seven-segment display is not always well legible. The conversion table shows the relation between the displayed value and the real letter.

The level **2** enables changing the parameters from 1 to 122.

Procedure:

Before switching on the mains switch, depress and maintain the button P and then switch on the mains switch. The display will show 047.MAC.

The following procedure is the same as with the access 1.

The level **3** enables changing parameters with the numbers from 1 to the max.

Procedure:

Before switching on the mains switch, depress and maintain the button S and switch on the mains switch. The display will show 123.FAS.

The following procedure is the same as with the access 1.

The level **4** enables changing parameters with the numbers from 1 to the max.

Procedure:

Before switching on the mains switch, depress and maintain the button „CHANGE OF NEEDLE POSITION“ and switch on the mains switch. The display will show 176.vdn.. The following procedure is the same as with the access 1.

The level **5** enables changing parameters with the numbers 1 up to the max.

Procedure:

Before switching on the mains switch, depress and maintain the button „SPEED CURVE“ and switch on the mains switch. The display will show 208.vEr. The following procedure is the same as with the access 1.

5.3.2 Setting of positions

5.3.2.1 Drive without external synchronizer (synchronous gear ratio 1:1)

- set the parameter 236.SEL
- depress the button S, the display will show a value
- by means of the button D, change the value to 0 (236.SEL=0)
- depress the button P and set the parameter 181.PDA
- depress the button S, the display will show a value
- depress the foot pedal slightly forward, so that the machine performs at least 2 revolutions.
- turn the hand wheel into the position 105° (reference position, the needle tip is at the level of the needle plate)
- depress the button A (position storing)
- depress the button S

5.3.2.2 Drive with external synchronizer

- set the parameter 236.SEL
- depress the button S, the display will show a value
- by means of the button D, change the value to 0 (236.SEL=1)
- depress the button P and set the parameter 181.PDA
- depress the button S, the display will show a value
- depress the foot pedal slightly forward, so that the machine performs at least 2 revolutions
- turn the hand wheel into the position 105° (reference position, the needle tip is at the level of the needle plate)
- depress the button A (position storing)
- depress the button S

5.3.3 Setting of the parameter of the microswitch of blocking the machine running when tilting it

For increasing the safety of the operator when tilting the machine and when accidentally depressing the foot pedal, it blocks the motor running. For a correct function of this device, the mounting of this microswitch is necessary. (it is a component part of the connecting cable) on the rear side of the oil tray and the parameter 075 on NC is to be set.

5.3.4 Changes of parameter setting with regard to the original setting of the manufacturer

Parameter number	Parameter value	
047.MAC	86	numeric code of the machine
001.H	-	max. sewing speed
060.L	150	1st velocity stage
061.T	180	trimmer revolutions
065.FC	40	magnet force for presser foot and bartacking
075.SFM	NC	tilting microswitch mode
083.T2	0	time of trimming after stopping in top position
085.LS	147	delay angle from switching on the trimming magnet up to releasing the tensioner
122.HL	3000	limit of max. revolutions
1.ACT	200	running start
181.PDA		see 5.3.2
236.SEL		see 5.3.2

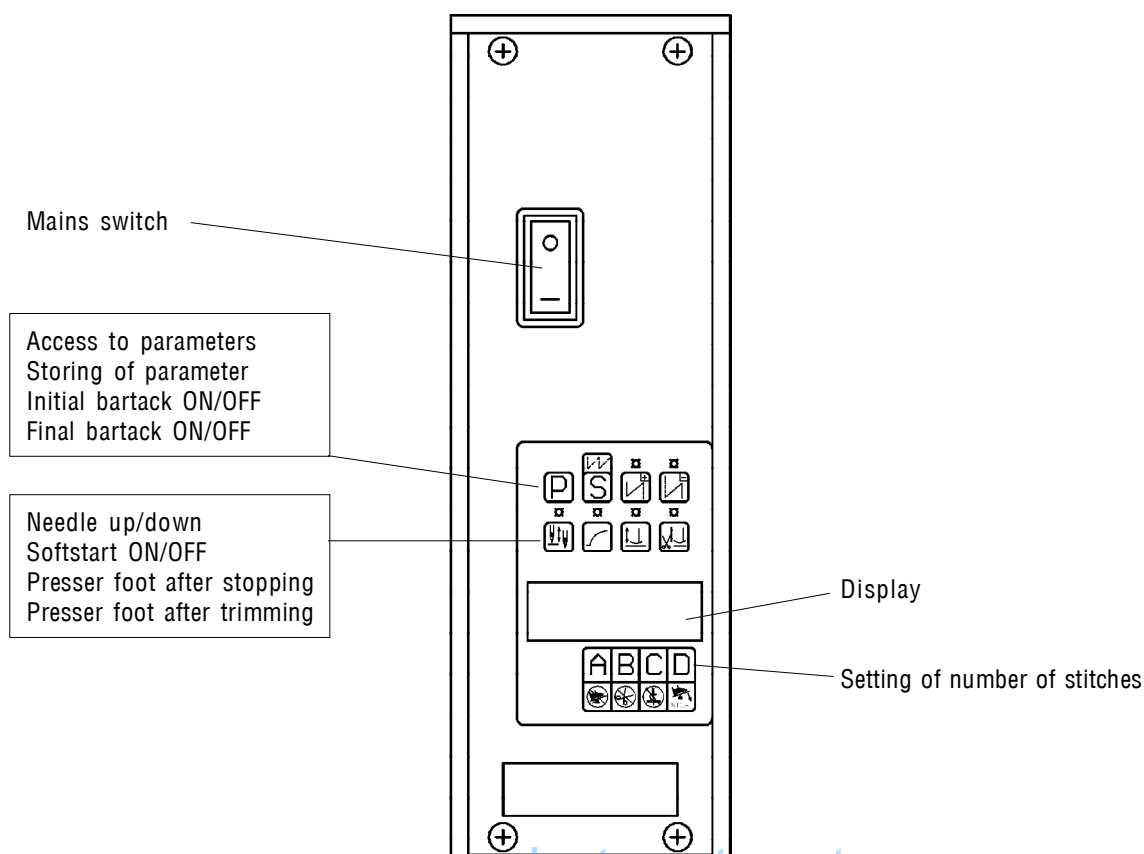
Note: It is necessary to set 047.MAC as the first parameter (machine class), which, after being changed, causes also the change of further parameters.

5.3.5 Important parameters

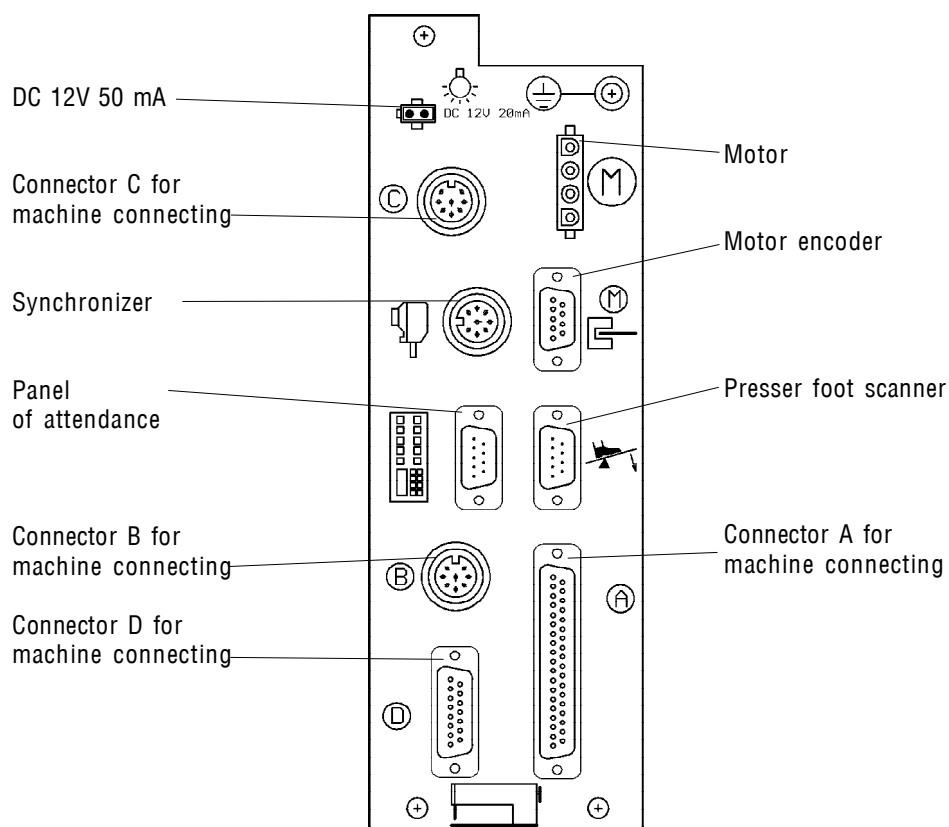
004.N	800	revolutions of the initial bartack
005.V	800	revolutions of the final bartack
006.B	800	revolutions for sewing patterns
007.S	400	revolutions of softstart
008.SLS	2	number of stitches of softstart
012.SMS	SD	current initial bartack
	A	decorative initial bartack
020.SME	SD	current final bartack
	A	decorative final bartack
041.(tm)	ON/OFF	on/off switching of the trimmer

5.3.6 Functions of the panel on the control cabinet

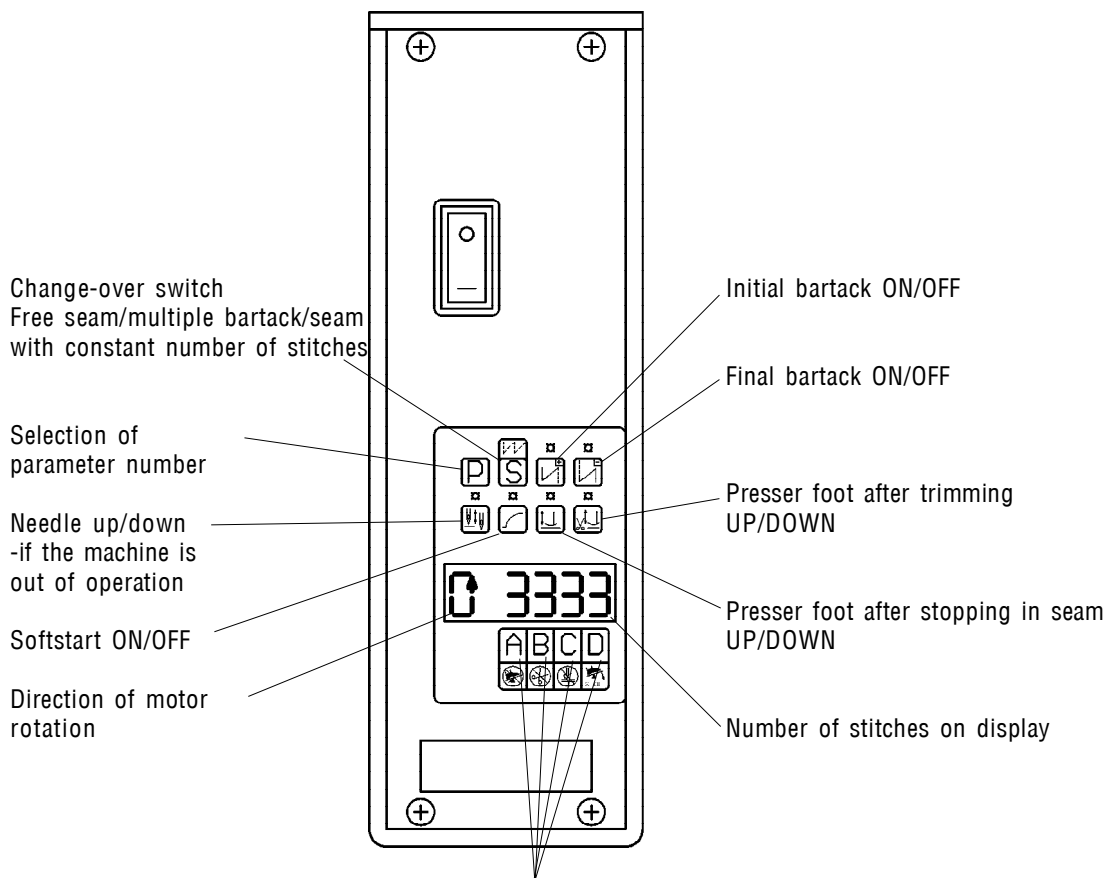
Front side



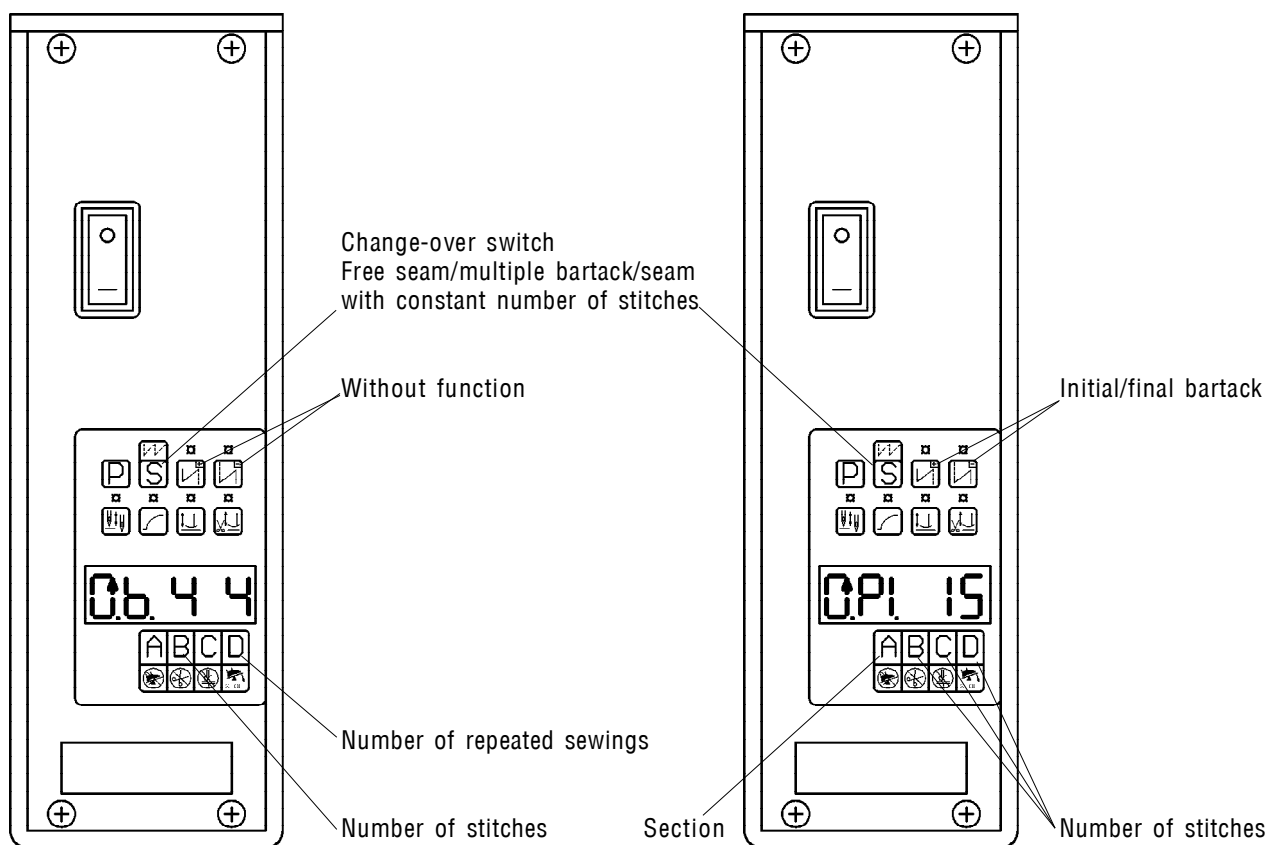
Back side



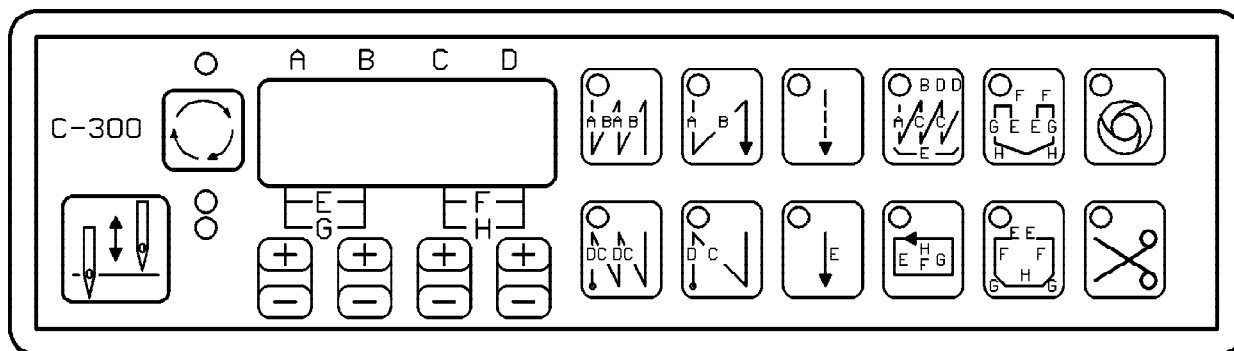
Function of free sewing



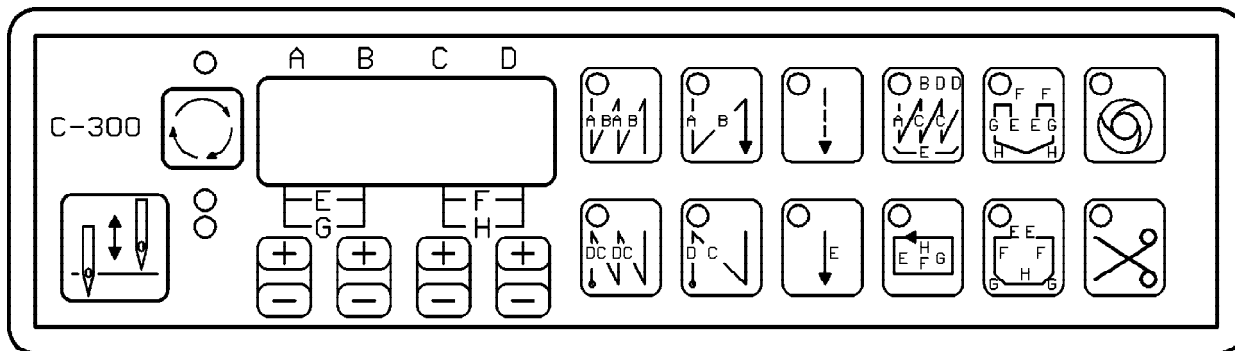
Function when sewing multiple bartack and when sewing with constant number of stitches



5.3.7 Panel of attendance C-300



Function	Button	Operation of sewing machine
Selection of initial bartack		Fourfold initial bartack
		Double initial bartack
Selection of final bartack		Fourfold final bartack
		Double final bartack



Function	Button	Operation of sewing machine
Free seam		Sewing according to foot pedal
Bartack sewing		When depressing the foot pedal forward, the sections A,B,C,D are sewn E-times in total at once and are automatically finished with trimming. Note 1: If the E is higher than 4, the following sections will be C,D. Note 2: Cancelling is possible by depressing the foot pedal backwards.
Seam with constant number of stitches	 	1) When depressing the foot pedal forward, the sections E, F, G, H are successively sewn. 2) When putting the foot pedal in its neutral position, the machine stops instantly. When depressing the foot pedal forward, the respective section is terminated. 3) When the parameter 010.ACD is set on ON, the machine does not stop and, in the final section, the final bartack is automatically sewn with trimming. Note: If the indication of the button of the one-shot sewing is on, each section will be sewn at once with a short depression of the foot pedal.
Setting of number of stitches in individual sections		When depressing the given button, the setting of sections indicated by LED above and under the button is switched over. LED above the button is on: the sections A, B, C, D are being set LED under the button is on: the sections E,F are being set The second LED under the button is on: sections G, H are being set.
Needle up/forward stitch setting		1) In free sewing With one depressing of the button, the needle moves up, down according to the setting of the parameters 125.USM and 126.USA 2) When sewing sections with constant number of stitches a) when stopping in the middle of the section, in depressing the button, the needle moves upwards b) when stopping at the end of section, 1 stitch forward is added.
Sewing with short depressing of foot pedal		1) In free sewing and in only bartack sewing, the depressed button has not got any function, only a peeping will be heard and the respective LED will not be on. 2) When sewing with constant number of stitches a) with short forward depressing of foot pedal, the number of stitches of the sections E, F, G, H will be sewn b) with repeated depressing the foot pedal, the remaining sections are sewn until having finished the whole pattern.
Trimmer ON/OFF		Switching on/off of automatic trimmer function

5.3.8 Conversion table of signs on display

	0	1	2	3	4	5	6	7	8	9
	0	1	2	3	4	5	6	7	8	9

	A	B	C	D	E	F	G	H	I	J
	A	b	C	d	E	F	G	H	I	J
	K	L	M	N	O	P	Q	R	S	T
	E	L	n	n	o	P	q	r	S	T
	U	V	W	X	Y	Z				
	U	u	H	h	P	E				

5.3.9 Error reports

Error code	Cause	Solution
ERO.4	- After having switched on the mains switch, a higher voltage than allowed is detected. - Erroneous connection with the mains.	Disconnect the drive from the mains. Check up the mains voltage.
ERO.5	- After having switched on the mains switch, a lower voltage than allowed is detected. - Erroneous connection to the mains.	Disconnect the drive from the mains. Check up the mains voltage.
ERO.7	- Wrong connection of motor connector. - Synchronizer signal error. - The synchronizer has got one position and its parameter is incorrectly set. - The machine is blocked. - The material sewn is too thick.	Disconnect the drive from the mains. Check up the motor connection. Check up the connection of the synchronizer and its signals. By turning the hand wheel , check the easy running of the machine.
ERO.8	Erroneous communication with the attendance panel.	Disconnect the drive from the mains. Check up the connection of the attendance panel.
ERO.9	- The electromagnet coil is short-circuited. - The output transistor on the control card destroyed.	The motor is running, but the electromagnets do not work. Check up the electric resistances of the electromagnets, if their values are not lower than 2 Ω. Check up the transistor which feeds the respective electromagnet.
ERO.11	- The parameter [121.ANU] is set on ON and, after having connected the mains, the top position could not be found. - The machine is blocked.	The motor runs with erroneous positioning. Check up the connection of the synchronizer and its signals. By turning the hand wheel, check up the easy running of the machine.
	The symbol of the motor rotation direction does not change. - The switch of tilting is defective or incorrectly connected. - Erroneous setting of the parameter [075.SFM]	The motor does not run. Check up the switch of tilting. Check up the setting of the parameter [075.SFM].

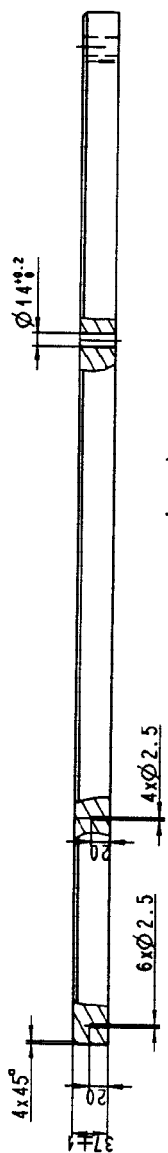
6. Examination of sewing



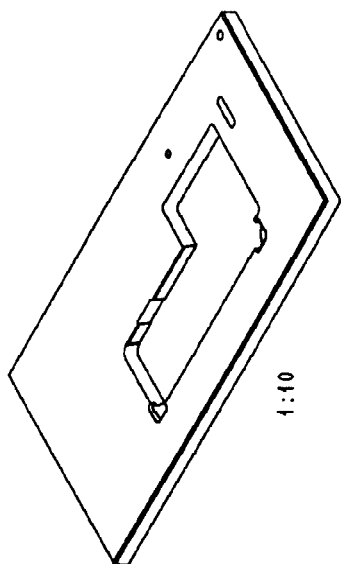
Caution! Risk of injury!

Before threading a thread switch the main switch off and wait until the motor stops.

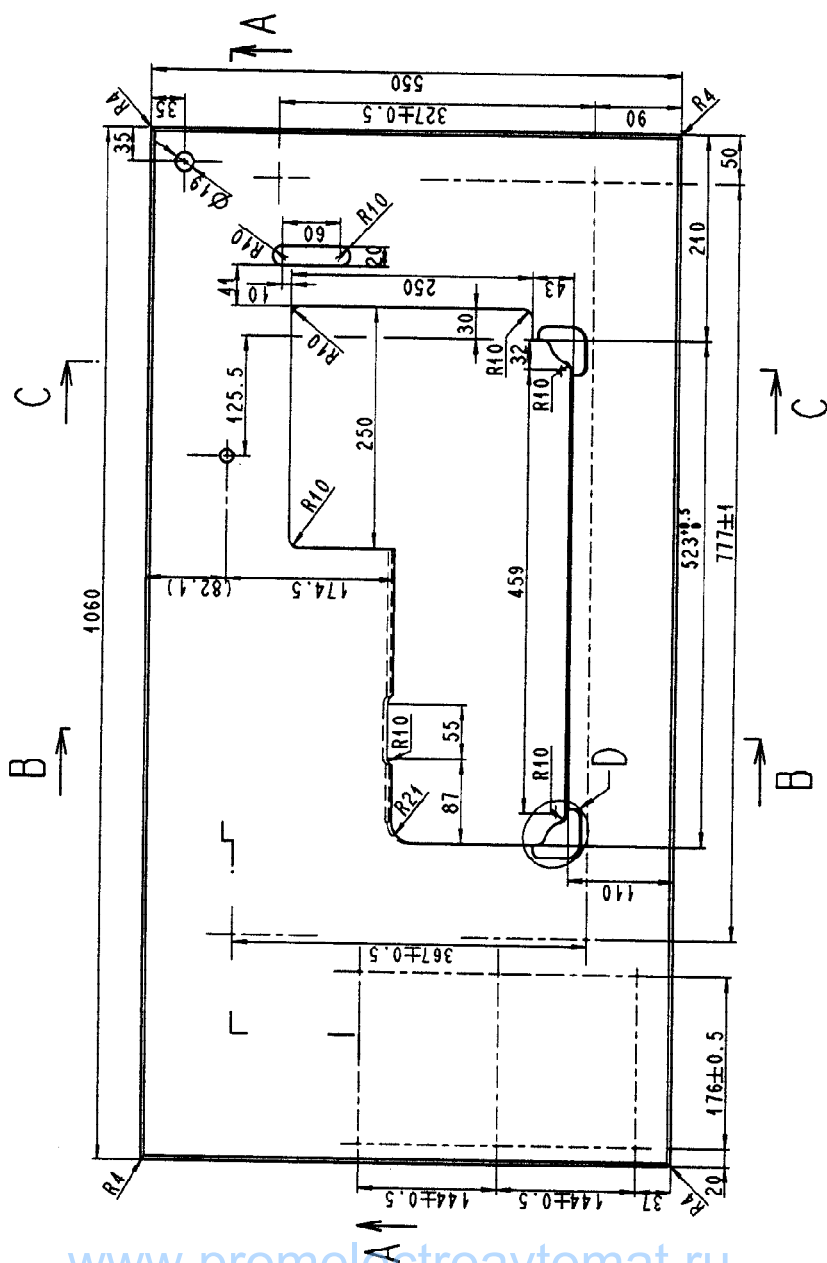
- Check the sense of turning the hand wheel – according to the arrow situated on it.
- Thread a thread.
- Choose sewing material.
- Switch the desirable function on the control panel of stopmotor. Examination should be carried out with selection of fancy bar.
- First sew slowly then speed up the sewing.
- If the stitch does not meet requirements, follow the first part of instructions manual or service book.



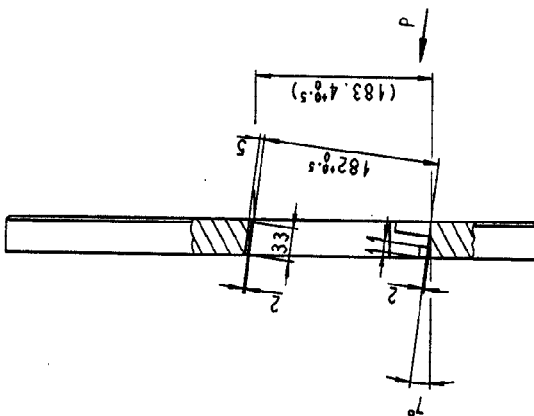
A-A



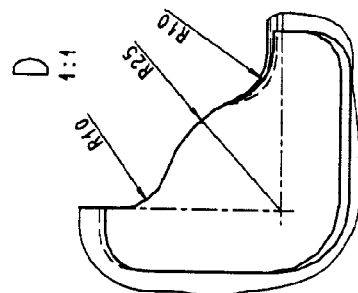
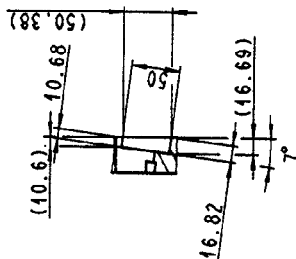
1:10



B-B



C-C



D (1:1)

