

VETRON

5000 / 5100 » SERVICE MANUAL

05/2019



VETRON

5000/5100 » SERVICE BOOK
05/2019

STANDARD

- » 5000
- » 5010
- » 5020
- » 5030
- » 5040

LONGARM

- » 5100
- » 5110
- » 5120
- » 5130

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Reserve technical changes!

The contents were carefully prepared and checked by the publisher. Due to continuous development, illustrations, functional steps and technical data may differ slightly.

Updating the documentation

If you have suggestions for improvement or have detected any irregularities, please contact us.

 The documents for the machines can be accessed by logging on <https://www.vetrontypical.com/> downloaded for free.



CE marked after §7 Prod SG



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General Safety Instructions

This manual and the warning symbols on the machine should ensure the safe use of the machine, so that no accidents and injuries may occur to you and others. Please read this instruction and also the safety instructions of the motor manufacturer carefully.

- » The machine must only be operated in accordance with its intended purpose (for example, sewing medium to heavy materials such as jeans, leather, etc. NO tin!) and with the associated protective equipment. The relevant country-specific safety regulations and technical data must also be observed.
- » The machine should only be used in accordance with its intended purpose (eg sewing medium to heavy materials such as jeans, leather, etc.) and with the associated protective equipment. The relevant country-specific safety regulations and the technical data must also be observed.
- » The machine should only be set up and operated in dry and well-kept rooms.
- » Do not place the machines outdoors, next to radiators or heat source. The ambient temperature should not be lower or higher than between 0° C to 45° C.
- » The machine must only be commissioned after the relevant operating instructions have been taken into consideration and by appropriately instructed operators.
- » These instructions are to be stored at hand.
- » The connection cable must be provided with a country-specific approved mains plug. The mains plug must only be connected to grounded sockets. Here a qualified specialist is necessary.
- » The machine must always have a grounding. Only over this is a normal operation of the machine to ensure.
- » The danger and safety instructions attached to the machine must be followed.
- » When replacing sewing tools such as needle, sewing foot, stitch plate, feed dog or bobbin, when threading, when leaving the workplace and during maintenance, etc., the machine must be disconnected from the mains.
➔ Press the main switch or pull out the mains plug.
- » Machines with compressed air components must be disconnected from the compressed air supply and the residual pressure released before repair or maintenance work. Exceptions to this are performance tests or specific settings.
- » Repairs and all maintenance work should only be carried out by qualified personnel or appropriately instructed persons.
- » Work on electrical equipment must only be carried out by qualified specialists.
➔ If errors are detected, stop the machine immediately.
- » Work on parts and equipment that are live is not permitted. The machine must be disconnected from the mains.
- » Modifications or modifications to the machine must be carried out in compliance with all relevant safety regulations. The manufacturer assumes no responsibility for damage caused by changes or modifications.
- » For repairs, only spare parts approved by VETRON may be used. In case of infringement the guarantee expires.
- » The machines are to be used only for the purpose intended.

- » If oils, greases, etc., used for the machines and accessories, get in your eyes or on your skin, or should you swallow any of these fluids, wash them immediately and thoroughly, or seek medical attention immediately.
- » Commissioning of the machine is prohibited until it has been determined that the entire sewing unit complies with the provisions of the EC directive and the declaration of conformity has been created.

Advice to the Owner

- » As part of the machine, this operating manual must be available to operating personnel at all times. Before using the machine for the first time, the operator must read this operating manual.
- » The operator has to ensure that the machine is only operated in perfect condition.
- » The operator must ensure that no safety devices are removed or disabled.
- » The operator must ensure that only authorized or properly instructed persons work on the machine.
- » The operator must therefore ensure that the workstations according to ASR lux. 4 are adequately illuminated (min. 750 lux).

Operators and Technical Staff

- » The operating personnel are responsible for setting up, operating and cleaning the machine and responsible for the elimination of faults.
- » Qualified personnel include people with specialist training in electrical / electronics, pneumatics and mechanics.
➔ Lubrication, maintenance, repair and adjustment are your responsibilities.
- » The operator must refrain from any operation that impairs the safety on the machine.
 1. Jewelry, chains and rings - must not be worn.
 2. The clothes should be tight
 3. Only authorized persons may enter the danger area.
- » If changes occur to the machine that affect safety, they must be reported immediately to the operator.
- » The specialist personnel - persons with training in electrical / electronics and mechanics - are responsible for the lubrication, maintenance, repair and adjustment of the machine.
- » Before starting adjustment and repair work, the main switch must be switched off and secured against reclosing.
- » Work on parts that are under tension should be avoided. Exceptions are regulated by EN 50110. After maintenance and repair work, the protective covers must be replaced.
- » Operating and specialist personnel are obliged to observe the safety instructions given in the instructions for use during all work.

PREFACE

02. SYMBOLISM



DANGER!

This symbol, in combination with the word **DANGER** indicates an imminent danger that may result in serious injury or death.



WARNING!

This symbol in combination with the word **WARNING** indicates a potentially hazardous situation which, if not avoided, could result in serious injury or death.



ATTENTION!

This symbol in combination with the word **ATTENTION** may indicate a potentially hazardous situation that could result in minor personal injury.



DANGER OF CUTS!

This symbol indicates that there is an increased risk of cuts here.



CRUSHING!

This symbol indicates that there is a heightened risk of crushing.



RISK OF BURNS!

This symbol indicates that there is an increased risk of burning here.



MAGNET!

This symbol indicates that there is a magnet field.



INFORMATION!

This symbol displays information.



ADVICE!

This symbol indicates important information.



HARMFUL TO HEALTH!

May damage certain organs. Can lead to immediate and long-term massive impairment of health, cause cancer, damage genetic material, fertility or development. May be fatal if infiltrated into the respiratory tract.



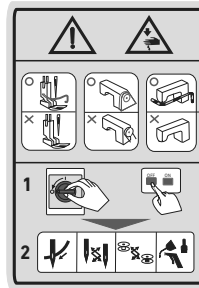
HAZARD TO WATERS!

May cause acute or long-term damage to aquatic organisms such as fish, aquatic insects and aquatic plants in low concentrations.



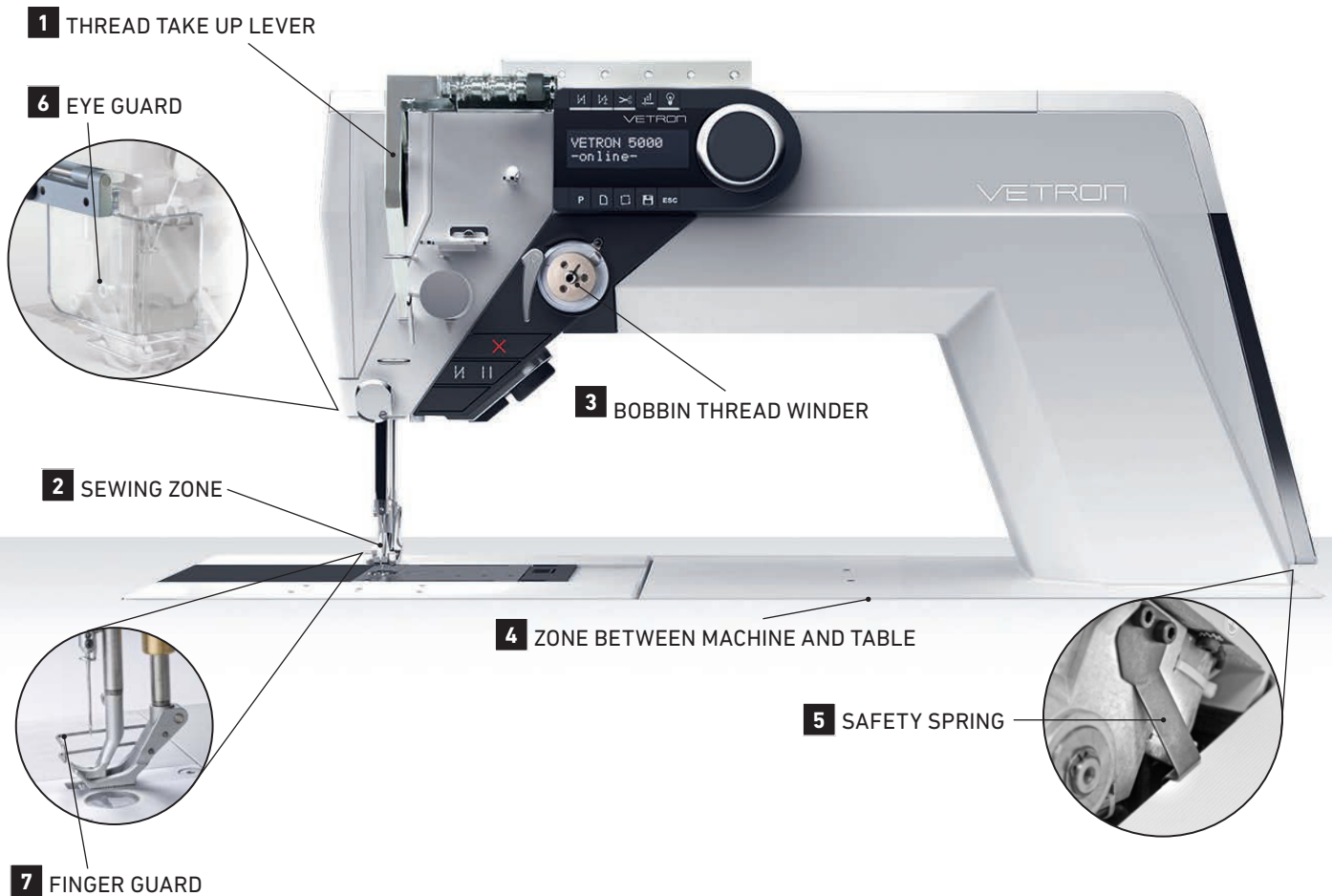
PROTECTIVE EARTHING!

Earthing one or more points of a network, installation or equipment for the purpose of electrical safety.



DANGER LABEL

Do not work the machine without finger guard and safety covers!
Before threading, changing the needle, adjusting, changing the bobbin, cleaning, maintenance, etc. switch off the main switch on the control.



CRUSHING

Crushing and bruising through the thread take up lever **1**
Make sure thread take up lever guard is mounted.
Risk of injury due to movement of the lever.



CRUSHING

Crushing and bruising through the needle and sewing feet **2**
Make sure finger guard is mounted.
Risk of injury through needle and feet movement.



DANGER OF CUTS

Cuts through rotation **3**
Keep distance from bobbin winder while winding.
Risk of injury due to rotation.



CRUSHING

Crushing and bruising due to tilting the machine **4**
Make sure safety spring **5** is mounted.
Risk of injury when machine is tilted back.



SAFETY PRECAUTIONS!

The eye protection **6** can be ordered optionally, but must not be removed after installation without consultation with the operator.

The finger guard **7** must not be removed!

PREFACE

04. NOTES TO THE ADJUSTMENT AND TOOLS



NOTICE

While in adjustment mode the pedal is generally blocked. The red LED light at the machine head is illuminated constantly.

If all three LEDs on the head are flashing simultaneously, the machine is temporarily activated and waiting for user input.

All adjustment procedures are referring to a completely assembled machine and may only be executed by a specially trained technician. Machine covers which need to be removed for adjustment procedures may not be described in the text. The order of the following chapters is corresponding with the useful sequence of performing a full adjustment of the machine. For performing single adjustment steps, please see also the chapters above and below.

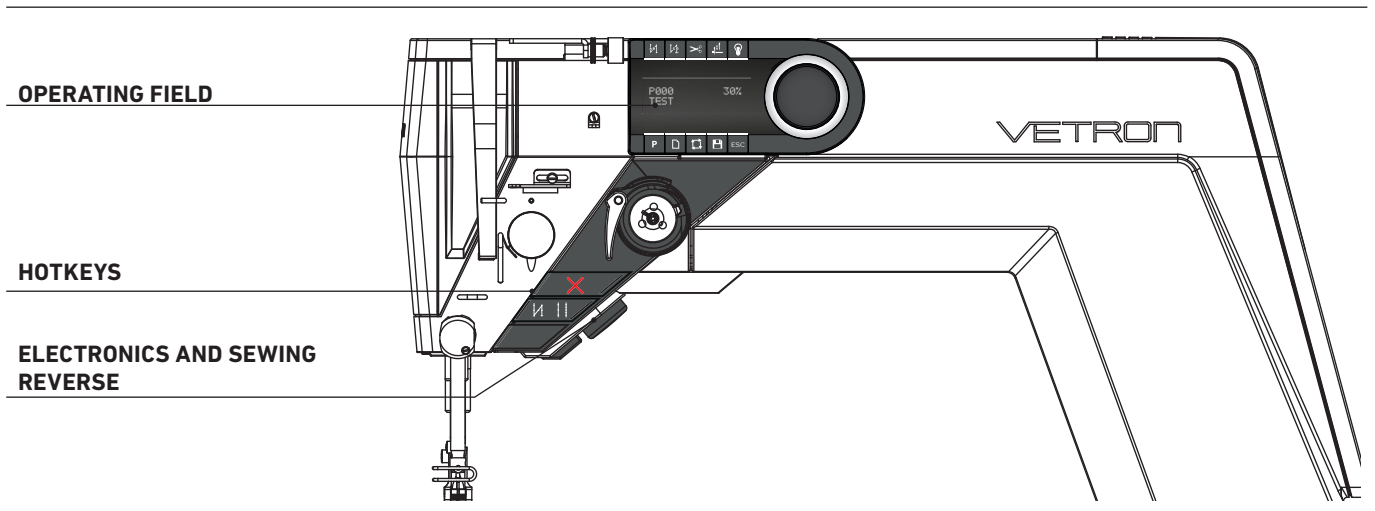
It is very important that all safety devices are reassembled correctly after adjustment procedure.

TOOLS

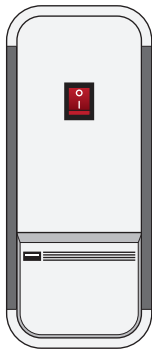
- » 1 Set Screwdrivers
- » 1 Set Allenkeys and Gauges
(Ordernumber: Service Kit 559 2205 09)

01. OPERATING ELEMENTS

01. OVERVIEW



CONTROL



USB-DONGLE



PEDAL



01. OPERATING ELEMENTS

02. TYPICAL OPERATING FIELD P107



The operating field indicates the current operating states.

Operation takes place via continuous dialog between control and operator.
Depending on the operating state, different texts are displayed.

The following functions are assigned to the **BUTTONS ABOVE AND BELOW THE DISPLAY**:

1 BACKTACK (from left to right):

A Start backtack

B End backtack

2 THREAD TRIMMING

3 NEEDLE UP/DOWN AFTER STOP

4 LIGHT ON/OFF

5 PARAMETERS

6 NEW PROGRAM

7 PROGRAMMED SEAM

8 SAVE

9 CANCEL

If a function is activated, this is indicated by illuminating the corresponding LED.

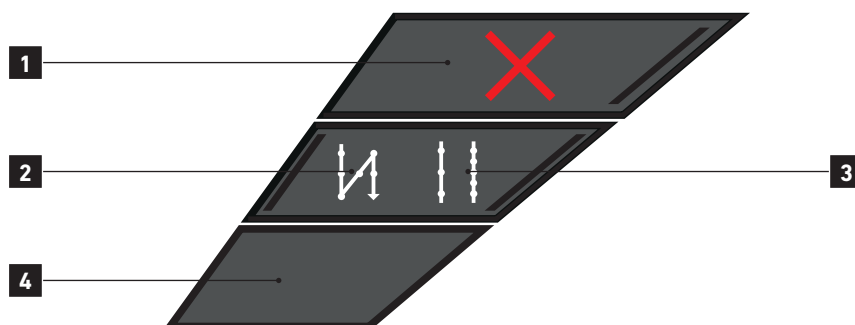
In order to **CHANGE OR SET VALUES**, use the **JOG KEY (10)**:

Turning changes the values; pressing the **JOG KEY** enters the value.

In the following, the operating type is indicated by the following icons:

Input = Press the **JOG KEY**: 

Change = Turn the **JOG KEY**: 



1 SAFETY SWITCH

If the safety switch is triggered, all functions are locked. The LED lights up red. The **"BLOCKED MODE"** is active.

With software version 1.339, the machine is automatically blocked when the hook cover is opened. To continue sewing, the safety button **1** must be pressed after closing the hook cover.



NOTICE:

Before reactivating the machine by the X-button make sure to remove **sewing material** or **other items** from under the sewing feet if necessary and follow the instructions displayed on the control panel.

2 SINGLE BACKTACK SUPPRESSION

If the backtack function is activated, the following backtack is switched off once by pushing the key.

3 2ND STITCH LENGTH

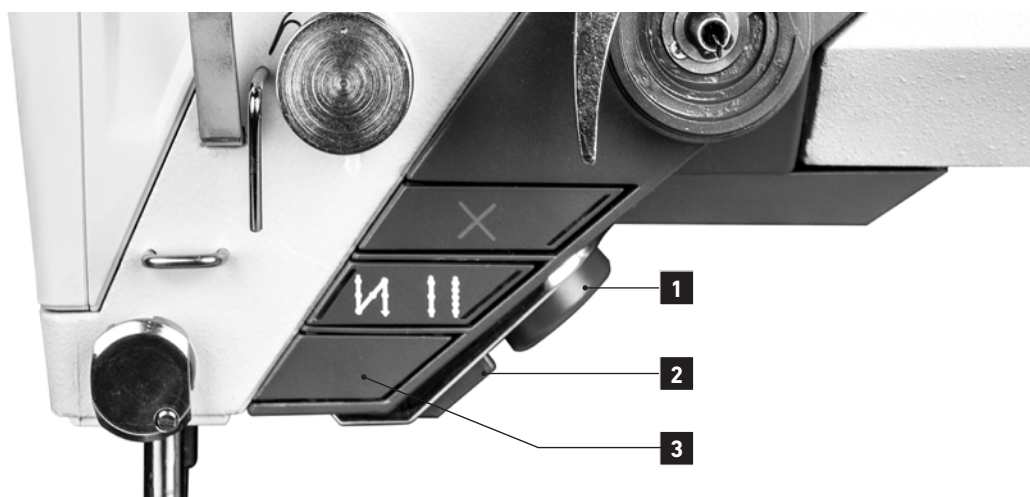
If the second stitch length is activated, the corresponding LED lights up.

4 CUSTOMIZABLE BUTTON

Default: Toggle foot stroke level
(see parameter M085)

01. OPERATING ELEMENTS

04. ELECTRONIC HANDWHEEL & REVERSE SEWING



NOTICE

The electronic handwheel is not active unless the machine has performed at least one stitch.

For safety reasons it is necessary during "**BLOCKED MODE**" to push and hold the programmable button (the lowest button) **3** to activate the electronic handwheel.

1 ELECTRONIC HANDWHEEL – FUNCTION

By turning the handwheel, you can move the needle bar up or down.

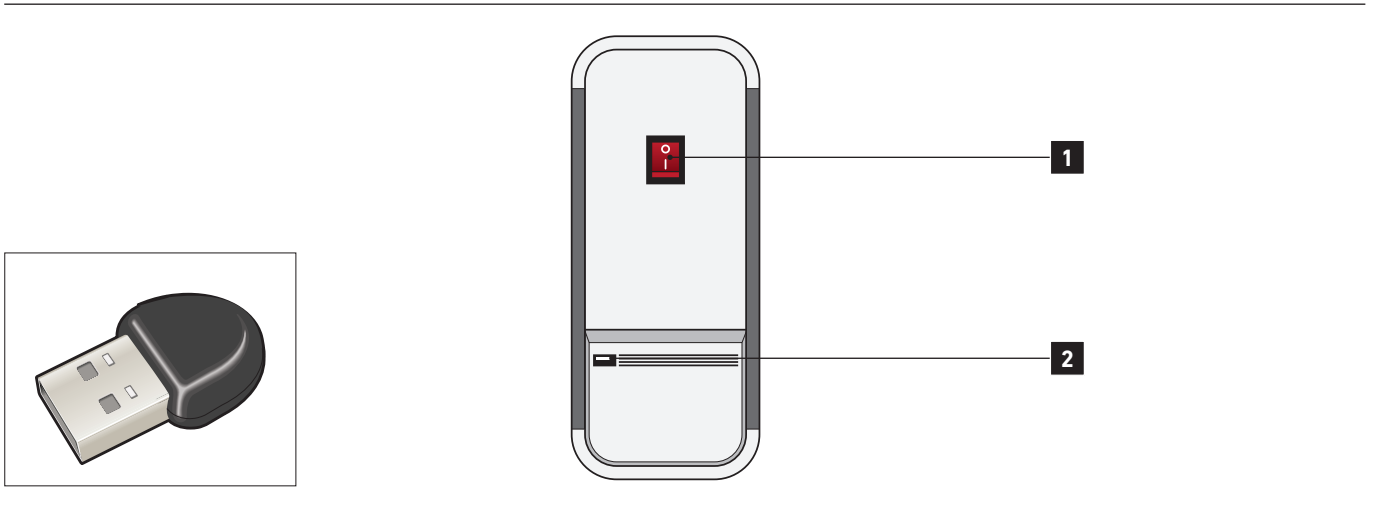
From here on, the operating type is indicated by the following icons:

Pressing the handwheel:  stitch-for-stitch function / needle positioning

Turning the handwheel: 

2 REVERSE SEWING

Pulling the button changes the sewing direction.



1 MACHINE MAIN SWITCH ON/OFF

2 USB-PORT

Identify yourself using the provided USB dongle.

01. OPERATING ELEMENTS

06. PEDAL








0 IDLE POSITION

+1 CONSTANT SEWING SPEED (adjustable via parameter M502)

+2 VARIABLE SEWING SPEED FROM 0-100%
OF THE CHOSEN MAXIMUM SPEED (depending on sewing program)

-1 SEWING FEET LIFT






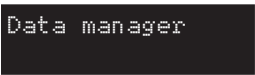
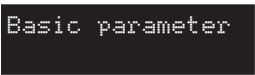



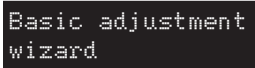

-2 SEAM END PROCEDURE ACTIVATION (depending on sewing program)

DISPLAY	STEP	DESCRIPTION
» LIGHT ON/OFF		
		The VETRON head module is equipped with LED lighting.
	 Press the LIGHT button	The corresponding LED on the display lights up.
» ADJUST LIGHT INTENSITY		
	 Press the LIGHT button	The corresponding LED lights up the display.
02	 100% ADJUST LIGHT	Percentage on the display and light intensity of the light are changed.
03	 060% ADJUST LIGHT	After 2 seconds without further input, the value is set and the current program number is shown.
04	 P123 W12345 PROGRAM NAME	Machine is ready for operation

01. OPERATING ELEMENTS

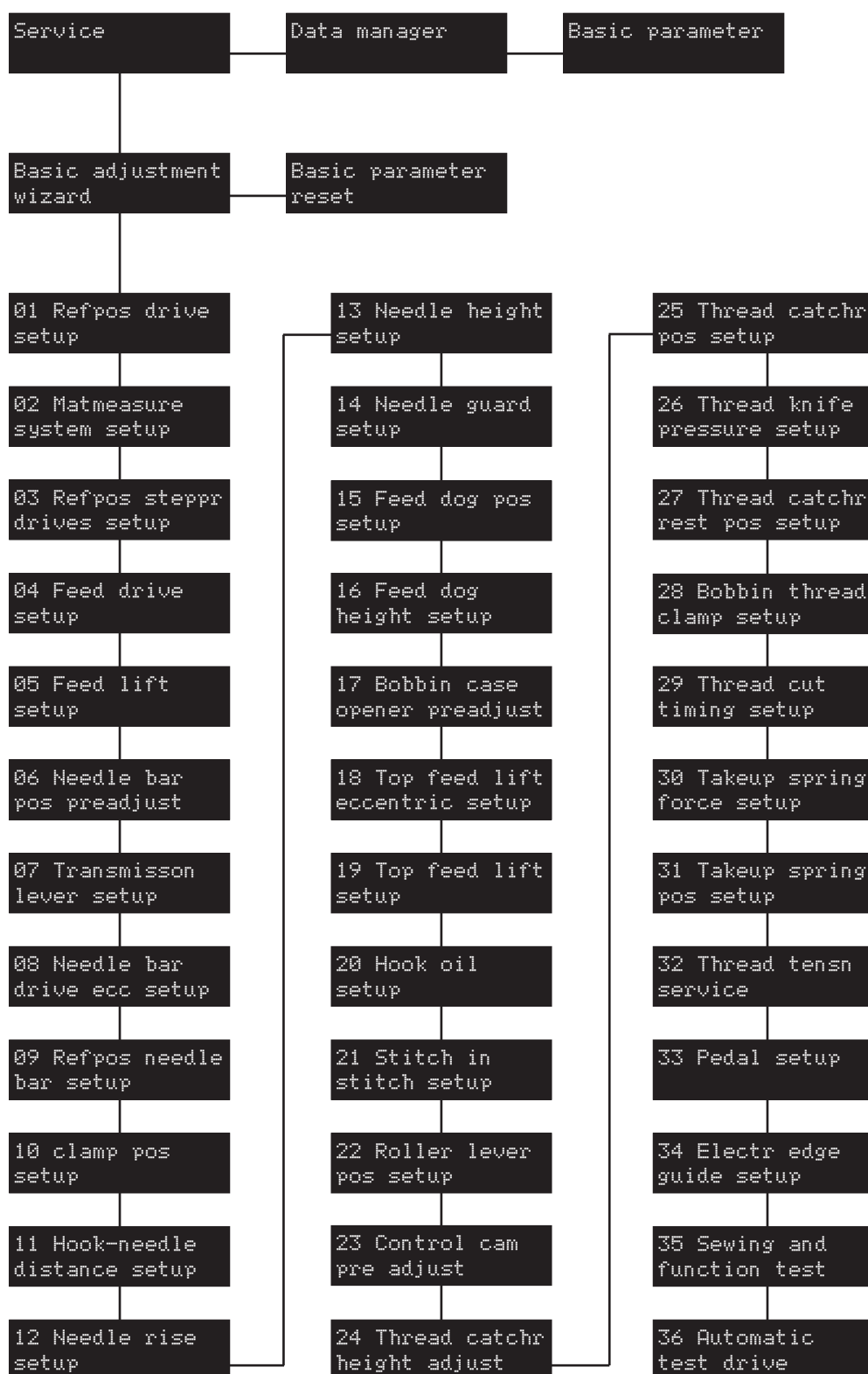
02. MANAGEMENT AND UPDATE

01. ACTIVATE THE ADJUSTMENT WIZARD

DISPLAY	STEP	DESCRIPTION
» ACTIVATE THE ADJUSTMENT WIZARD		
01	Turn on the machine.	
02	Wait until the message PRESS PEDAL is appearing in the display.	
03	 Press the pedal.	 INFO: After pressing the pedal the machine is initializing itself.
04	 Press the PARAMETER KEY . » 	
Via JOG KEY the following functions are available.		
  		
05	»  Turn the JOG KEY if necessary until SERVICE is appearing in the Display.	
06	 »  confirm.	
07	 »  confirm.	










02. MANAGEMENT AND UPDATE

02. MENU GUIDE OF THE BASIC SETTING








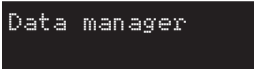
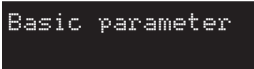









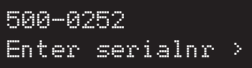






02. MANAGEMENT AND UPDATE

03. SAVE OR DISCARD

DISPLAY	STEP	DESCRIPTION
» DISCARD		
01	If you want to discard the changes you actually made press the ESCAPE Key . » 	 INFO: The software jumps to the last active item in the menu.
» SAVE		
01	»  Press PARAMETER key to save the changes	
02		
YES	»  Confirm.	 INFO: Your input is saved and the system will proceed to the next item of the adjustment wizard.
NO	»  »  Confirm.	 INFO: Your input is discarded and the system will move to the last chosen item of the adjustment wizard.

02. MANAGEMENT AND UPDATE

04. BASIC PARAMETER RESET

DISPLAY	STEP	DESCRIPTION
» BASIC PARAMETER RESET		
01		Turn on the machine. Wait until the message PRESS PEDAL is appearing in the display.
02		Press the pedal.  INFO: After pressing the pedal the machine is initializing itself.
03	 Press the PARAMETER KEY . » 	
04	Via JOG KEY the following functions are available.	
	  	
		»  Turn the JOG KEY if necessary until SERVICE is appearing in the Display.
05		»  Confirm.
06		»  Turn the JOG KEY if necessary until BASIC PARAMETER RESET is appearing in the Display.
07		»  Confirm.  INFO: The software will ask you to confirm that you wish to proceed.
08		»  To change the machine class
09		»  Confirm.
10		»  To change the serial number
11		»  Confirm.  INFO: The software will ask you to confirm that you wish to proceed.
12		Choose YES to reset all basic parameters to the default values.
13		The software automatically switches to SYNCHRONISATION OF THE MAIN DRIVE WITH THE MACHINE (03.01. / Page 35). You have to repeat this point in order to proceed.
14	 INFO:	Adjustment steps 03.12. , 03.32. C , 03.33. (optional) and 03.34. (optional) must be performed again.

02. MANAGEMENT AND UPDATE

05. PARAMETER LIST

-1-11

#	PARAMETER	DISPLAY	MIN	MAX	DEF.	DESCRIPTION / UNIT
M 0.. - BASIC SEWING PARAMETER:						
010	Stitch length 1	M010 4.5 mm Stitch lnhth 1	-12.0	12.0	4.5	mm
011	Stitch length 2	M011 6.0 mm Stitch length 2	-12.0	12.0	6.0	mm
013	Stitch length increase based on material thickness	M013 OFF Sl incr mat	-	-	-	Not Active
014	Stitch length material thickness base	M014 0.0 mm Sl thick base	-	-	-	Not Active
015	Delay after thickness change, before stitch length is changed	M015 OFF Sl decr delay	-	-	-	Not Active
016	Stitch length decrease based on sewing speed	M016 OFF Sl decr speed	-	-	-	Not Active
017	Stitch length speed base	M017 3000 P/min Sl speed base	-	-	-	Not Active
018	Stitch length trigger function	M018 TOGGLE Stitchl trigger	-	-	TOGGLE	You can choose between: OFF SWITCH TOGGLE
019	Stitch length maximum according to sewing tool	M019 9.0 mm Stitchlength max	3.0	12.0	9.0	mm
020	Foot stroke 1	M020 2.5 mm Foot stroke 1	0.0	9.0	2.5	mm
021	Foot stroke 2	M021 6.0 mm Foot stroke 2	0.0	9.0	6.0	mm
027	Automatic stroke switch according to sewing speed	M027 OFF Auto stroke sw	-	-	OFF	You can choose between: ON OFF
028	Automatic stroke switch speed threshold	M028 300 S/min Stroke sw speed	50	4000	300	S/min
029	Automatic stroke switch delay	M029 0.40 s Stroke sw delay	0.10	5.00	0.40	sec
030	Thread tension A 1	M030 25% Thrd tensionA 1	0	100	25	%
031	Thread tension A 2	M031 35% Thrd tensionA 2	0	100	35	%
032	Thread tension B 1	M032 25% Thrd tensionB 1	0	100	25	%
033	Thread tension B 2	M033 35% Thrd tensionB 2	0	100	35	%

02. MANAGEMENT AND UPDATE

05. PARAMETER LIST

-2-11

#	PARAMETER	DISPLAY	MIN	MAX	DEF.	DESCRIPTION / UNIT
034	Thread tension level increase/decrease based on material thickness	M034 OFF Thrd tens mat	1	100	OFF	You can choose between: OFF 1 - 100 %
035	Thread tension material thickness base	M035 0.0 mm Thrd tens base	-	-	-	Not Active
036	Delay after thickness change, before thread tension is changed	M036 OFF Thrd tens delay	-	-	-	Not Active
037	Thread tension backtack - Increasing or decreasing the thread tension	M037 OFF Thrd tens revers	-100	100	OFF	You can choose between: OFF -100% - 100%
038	2nd tension level when switched to 2nd stroke	M038 OFF 2.tension level	-	-	OFF	You can choose between: ON OFF
039	Release tension on foot lift	M039 OFF Ped1 rel tensn	-	-	OFF	You can choose between: OFF END ALWAYS
040	Speed mode	M040 PEDAL Speed mode	-	-	PEDAL	You can choose between: PEDAL CONSTANT
041	Speed	M041 2400 S/min Speed	50	4000	2400	S/min
042	Soft start Stitch count	M042 OFF Softstart stchs	1	100	OFF	You can choose between: OFF Stitch count
043	Soft start speed	M043 500 S/min Softstart speed	50	1000	500	S/min
050	Foot pressure	M050 20% Foot pressure	0	100	20	%
054	Dynamic foot pressure	M054 OFF Press control	-	-	OFF	You can choose between: OFF CONSTANT 1-100 %
055	Pressure material thickness base	M055 0.0 mm Press thick base	-	-	-	Not Active
060	Edge guide distance to needle	M060 0.0 mm Edge value	0.1	60	OFF	You can choose between: OFF 0.1-60mm
061	Edge guide distance to foot	M061 0.0 mm Edgedist.foot	0.1	60	OFF	You can choose between: OFF 0.1-60.0mm
070	Foot lift height	M070 12.0 mm Foot lift	0.0	20.0	12.0	mm
071	Foot lift maximum for operator	M071 20.0 mm Foot lift max	0.0	20.0	20.0	mm
072	Foot lift height on needlebar down	M072 10.0 mm Foot lift needle	0.0	20.0	6.0	mm

02. MANAGEMENT AND UPDATE

05. PARAMETER LIST

-3-11

#	PARAMETER	DISPLAY	MIN	MAX	DEF.	DESCRIPTION / UNIT
074	Foot position on stop	M074 DOWN Footpos stop	-	-	DOWN	You can choose between: UP DOWN
075	Foot position on seam end	M075 DOWN Footpos end	-	-	DOWN	You can choose between: UP DOWN
077	Needle position on stop	M077 POS1 Needlepos stop	-	-	POS 1	You can choose between: POS 1 POS 2
078	Target stitch position	M078 90.0 Targt stitch pos	0.0	359.5	90.0	Degree
080	Direct parameter access	M080 OFF Direct paramtr	-	-	OFF	You can choose between: OFF TENSION BOBBIN LENGTH EDGE SPEED ASPEED STROKE NEEDLEP PRESS COUNTER MULTIPLE1
085	Key function	M085 TACKSW Key function	-	-	TACKSW	You can choose between: OFF TACKSW NEEDLE TACKTG TARGET STROSW SCENTER STROTG TACKTYPE TENSSW POSTBED TENSTG PULLER
086	Handwheel function	M086 NEEDLE Handwhl function	-	-	NEEDLE	You can choose between: OFF TACKSW NEEDLE TACKTG TARGET STROSW SCENTER STROTG TACKTYPE TENSSW POSTBED TENSTG PULLER
087	Knee switch function	M087 OFF Kneesw funcion	-	-	OFF	You can choose between: OFF TACKSW NEEDLE TACKTG TARGET STROSW SCENTER STROTG TACKTYPE TENSSW POSTBED TENSTG PULLER
090	Puller mode	M090 OFF Pullermode	-	-	OFF	You can choose between: OFF INTERMET1 (Puller forward) INTERMET2 (Puller reverse)
091	Range between sewing start and puller lowering in mm and stitches	M091 0.0 mm Pullersinkdist	0,0	100	0.0	mm
092	Puller speed mode	M092 OFF Pullermode	-100	100	OFF	You can choose between: OFF -100%-100%
M 1.. - SEWING OPTION PARAMETER:						
100	Thread clamp	M100 OFF Thread clamp	-	-	OFF	You can choose between: ON OFF

02. MANAGEMENT AND UPDATE

05. PARAMETER LIST

-4-11

#	PARAMETER	DISPLAY	MIN	MAX	DEF.	DESCRIPTION / UNIT
101	Position clamp on	M101 220.0 Pos clamp on	0	359.5	220.0	Degree
102	Position clamp off	M102 320.0 Pos clamp off	0	359.5	320.0	Degree
103	Foot pressure reduction when thread clamp active	M103 OFF Clamp pres reduc	0,5	10	OFF	You can choose between: OFF 0.5-10mm
110	Stitch in stitch backtacking	M110 OFF Stitch in stitch	-	-	ON	You can choose between: ON OFF
111	Maximum backtack speed	M111 800 S/min Backtack speed	50	2000	800	S/min
112	Additional stop time on backtacking speed	M112 0.05 s Add stoptime	0	5	0.05	sec
118	Reserve	M118 OFF Reserve	-	-	-	-
119	Reserve	M119 DEF Reserve	-12.0	12.0		mm
120	Backtack or condensed stitches at seam start	M120 BACKTACK Seam start	-	-	BACK-TACK	You can choose between: OFF STCONDS (condensed stitches) BACKTACK Backtack B
121	A stitch count	M121 3 A stitches	0	100	3	Stitch count
122	B stitch count	M122 3 B stitches	0	100	3	Stitch count
123	AB repetition	M123 0 AB repeat	0	100	0	Amount of repeat
124	A stitch length	M124 DEF A stitch length	-12.0	12.0	DEF	mm
125	B stitch length	M125 DEF B stitch length	-12.0	12.0	DEF	mm
126	Start backtack speed	M126 800 S/min AB speed	50	2000	800	S/min You can choose between: PEDAL 50 – 2000
130	Stitch counted seam track	M130 OFF Stitchcounting	1	20 000	OFF	You can choose between: OFF 1 – 20 000
135	Bobbin thread counter	M135 OFF Bobbincounter	50	20 000	OFF	You can choose between: OFF 50 – 20 000
140	Backtack or condensed stitches at seam end	M140 BACKTACK Seam end	-	-	BACK-TACK	You can choose between: OFF STCONDS (condensed stitches) BACKTACK

02. MANAGEMENT AND UPDATE

05. PARAMETER LIST

-5-11

#	PARAMETER	DISPLAY	MIN	MAX	DEF.	DESCRIPTION / UNIT
141	C stitchcount	M141 C stitches	0	100	3	Stitch count
142	D stitches	M142 D stitches	0	100	3	Stitch count
143	CD repetition	M143 CD repeat	0	100	0	Amount of repeat
144	C stitch length	M144 C stitch length	-12.0	12.0	DEF	You can choose between: DEF -12.0 -12.0 mm
145	D stitch length	M145 D stitch length	-12.0	12.0	DEF	You can choose between: DEF -12.0 -12.0 mm
146	End backtack speed	M146 CD speed	50	2000	800	S/min
150	Thread trimming	M150 Thread trimming	-	-	ON	You can choose between: ON OFF
151	Position trimmer on	M151 Pos trimmer on	0	359.5	145.0	Degree
152	Position trimming tension	M152 Pos trim tension	0	359.5	330.0	Degree
153	Trim tension level	M153 Trim tension lvl	-1	100	-1	% -1 = Tension open
154	Position trimmer off	M154 Pos trim end	0.0	359.5	25	Degree
155	Reserved	M155 Reserved	-	-	-	-
156	Trimming speed	M156 Trimming speed	50	800	180	S/min
157	Reserved	M157 Reserved	-	-	-	-
158	Trimming stitch count	M158 Trim stitches	1	100	OFF	S/min You can choose between: OFF 1-100
159	Trimming stitch length	M159 Trim stitchlen	-12	12	0,0	mm You can choose between: DEF -12.0 -12.0 mm
160	Backturn	M160 Backturn	-	-	ON	You can choose between: ON OFF
161	Backturn position	M161 Backturn pos	0.0	359.5	45.0	Degree

02. MANAGEMENT AND UPDATE

05. PARAMETER LIST

-6-11

#	PARAMETER	DISPLAY	MIN	MAX	DEF.	DESCRIPTION / UNIT
M 2.. - SPECIAL SEWING PARAMETER:						
200	Reserve	M200 Reserve 0	-	-	-	-
201	Reserve	M201 Reserve 0	-	-	-	-
202	Reserve	M202 Reserve 0.00s	-	-	-	-
209	Reserve	M209 Reserve 250	-	-	-	-
M 3.. - MAINTENANCE PARAMETER:						
300	Needle change interval	M300 Nd1 change intv OFF	1000	1 000 000	OFF	You can choose between: OFF 1000 – 1 000 000
301	Reserve	M301 Reserve 0	-	-	-	-
310	Oilcheck interval	M310 Oil check intv OFF	1000	1 000 000	OFF	You can choose between: OFF 1000 – 1 000 00
311	Reserve	M311 Reserve 0	-	-	-	-
M 4.. - IN-/OUTPUT FUNCTION PARAMETER:						
400	Input Y1-1 function	M400 Input Y1-1 func OFF	-	-	OFF	You can choose between: OFF SECSW
401	Input Y1-2 function	M401 Input Y2-1 func OFF	-	-	OFF	You can choose between: OFF SECSW
402	Input Y1-3 function	M402 Input Y3-1 func OFF	-	-	OFF	You can choose between: OFF SECSW
403	Input Y2 function	M403 Input Y2 func OFF	-	-	OFF	You can choose between: OFF SECSW
404	Input B2 function	M404 Input B2 func OFF	-	-	OFF	You can choose between: OFF SECSW
405	Input head function	M405 Input head func OFF	-	-	OFF	You can choose between: OFF SECSW
406	Turn over switch	M406 Turn over switch OFF	-	-	ON	You can choose between: ON OFF
407	Input B3 function	M407 Input B3 func OFF	-	-	OFF	You can choose between: OFF BARCODE

02. MANAGEMENT AND UPDATE

05. PARAMETER LIST

-7-11

#	PARAMETER	DISPLAY	MIN	MAX	DEF.	DESCRIPTION / UNIT
						You can choose between:
450	Output X2-1 function	M450 OFF Output X2-1 func	-	-	OFF	OFF ON NDLCOOL SCENTER KEY KEY INV KEY TGL WHEEL WHEEL INV WHEEL TGL KNEE KNEE INV KNEE TGL FOOT UP FOOT UP IN MOTOR RUN TACKING ACT TRIM ACTIVE SHORT TRIM
						You can choose between:
451	Output X2-2 function	M451 OFF Output X2-2 func	-	-	OFF	OFF ON NDLCOOL SCENTER KEY KEY INV KEY TGL WHEEL WHEEL INV WHEEL TGL KNEE KNEE INV KNEE TGL FOOT UP FOOT UP IN MOTOR RUN TACKING ACT TRIM ACTIVE SHORT TRIM
						You can choose between:
452	Output X3-1 function	M452 OFF Output X3-1 func	-	-	OFF	OFF ON NDLCOOL SCENTER KEY KEY INV KEY TGL WHEEL WHEEL INV WHEEL TGL KNEE KNEE INV KNEE TGL FOOT UP FOOT UP IN MOTOR RUN TACKING ACT TRIM ACTIVE SHORT TRIM
						You can choose between:
453	Output X3-2 function	M453 OFF Output X3-2 func	-	-	OFF	OFF ON NDLCOOL SCENTER KEY KEY INV KEY TGL WHEEL WHEEL INV WHEEL TGL KNEE KNEE INV KNEE TGL FOOT UP FOOT UP IN MOTOR RUN TACKING ACT TRIM ACTIVE SHORT TRIM
460	Needle cooling follow up time	M460 1.00 s Ndl cool fol up	0	10	1	sec
461	Needle cooling start speed	M461 500 S/min Ndl cool speed	50	4000	2000	S/min
M 5.. - PERIPHERAL PARAMETER:						
500	Pedal type	M500 ANALOG Pedal type	-	-	ANALOG	

02. MANAGEMENT AND UPDATE

05. PARAMETER LIST

-8-11

#	PARAMETER	DISPLAY	MIN	MAX	DEF.	DESCRIPTION / UNIT
501	Pedal behaviour	M501 LINEAR Pedal behaviour	-	-	LINEAR	You can choose between: LINEAR PARAB
502	Pedal +1 speed	M502 180 S/min Pedal +1 speed	50	1 000	180	S/min
510	Foot lift delay	M510 0.25 s Pd1 lift delay	0.00	5.00	0.25	s
511	Machine start delay after foot dropped	M511 0.10 s Pd1 strt delay	0.00	5.00	0.10	s
512	Pedal debounce delay	M512 0.08 s Pd1 debounce	0.00	0.50	0.08	s
520	Pedal +2	M520 245 Pedal maxpos				
521	Pedal runposition E	M521 170 Pedal runpos E				
522	Pedal runposition D	M522 130 Pedal runpos D				
523	Pedal idle position	M523 110 Pedal idlepos C				
524	Pedal footlift position B	M524 90 Pedal liftpos B				
525	Pedal trimposition A	M525 55 Pedal trimpos A				
530	Lever behaviour	M530 LINEAR Lever behaviour			LINEAR	You can choose between: LINEAR HALFSW FULLSW
540	Handwheel increment rate	M540 50% Handwheel res	1	100	50	%
550	Reserve	M550 60.0 Reserved end	-	-	-	-
560	Reserve	M560 145.0 Reserved	-	-	-	-
561	Reserve	M561 245.0 Reserved	-	-	-	-
599	Reserve	M599 OFF Reserved	-	-	-	-
M 6.. - MAIN DRIVE PARAMETER:						
600	Needle position 1	M600 132.0 Position 1	0.0	359.5	132.0	Degree

01.06. PEDAL, p.12

02. MANAGEMENT AND UPDATE

05. PARAMETER LIST

-9-11

#	PARAMETER	DISPLAY	MIN	MAX	DEF.	DESCRIPTION / UNIT
601	Needle position 2	M601 60.0 Position 2	0.0	359.5	60.0	Degree
605	Initializing stitch on machine start	M605 OFF Init stitch	0.0	359.5	OFF	You can choose between: ON OFF
607	Reserve	M607 1 Reserve	-	-	-	-
608	Reserve	M608 853 Reserve	-	-	-	-
609	Reserve	M609 1103 Reserve	-	-	-	-
610	Maximum speed	M610 4000 S/min Max speed	50	4 000	4 000	S/min
611	Positioning speed	M611 180 S/min Pos speed	50	300	180	S/min
615	Acceleration rate	M615 100% Accelerationrate	25	100	100	%
616	Deceleration rate	M616 100% Decelerationrate	25	100	100	%
620	Holdposition torque	M620 350.5 Holdpos torque	OFF	6	1	You can choose between: OFF 1 - 6
621	Maximum torque	M621 100% Max torque	30	100	100	%

M 7. - STEPPING MOTOR PARAMETER:

703	12mm Stitch length	M703 Reserved	-	-	-	You can choose between: ON - 12mm OFF - 9mm
704	Sewing forward stitch length offset	M704 -18 stlength Poffset	-100	100	0	
705	Sewing backward stitch length offset	M705 -10 stlength Noffset	-100	100	0	
706	Stitch length offset	M706 0 Stlength offset				03.21. ADJUSTMENT OF THE STITCH LENGTH CORRECTION, p.55
707	Increase stitch length offset over speed	M707 15% S1 comp lvl	0	100	15	You can choose between: OFF 0-100%
708	Stitch length offset speed	M708 50 S/min S1 comp speed	50	4000	50	S/min
716	Reserve	M716 0 Reserve	-	-	-	-

02. MANAGEMENT AND UPDATE

05. PARAMETER LIST

-10-11

#	PARAMETER	DISPLAY	MIN	MAX	DEF.	DESCRIPTION / UNIT
721	Pressure holding current	M721 3000 mA Press hld curr	3000	4000	3000	mA
722	Pressure motor movement current	M722 3000 mA Press mve curr	3000	4000	3000	mA
723	Pressure factor foot	M723 13 Press factor	8	18	13	
725	Foot movement speed	M725 1500 Press speed	750	3000	1500	
733	Tension factor A	M733 200 Tens factor	50	250	120	
734	Calibration factor tension A	M734 0 TensA backlash	0	2000	0	
736	Tension offset A	M736 85 Tens offset	0	200	80	
743	Tension B factor	M743 200 Tens factor	50	250	200	
744	Calibration factor tension B	M744 0 TensB backlash	0	2000	0	
746	Tension offset B	M746 85 Tens offset	0	200	85	
750	Edge guided control	M750 OFF Edgeguidecontrol	-	-	OFF	You can choose between: ON OFF
753	Edge guide factor	M753 255 Edgeg factor	150	300	255	
756	Edge guide distance to needle	M756 41.9mm Guide dist needl	0	60	37.3	mm
757	Control for hight adjustable edge guide	M757 OFF Edgeg heighten	-	-	OFF	You can choose between: ON OFF
766	Post bed distance to needle	M766 1500 Postbed distance	1	2000	1500	
770	Puller control	M770 OFF Puller control	-	-	OFF	You can choose between: ON OFF
771	Puller wheel diameter	M771 25.0 mm Puller wheel	25.0	45.0	25.0	You can choose between: 25.0mm 45.0mm
772	Puller wheel lowering rotation	M772 100 Puller lowering	0	500	100	
773	Reserve	M773 OFF Reserved	-	-	-	-

02. MANAGEMENT AND UPDATE

05. PARAMETER LIST


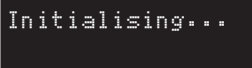



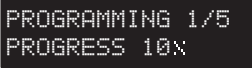

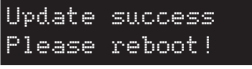
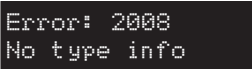

-11-11

#	PARAMETER	DISPLAY	MIN	MAX	DEF.	DESCRIPTION / UNIT
774	Reserve	M157 60.0 Reserved	-	-	-	-
775	Reserve	M157 60.0 Reserved	-	-	-	-
778	Puller start position	M778 0.0 Pullerstartpos	0	359.0	0.0	Degree
779	Puller stop position	M779 0.0 Pullerstoppos	0	359.0	0.0	Degree
M8 .. - INFORMATION PARAMETER:						
800	Machine class	M800 50001002 Machineclass				
801	Reserve	M801 211 Reserve				
802	Serial number	M802 252 Serial number				
810	Machine on time	M810 20:11 Machine ontime				DISPLAY VALUE
811	Machine run time	M811 0:16 Machine runtime				
812	Cycle count	M812 3 Cycle count				
M 9.. - MISCELLANEOUS PARAMETER:						
900	Reserve	M900 1 Reserve				
920	Reserve	M920 100% Reserve				
930	USB authentication mode (can only be used with DONGLE)	M930 OFF USB auth mode			TSUPERV	Selection: » TSUPERV » OPERATOR » LOCKED » LSUPERV » TECHNIC » OPERATOR2

02. MANAGEMENT AND UPDATE


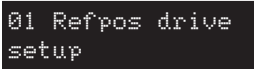





06. UPDATE THE OPERATING PROGRAM

Program updates are available for downloading on our website under www.vetrontypical.com. Copy the current software update onto your USB dongle and proceed as follows:

DISPLAY	STEP	DESCRIPTION
» UPDATE THE OPERATING PROGRAM		
		Insert your DONGLE with the current status into the USB port.
1	 NOTE Machine must be turned off!	
2		Turn the machine on and press the JOG KEY a second later.
3	 »  Confirm.	
4	 »  Press the " PARAMETER " button:	
5		Appears. Machine automatically updates the 5 steps. 1/5: Update 1of 5
6		Update completed.
7		Appears.
8		Turn machine off!
9		Turn machine on again. Now the machine with the new update can be operated on.
	 INFO: If there isn't any information on DONGLE, „Error“ appears!	

03. ADJUSTMENT

01. SYNCHRONISATION OF THE MAIN DRIVE WITH THE MACHINE

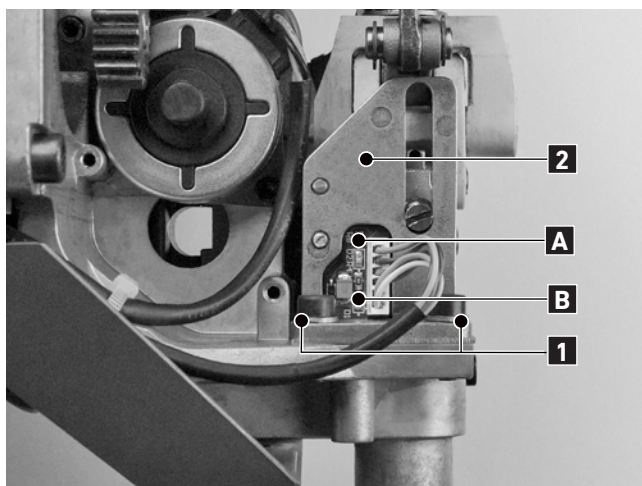
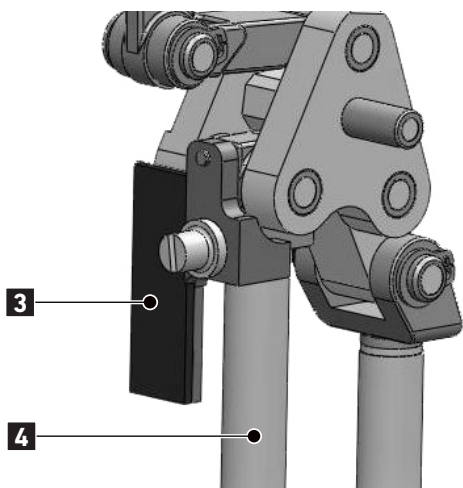
DISPLAY	STEP	DESCRIPTION
» SYNCHRONISATION OF THE MAIN DRIVE WITH THE MACHINE		
01		Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).
02		»  Until chapter 01 appears on the display.
03		»  Confirm.
04		Press the pedal.
05		Turn the needle bar into the top dead center.
06		»  Confirm.
07		SAVE (see 02.03. / Page 21).





03. ADJUSTMENT

02. ADJUSTMENT OF THE MATERIAL THICKNESS MEASUREMENT SYSTEM

NOTE:
The sensor must have the same distance to the magnetic strip in every position of the feet.

INFO:
The green and the red LED should be lit in every position.

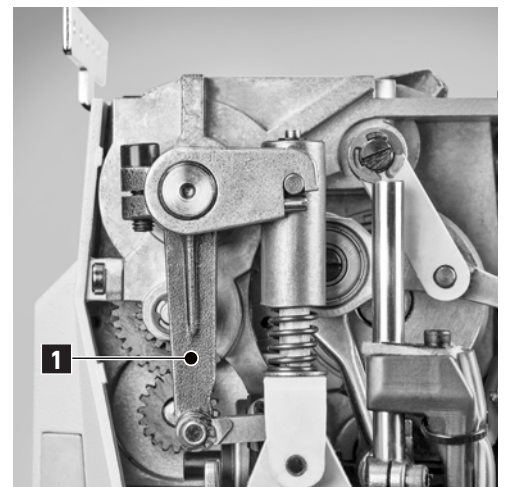


DISPLAY	STEP	DESCRIPTION
» ADJUSTMENT OF THE MATERIAL THICKNESS MEASUREMENT SYSTEM		
<p>INFO: During adjustment, please check if the magnet strip support 3 is parallel to the presser foot bar 4.</p>		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	»  Until chapter 02 appears on the display.	
03		<p>»  Confirm.</p> <p>INFO: The pedal is blocked. The sewing feet can be moved by hand up and down.</p>
04	In the blocked mode the sewing feet can be moved up and down by hand while checking if the LEDs A and B are lit in every position.	
05	Loosen the screws 1 and move the support 2 into a position in which the LEDs A and B are lit in every sewing feet position.	
06	Tighten screw 1 .	
07	»  Confirm to proceed to the next step.	

i **INFO:** The stepper motor is factory adjusted. Readjustment is only necessary in case of disassembly.

DISPLAY	STEP	DESCRIPTION
» STEPPER MOTOR BASIC ADJUSTMENT		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	» Until chapter 03 appears on the display.	
03	» Confirm.	
04	Press the pedal.	i INFO: The foot is descending to the stitch plate.
Via JOG KEY the following items can be addressed:		
A		B
C		
05	» Confirm to proceed to the next step.	



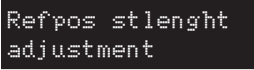

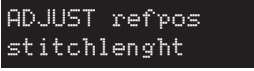



DISPLAY	STEP	DESCRIPTION
» ADJUSTMENT OF THE FOOT STROKE REFERENCE POSITION		
i INFO: Please remove the sewing feet.		
06A	» Choose STROKE MOTOR .	
07A	» Confirm.	
08A	Press the pedal to run the machine. Turn the JOG KEY until the lever 1 stops movement.	
09A	» Confirm.	
10A	SAVE (see 02.03. / Page 21).	



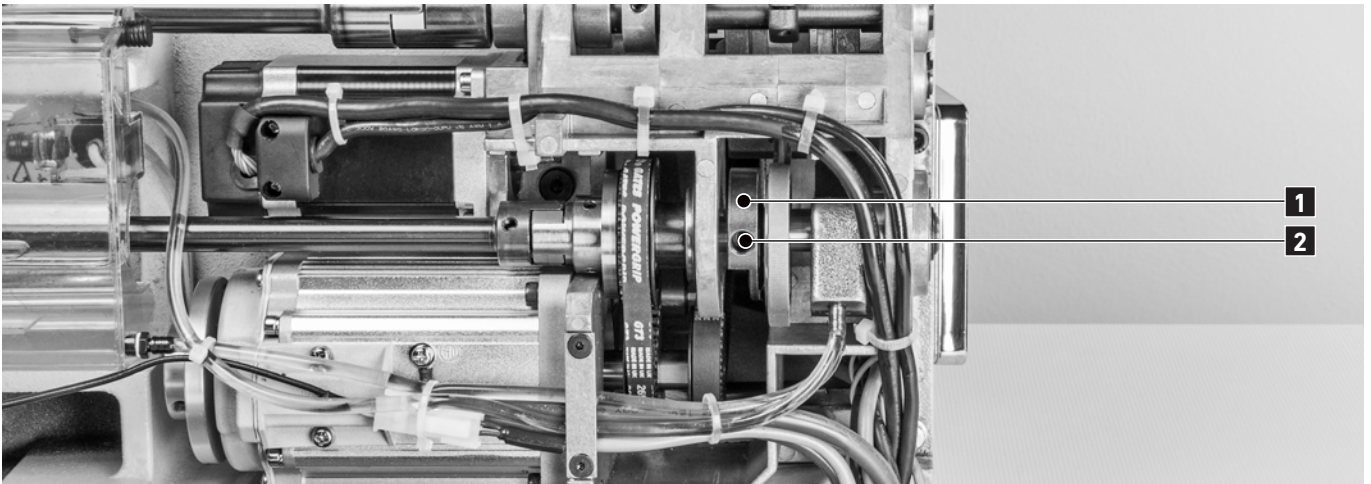
03. ADJUSTMENT

03. STEPPER MOTOR BASIC ADJUSTMENT

-2-2

DISPLAY	STEP	DESCRIPTION
» ADJUSTMENT OF THE STITCH LENGTH REFERENCE POSITION		
06B	»  Choose STITCH LENGTH MOTOR .	
07B	 »  Confirm.	
08B	 »  Press the pedal to run the machine. Turn the JOG KEY until the lever 2 stops movement.	
09B	»  Confirm.	
10B	 SAVE (see 02.03. / Page 21).	




NOTE: When the machine is in the bottom dead center of the needle bar (**180°**) the feed dog should not move while switching the feed regulator.



PREADJUSTMENT OF THE FEEDING DEVICE:

If the needle bar is in its top dead center position, the first screw **2** in running direction of the feed driving eccentric **1** should be facing down.

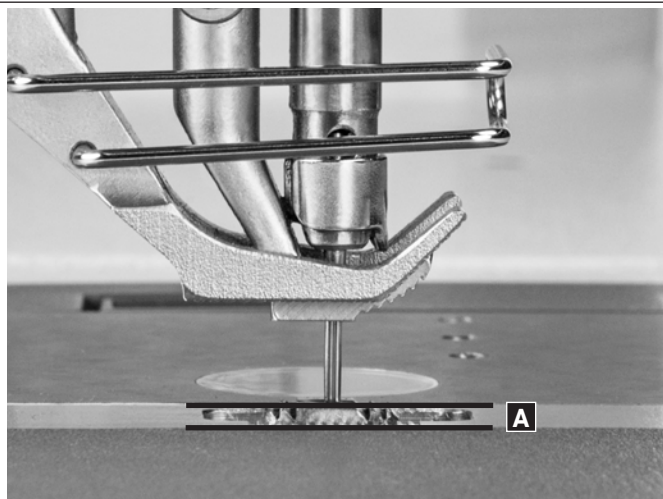
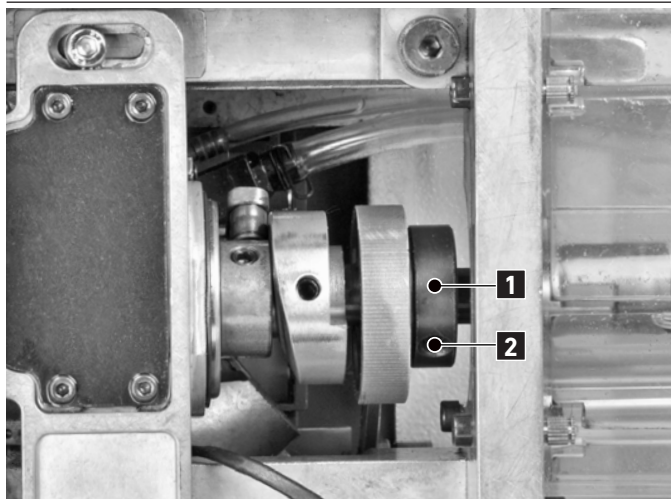
- » Loosen the screws **2** and turn the feed eccentric **1** until the first screw is facing down.
- » In this position slightly tighten both screws **2** until the eccentric can be easily turned on the shaft.

DISPLAY	STEP	DESCRIPTION
» ADJUSTMENT OF THE FEEDING DEVICE		
01		Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).
02	» 	Until chapter 04 appears on the display.
03	» 	Confirm.
04	i INFO:	To adjust the feed driving eccentric turn the machine to 9° . In this position screw 2 can easily be reached. Turn the eccentric until the feed dog stops its movement and fix the screw. Then check your adjustment and assure in position 180° that the feed dog is not moving. The machine switches the feed regulator to permanently move between forward and reverse position by turning the JOG KEY clockwise. Turn the JOG KEY counterclockwise to stop the movement.
05		Turn the machine to the bottom dead center (180°) with the mechanical handwheel.
06		Turn the eccentric 1 until the feed dog stops moving, and tighten the screws 2 .
07	» 	Confirm to proceed to the next step.

03. ADJUSTMENT

05. ADJUSTMENT OF THE LIFTING MECHANISM

NOTE:
In position **190°** the feed dog should be in his top position **A**.



DISPLAY	STEP	DESCRIPTION
» ADJUSTMENT OF THE LIFTING MECHANISM		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	» Until chapter 05 appears on the display.	
03	» Confirm.	INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm .
04	Loosen the screws 2 of the feed lifting eccentric 1 until it is turning easily on the shaft.	
05	Turn the machine to the 190° position with the mechanical handwheel.	
06	In this position turn the feed lifting eccentric 1 until the feed dog is in it's top position A .	
07	Tighten screws 2 .	
08	» Confirm to proceed to the next step.	

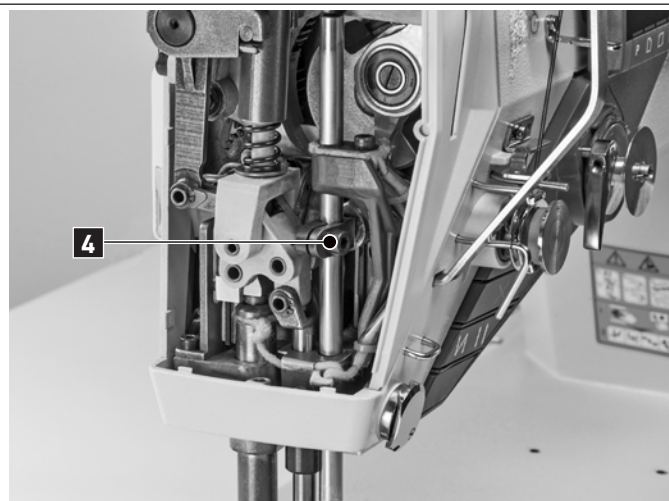
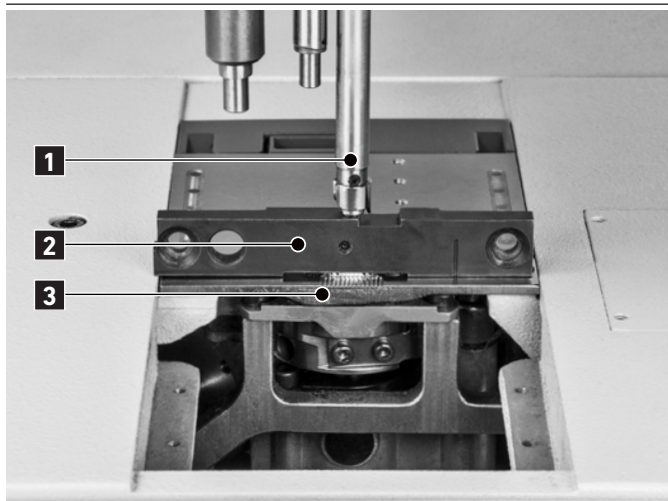
03. ADJUSTMENT


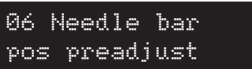



06. PREADJUSTMENT OF THE NEEDLE BAR HEIGHT



NOTE:

At stitch length **0** the needle bar should be at the bottom dead center **14.5mm** above the stitch plate.

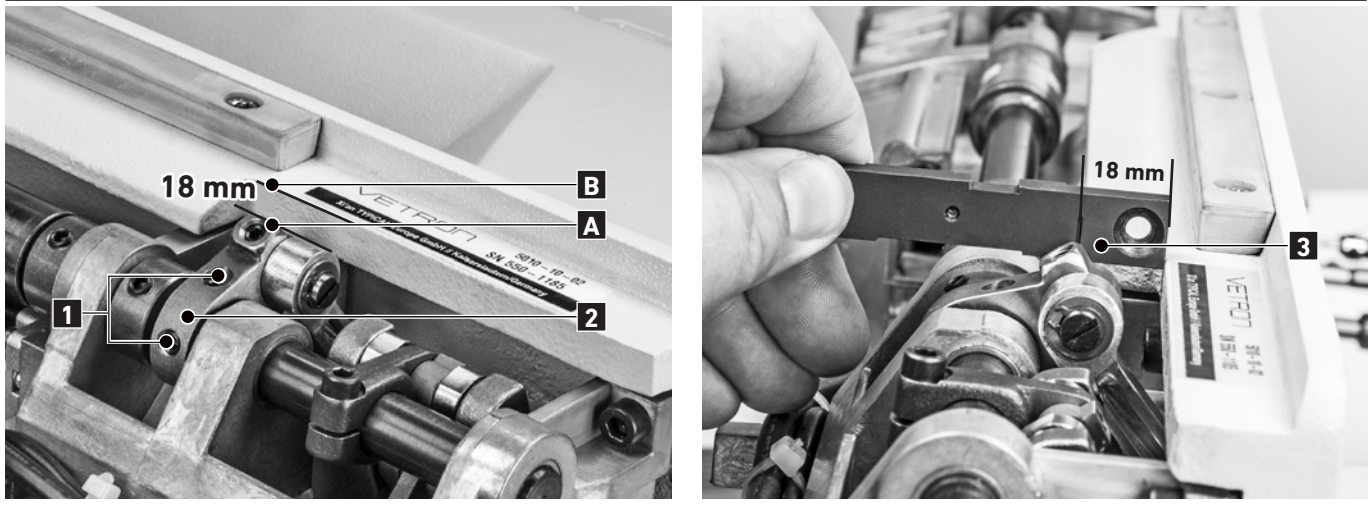


DISPLAY	STEP	DESCRIPTION
» PREADJUSTMENT OF THE NEEDLE BAR HEIGHT.		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	»  Until chapter 06 appears on the display.	
03	 »  Confirm.	 INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm .
04	Loosen screw 4 until the needle bar 1 can be moved up and down.	
05	Put the gauge 2 on the stitch plate 3 .	
06	Turn the needle bar into the bottom dead center with the mechanical handwheel (180°).	
07	In this position move the needle bar downwards until it touches the gauge 2 .	
08	Tighten screw 4 .	
09	»  Confirm to proceed to the next step.	

03. ADJUSTMENT

07. BASIC ADJUSTMENT OF THE NEEDLE BAR FRAME DRIVING LEVER

NOTE:
The driving lever should have, in its basic position, At stitch length **0** with a distance of **18mm** between its upper edge **A** and the housing edge **B**.

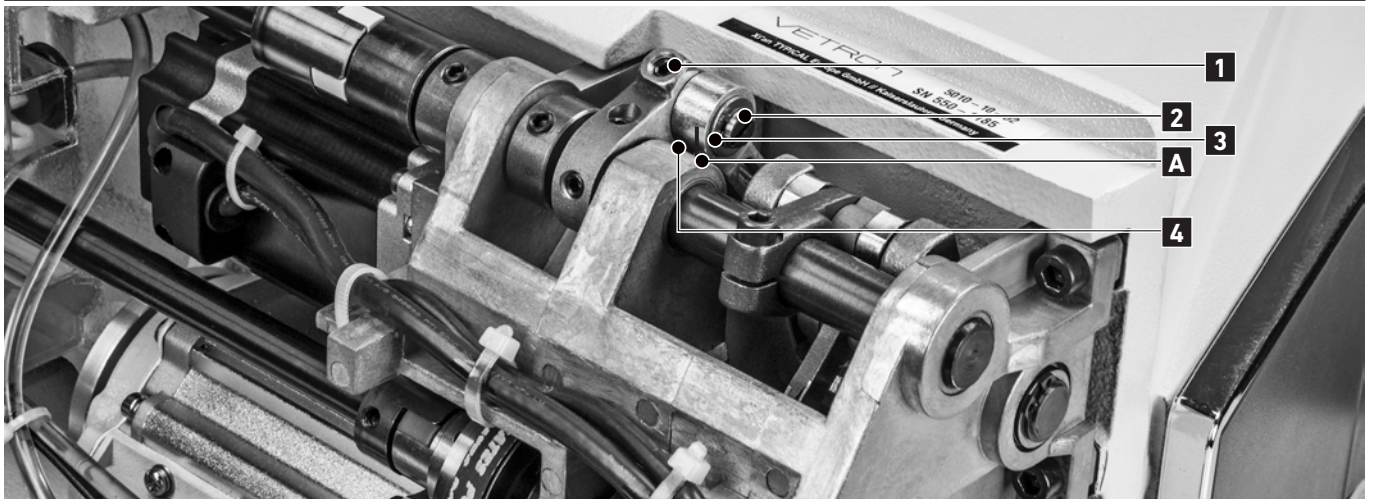





DISPLAY	STEP	DESCRIPTION
» BASIC ADJUSTMENT OF THE NEEDLE BAR FRAME DRIVING LEVER		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	» Until chapter 07 appears on the display.	
03	» Confirm.	i INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm .
04	Loosen the screws 1 of the driving lever 2 , and turn the lever until his upper edge A has a distance of 18mm to the housing edge B .	
05	To measure the distance you can use the gauge 3 .	
06	Tighten screw 2 .	
07	» Confirm to proceed to the next step.	

03. ADJUSTMENT

08. BASIC ADJUSTMENT OF THE NEEDLE BAR FRAME DRIVE ECCENTRIC

NOTE: In stitch length **0mm** position the eccentric **3** should be as close to the rock shaft **4** (position **A**) as possible.



DISPLAY	STEP	DESCRIPTION
» BASIC ADJUSTMENT OF THE NEEDLE BAR FRAME DRIVE ECCENTRIC		
01		Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).
02	» 	Until chapter 08 appears on the display.
03	» 	Confirm.
		i INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm .
04		Loosen the screw 1 .
05		Turn the eccentric shaft 2 into it's lowest possible distance A to the housing 4 .
06		Tighten screw 1 .
07	» 	Confirm to proceed to the next step.



03. ADJUSTMENT

09. BASIC ADJUSTMENT OF THE NEEDLE BAR FRAME

-1-2

NOTE: At stitch length **0** the gauge pin **1** should dive easily into the hole of the gauge **2**.

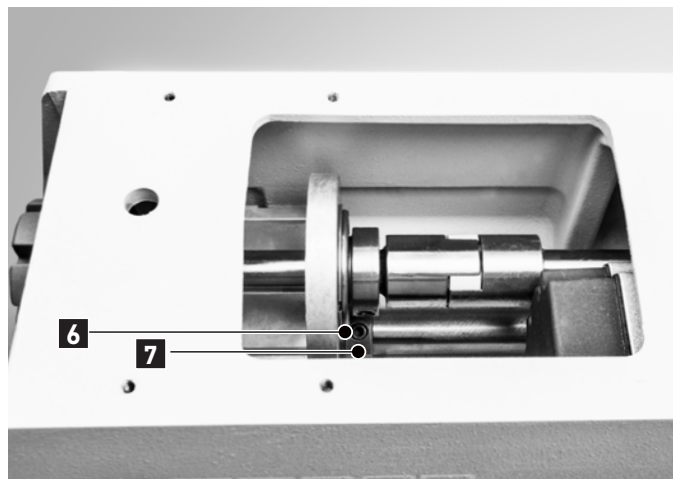
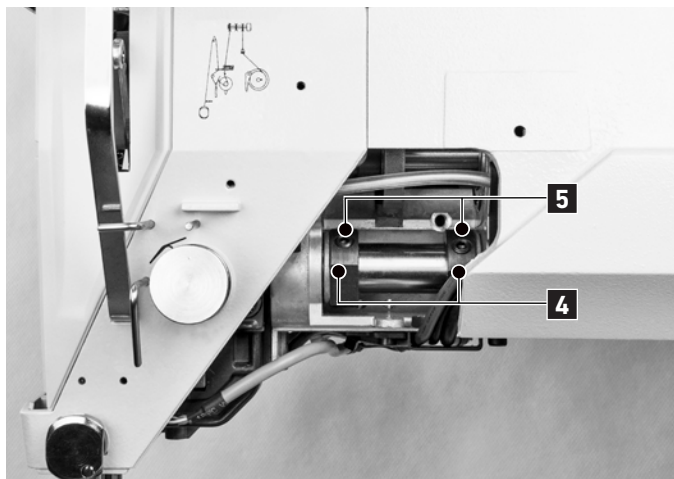
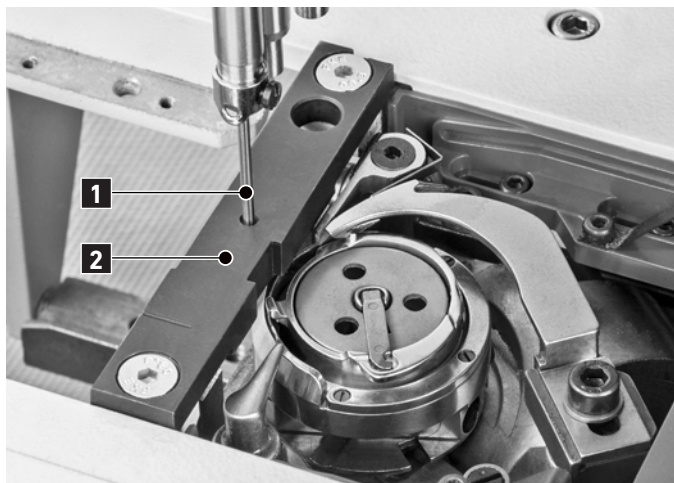



DISPLAY	STEP	DESCRIPTION
» BASIC ADJUSTMENT OF THE NEEDLE BAR FRAME		
<p>NOTICE: Adjustment steps 03.07. and 03.08. must be completed before!</p>		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	»  Until chapter 09 appears on the display.	
03	»  Confirm.	<p>INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm.</p>
04	Remove sewing feet.	
05	Remove stitch plate and feed dog.	
06	Loosen screw 3 .	
07	Loosen screws 5 from the collars 4 .	
08	Loosen screw 6 from the collar 7 .	
09	Tighten gauge 1 with the stitch plate screws.	
10	Turn the needle bar downwards with the mechanical handwheel so that the 2mm gauge pin can dive into the hole easily.	

03. ADJUSTMENT

09. BASIC ADJUSTMENT OF THE NEEDLE BAR FRAME

-2-2

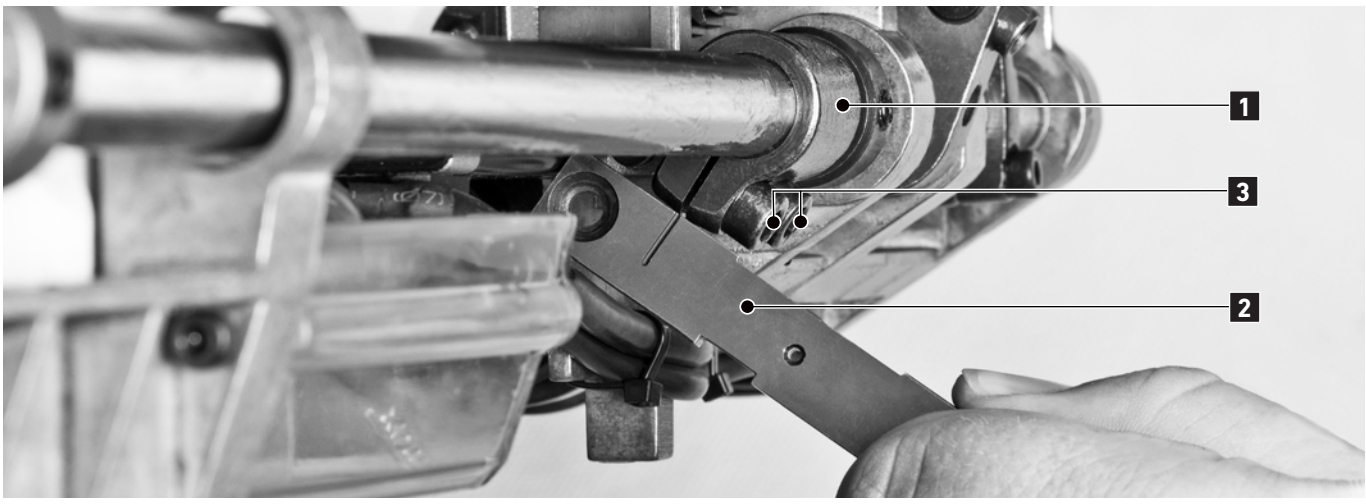



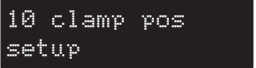




DISPLAY	STEP	DESCRIPTION
» BASIC ADJUSTMENT OF THE NEEDLE BAR FRAME		
11		Move the collars 4 to touch the bushings and tighten screw 5 .
12		Move collar 7 to touch the bushings and tighten screw 6 .
13		Tighten the screw 3 .
<p>i INFO: Please make sure that the pin is moving inside of the hole easily and is not bent to the side.</p>		
14		»  Confirm to proceed to the next step.

03. ADJUSTMENT

10. BASIC ADJUSTMENT OF THE FEED SHAFT CLAMP

NOTE: At stitch length **0** the gap of the clamp **1** should have a distance of **18mm** to the edge of the main motor.

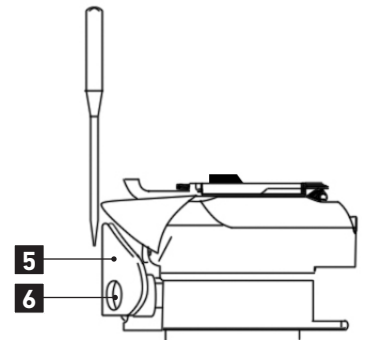
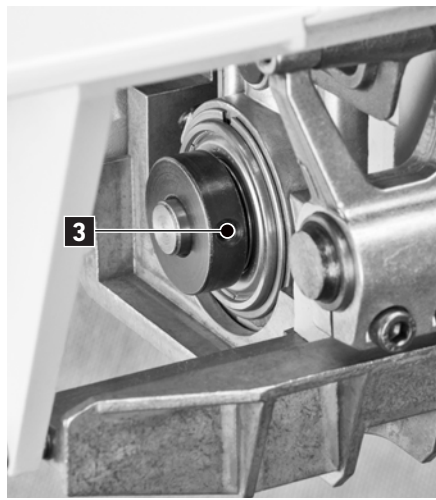
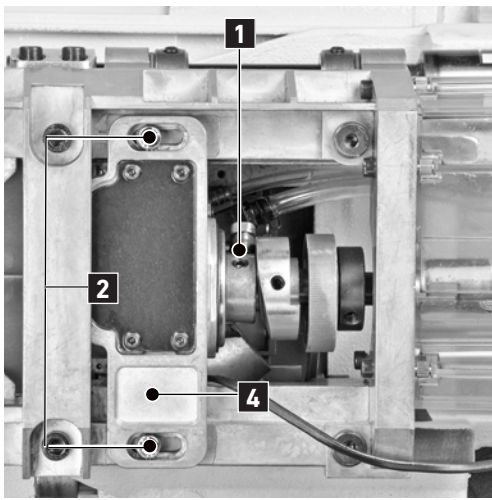






DISPLAY	STEP	DESCRIPTION
» BASIC ADJUSTMENT OF THE FEED SHAFT CLAMP		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	»  Until chapter 10 appears on the display.	
03	 »  Confirm.	 INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm .
04	Loosen the screws 3 and position the gauge 2 as shown in the picture.	
05	Turn the clamp 1 until the gap is aligned with the mark on the gauge 2 .	
06	In this position tighten screw 3 .	
	 NOTICE: After this adjustment the following adjustment step 03.11. must be performed (again).	
07	»  Confirm to proceed to the next step.	

03. ADJUSTMENT

11. DISTANCE BETWEEN HOOK AND NEEDLE

! **NOTE:** At stitch length **0** the hook point should have a distance to the needle scarf of **0.1mm**.



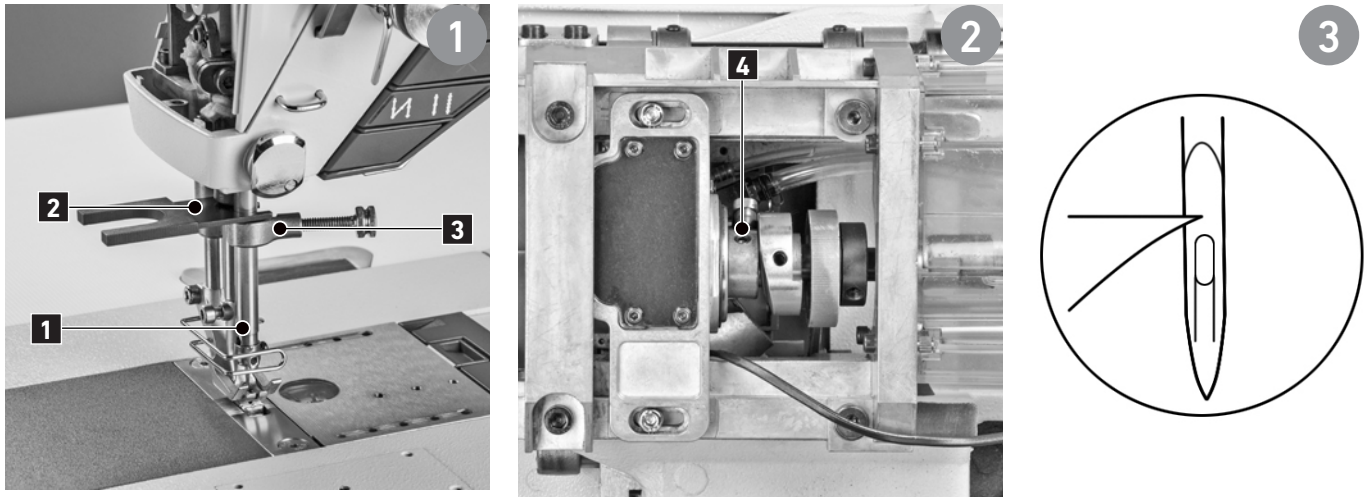
DISPLAY	STEP	DESCRIPTION
» DISTANCE BETWEEN HOOK AND NEEDLE		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	»  Until chapter 11 appears on the display.	
03	 »  Confirm.	i INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm .
04	Loosen screws 1 , 2 and 3 .	
05	Turn the screw 5 inwards to move the needle guard 6 away from the needle.	
06	Turn the machine until the hook point is positioned in the middle of the needle (NEEDLE RISE POSITION).	
07	Move the hook carrier 4 to get a distance between hook point and needle scarf of 0.1mm .	
08	Tighten screw 2 and 3 .	
	! NOTICE: After this adjustment the following adjustment step 03.12. , 03.13. and 03.14. must be performed (again).	
09	»  Confirm to proceed to the next step.	

03. ADJUSTMENT

12. NEEDLE RISE

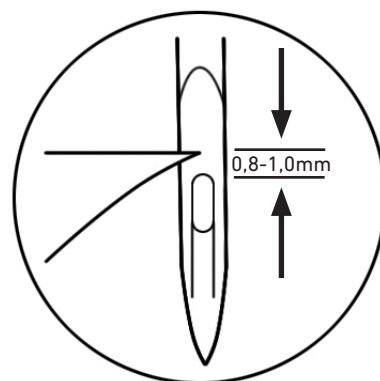
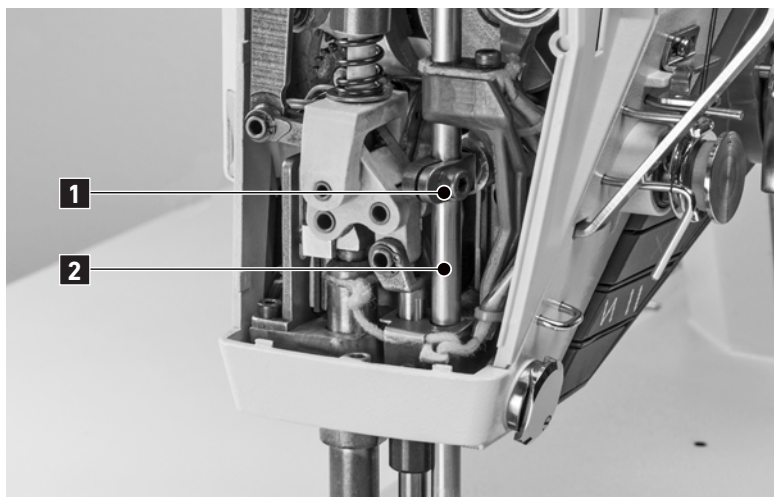
NOTE: At stitch length **0** the hook point should meet the middle axis of the needle **2mm** after the bottom dead center.

INFO: The needle rise is the distance from the bottom dead center of the needle to the position where the hook point is meeting the middle of the needle. In this position the thread loop is caught.



DISPLAY	STEP	DESCRIPTION
» NEEDLE RISE		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	» Until chapter 12 appears on the display.	
03	» Confirm.	INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm .
04	Loosen screw 4 .	
05	Turn the needle bar 1 with the mechanical handwheel into the bottom dead center.	
06	Set the gauge 2 and the clamp 3 as shown in image 1 and tighten the clamp 3 with screw.	
07	Remove the gauge 2 , and turn the needle bar in sewing direction until the clamp 3 touches.	
08	Turn the hook until the hook point is positioned in the middle of the needle as shown in image 3.	
09	Tighten screw 4 in this position (2mm after the bottom dead center).	
10	» Confirm to proceed to the next step.	

NOTE: At stitch length **0** the needle bar should be adjusted to position the hook point in the lower third of the needle scarf. (**0.8-1mm** above needle eye).



DISPLAY	STEP	DESCRIPTION
» NEEDLE HEIGHT		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	» Until chapter 13 appears on the display.	
03	» Confirm.	i INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm .
04	Turn the needle bar to the thread loop position when the hook point is exactly in the middle axis of the needle scarf.	
05	In this position loosen screw 1 and move the needle bar 2 according to the general rule.	
06	Tighten screw 1 .	
	NOTICE: After this adjustment the position of the needle guard must be checked according to step 03.14 .	
	NOTICE: A wrongly adjusted needle bar height can cause skip stitches, thread breaking, needle breaking and damage to the hook point.	
07	» Confirm to proceed to the next step.	

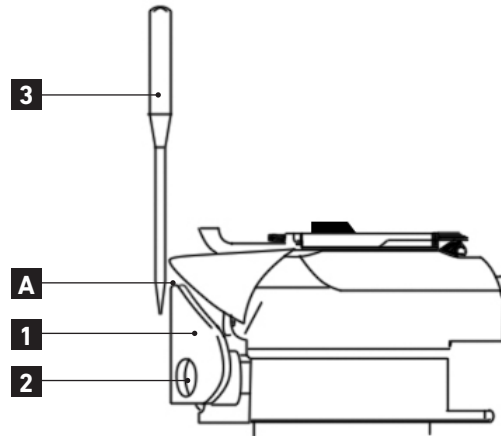
03. ADJUSTMENT

14. NEEDLE GUARD



NOTE:

The needle guard should protect the needle from colliding with the hook point. At **stitch length 0** and in thread loop position the needle guard should slightly touch the needle, so it is slightly pushed aside during the passing of the hook point.







DISPLAY	STEP	DESCRIPTION
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» NEEDLE GUARD



NOTICE:

Adjustment steps **03.11.**, **03.12.** and **03.13.** must be completed before!

01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	»  Until chapter 14 appears on the display.	
03	<div style="background-color: black; color: white; padding: 2px; display: inline-block;">14 Needle guard setup</div> »  Confirm.	 INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm .
04	Turn the machine with the mechanical handwheel to the thread loop position.	
05	Turn the screw 2 outwards until the needle guard 1 touches the needle 3 (position A).	
06	»  Confirm to proceed to the next step.	

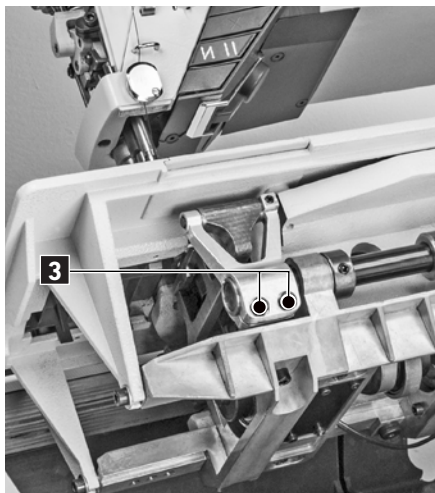
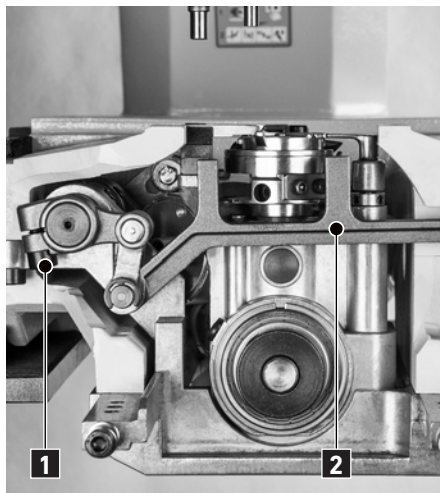
03. ADJUSTMENT




15. ADJUSTMENT OF THE FEED DOG POSITION INSIDE THE STITCH PLATE



NOTE:

At stitch length **0** the feed dog should be positioned in the middle of the hole in both directions, as shown in image 3.

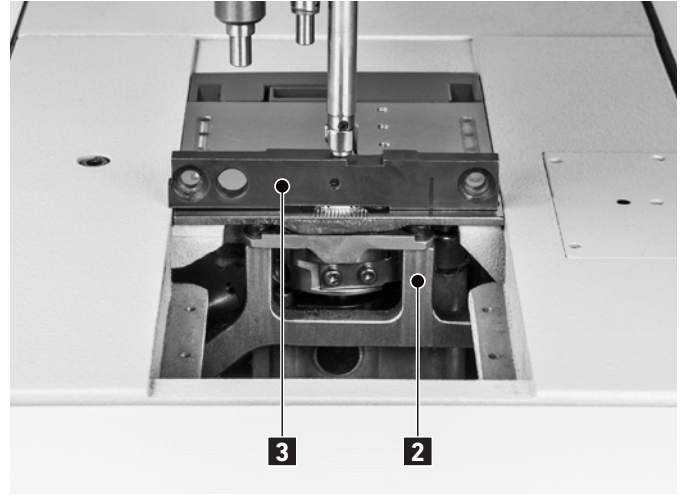
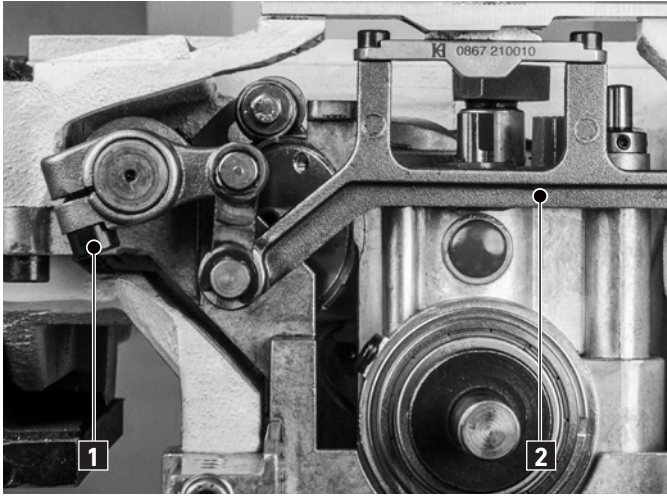





DISPLAY	STEP	DESCRIPTION
» ADJUSTMENT OF THE FEED DOG POSITION INSIDE THE STITCH PLATE		
01		Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).
02		»  Until chapter 15 appears on the display.
03		»  Confirm. i INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm .
04		Loosen screw 1 and screws 3 .
05		While screwing the feed dog with its screws make sure that they are in the middle of their hole.
06		Tighten the stitch plate to the machine.
07		By using the mechanical handwheel, turn the needle bar with the gauge pin 4 , downwards into the needle hole.
08		Move the feed dog carrier 2 to position the gauge pin 4 exactly in the middle of the needle hole.
09		Make sure that the feed dog is not touching the stitch plate. Tighten screws 1 and 3 .
10		»  Confirm to proceed to the next step.

03. ADJUSTMENT

16. ADJUSTMENT OF THE FEED DOG HEIGHT

NOTE: At stitch length **0** the feed dog should be in its highest position, **0.8mm** above the stitch plate.



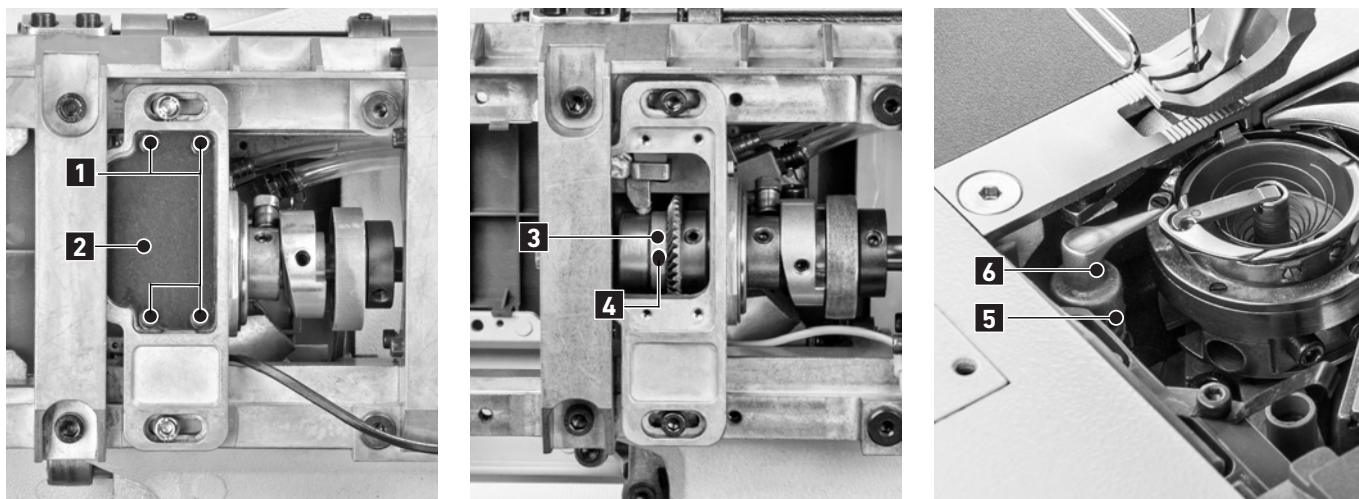
DISPLAY	STEP	DESCRIPTION
» ADJUSTMENT OF THE FEED DOG HEIGHT		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	»  Until chapter 16 appears on the display.	
03	»  Confirm.	INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm .
04	Turn the feed dog in its top dead center (190°) with the mechanical handwheel.	
05	Loosen screw 1 until the feed dog carrier 2 can be easily moved up and down.	
06	Put the gauge 3 on the stitch plate.	
07	Press the feed dog carrier 2 with the feed dog upwards until the surface of the feed dog is touching the gauge 3 .	
08	Tighten screw 1 .	
09	»  Confirm to proceed to the next step.	

03. ADJUSTMENT

17. PREADJUSTMENT OF THE BOBBIN CASE OPENER

NOTE: At **285°** the bobbin case opener lever should just have arrived in its right dead center.

INFO: In chapter **03.35**, the bobbin case opener timing needs to be tested during the sewing test and will be **finally** adjusted.

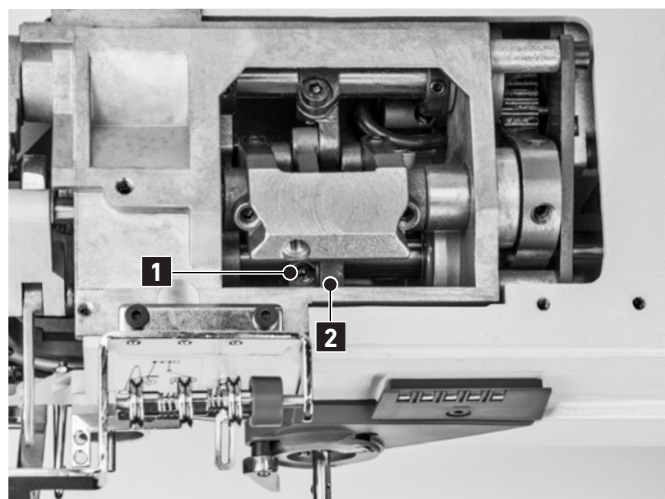
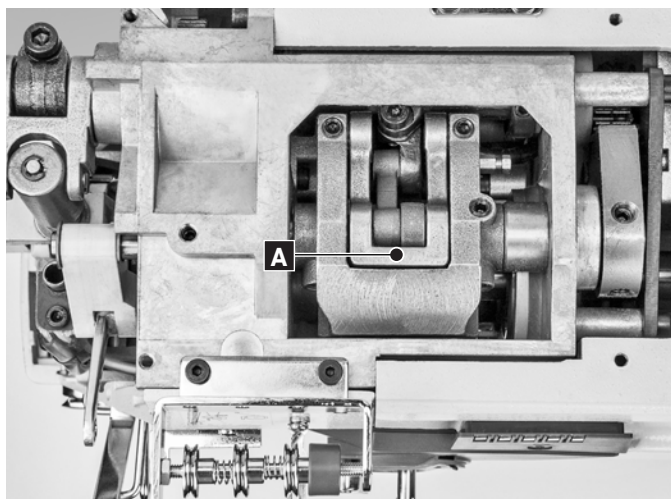





DISPLAY	STEP	DESCRIPTION
» PREADJUSTMENT OF THE BOBBIN CASE OPENER		
01		Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).
02	»	Until chapter 17 appears on the display.
03	»	Confirm. INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm .
04		Remove the screws 1 and the cover 2 .
05		Loosen screw 3 of the bobbin case opener eccentric 4 until it can easily be turned.
06		Loosen screw 5 and move the bobbin case opener lever 6 to prevent it from jamming the bobbin case.
07		Turn the machine to the 285° position with the mechanical handwheel.
08		In this position turn the bobbin case opener eccentric 4 in sewing direction until the bobbin case opener lever 6 reaches its right dead center.
09		Tighten screw 3 .
10		Reassemble the cover 2 and tighten screw 1 .
11	»	Confirm to proceed to the next step.

03. ADJUSTMENT

18. TOP FEED ECCENTRIC

NOTE: At **190°** the crank **A** of the stitch regulator should be in the top dead center.

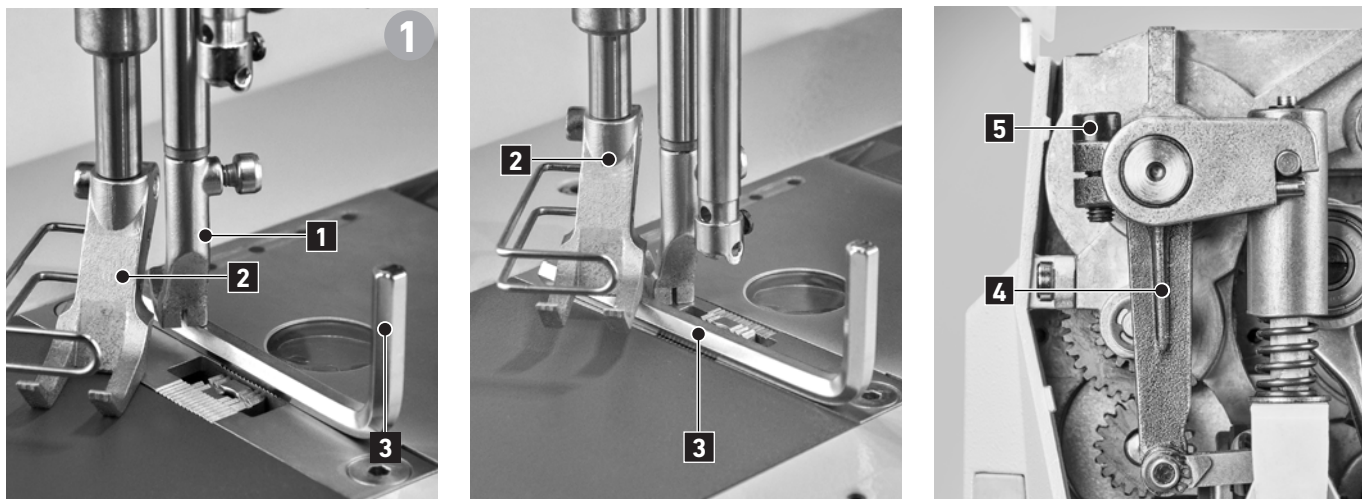


DISPLAY	STEP	DESCRIPTION
» TOP FEED ECCENTRIC		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	»  Until chapter 18 appears on the display.	
03	»  Confirm.	INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm .
04	Loosen the screw 2 of the top feed eccentric.	
05	Turn the machine to the 190° position with the mechanical handwheel.	
06	In this position turn the eccentric until the crank A reaches the top dead center.	
07	Tighten the screw 2 .	
08	»  Confirm to proceed to the next step.	

03. ADJUSTMENT

19. TOP FEED STROKE

NOTE: The sewing feet should lift evenly at a top feed stroke of **5mm**.



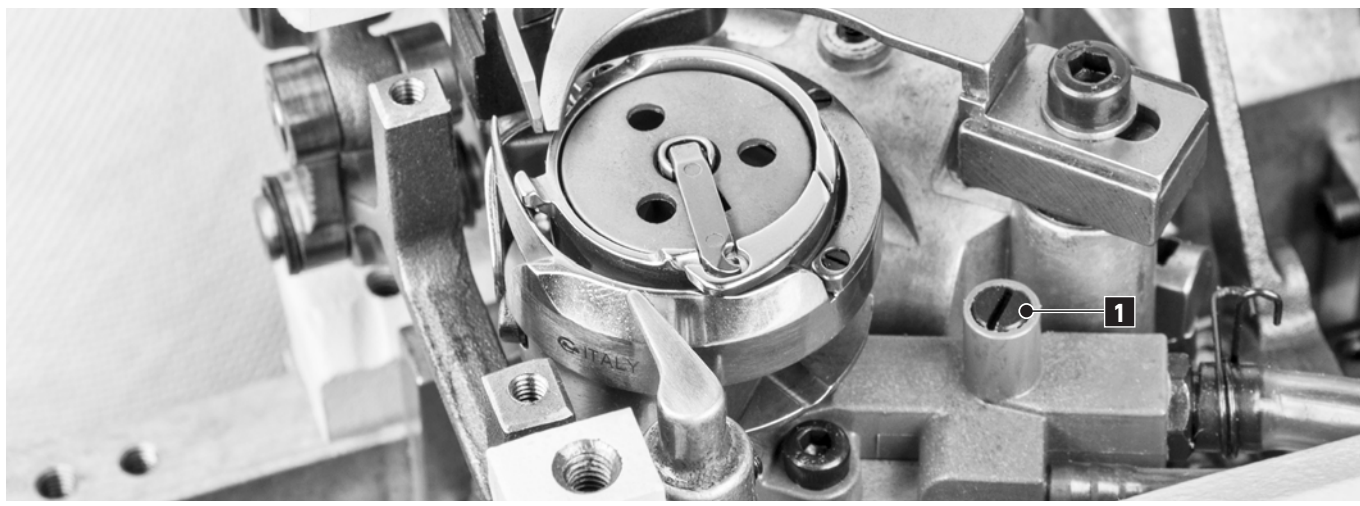
DISPLAY	STEP	DESCRIPTION
» TOP FEET STROKE		
	01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).
	02	» Until chapter 19 appears on the display.
	03	» Confirm.
	04	Remove the needle.
	05	Tighten the sewing feet 1 and 2 to the machine as in image 1.
	06	By turning the mechanical hand wheel, the feet should lift equally
	07	Loosen screw 5 and move the lever 4 until the lift of the feet is equal.
	08	Check the equal lift with the allen key 3 .
	09	Tighten screw 5 .
	10	Remount the needle and feet correctly.
	11	» Confirm to proceed to the next step.


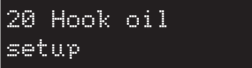




i **INFO:** The **stitch length** is set to **0mm** and the top feed stroke to **5mm**. Footlifting via pedal is possible but the electrical machine run is blocked.

03. ADJUSTMENT

20. HOOK OIL SUPPLY










NOTE: The hook should always be supplied with enough oil. Too little oil supply of the hook leads to increased noise and reduced seam quality. Too much oil causes staining of the sewing material.



DISPLAY	STEP	DESCRIPTION
» HOOK OIL SUPPLY		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	»  Until chapter 20 appears on the display.	
03	 »  Confirm.	i INFO: Stitch length and top feed stroke are set to 0mm , Footlift moves to 5mm . Machine can be controlled with the pedal up to it's maximum speed. The hook cover protection is disabled.
04	 Press the pedal.	
05	 DANGER OF CUTS While running the machine, put a paper strip beside the hook with UTMOST CAUTION .	
06	After 10 seconds the stripe should lightly be sprayed with oil.	
07	To adjust the amount of oil turn the screw 1 .	
TO REDUCE THE AMOUNT OF OIL	Turn the screw counter clockwise out.	
TO INCREASE THE AMOUNT OF OIL	Turn the screw clockwise in.	
08	»  Confirm to proceed to the next step.	

03. ADJUSTMENT

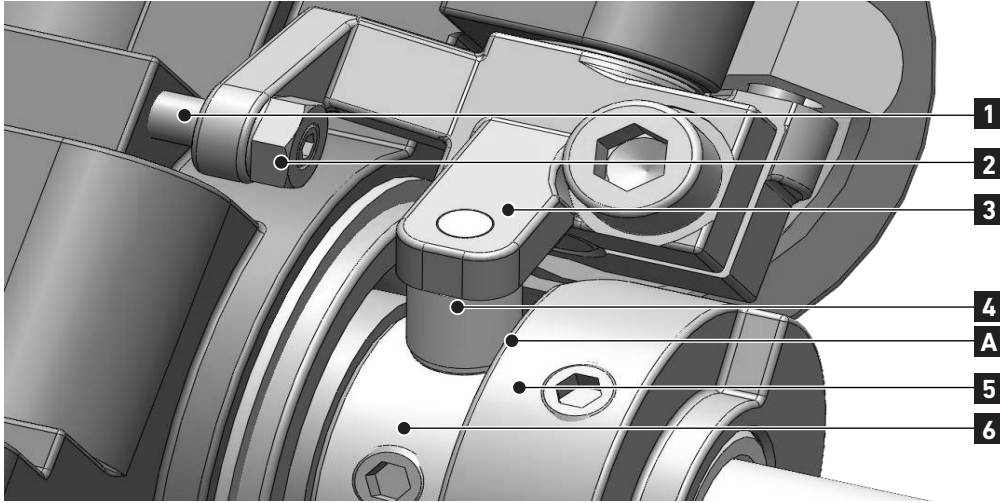
21. ADJUSTMENT OF THE STITCH LENGTH CORRECTION

DISPLAY	STEP	DESCRIPTION
» ADJUSTMENT OF THE STITCH LENGTH CORRECTION		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	»  Until chapter 21 appears on the display.	
03	 »  Confirm.	
04	 Press the pedal.	 INFO: Machine is set to 5mm stitch length and maximum speed 500 rpm . Forward and reverse sewing is possible. Backtack can be executed via switch or slider.
05	 Run the machine without thread on a sheet of paper approximately 15 stitches forward and then 15 reverse . Measure the distance of the same number of stitches forward and reverse and compare the results.	
06	»  If you want to make changes.	If the forward and reverse stitch length is not equal, adjust the value in the display by turning the jog key and repeat the measurement procedure.
07	»  Confirm.	
08	 SAVE (see 02.03. / Page 21).	

03. ADJUSTMENT

22. RESTING POSITION OF THE ROLLER LEVER

NOTE: In the resting position of the roller lever the roller should have a lateral distance of **0.1 to 0.3mm** to the control cam.



DISPLAY	STEP	DESCRIPTION
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» RESTING POSITION OF THE ROLLER LEVER

NOTICE: The resting position is factory set and should only be adjusted if necessary.

01 Activate the **ADJUSTMENT WIZARD** (see 02.01. / Page 19).

02 » Until chapter **22** appears on the display.

03 » Confirm. **INFO:** The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to **0mm**.

INFO: It is very important that the control cam **5** is touching the bushing **6**.

04 Turn the machine with the mechanical hand wheel into the shown position of the control cam **5**.

05 Loosen nut **2** and adjust the desired distance between roller lever **4** and control cam **5** of **0.1 to 0.3 mm** with the screw **1** to position **A**.

06 While turning the machine with the mechanical handwheel, the roller lever **4** should not jam with the control cam **5**.

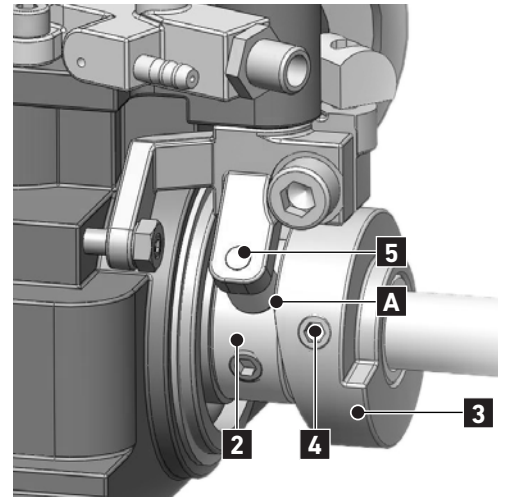
07 Tighten nut **2**.

08 » Confirm to proceed to the next step.

03. ADJUSTMENT

23. PREADJUSTMENT OF THE CONTROL CAM

NOTE: In the top dead center of the take up lever **1** the control cam **3** should be opposite roller **5** with the end of the curve seen in sewing direction **A**.



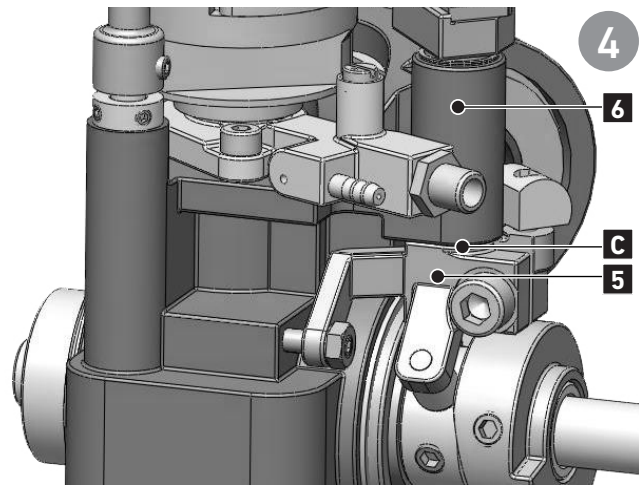
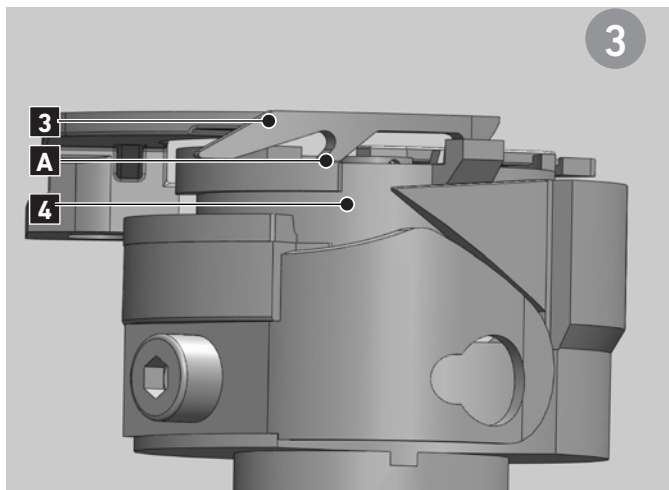
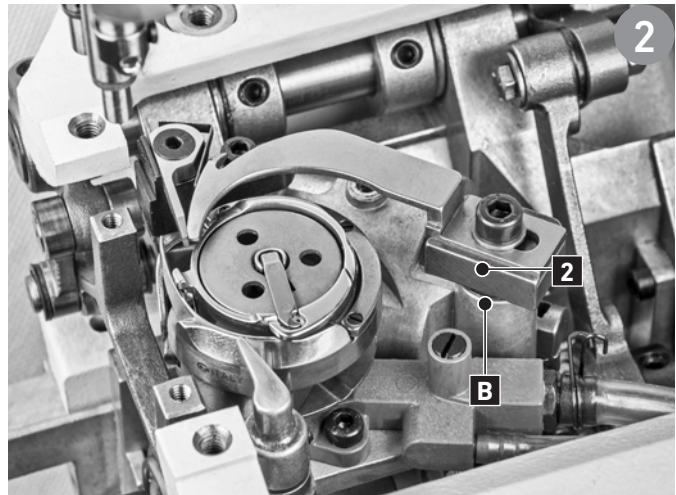
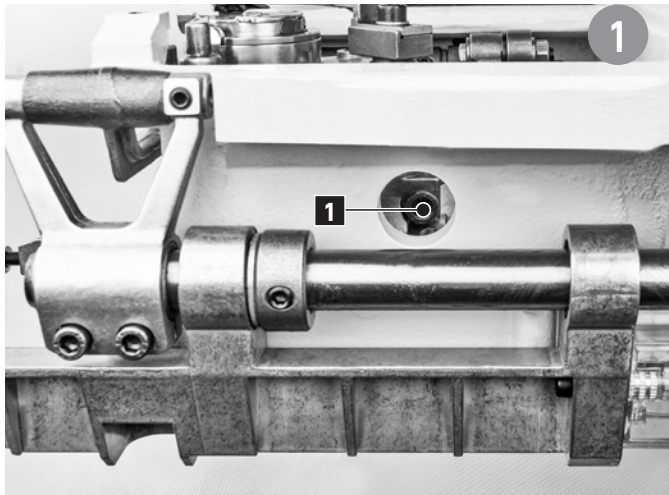
DISPLAY	STEP	DESCRIPTION
» PREADJUSTMENT OF THE CONTROL CAM		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	» Until chapter 23 appears on the display.	
03	» Confirm.	i INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm .
		i INFO: It is very important that the control cam 3 touches the bushing 2 at the left side.
04	Losen screw 4 of the control cam 3 .	
05	Turn the machine with the mechanical handwheel, the thread take-up lever 1 in the position top dead center.	
06	Turn the control cam 3 as described in the general rule.	
07	Tighten the screw 4 .	
08	» Confirm to proceed to the next step.	

03. ADJUSTMENT

24. THREAD CATCHER HEIGHT

-1-2

NOTE:
 The catcher **3** should move as close as possible above the bobbin case **4** without touching it. Position **A** approximately **0.1mm**.





DISPLAY	STEP	DESCRIPTION
» THREAD CATCHER HEIGHT		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	» Until chapter 24 appears on the display.	
03	» Confirm.	INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm .
<p>NOTICE: The height of the thread catcher is factory set through the use of washers. However, if a correction is necessary, add or remove washers at position B.</p>		
04	Loosen screw 1 to add or remove washers.	

03. ADJUSTMENT

24. THREAD CATCHER HEIGHT

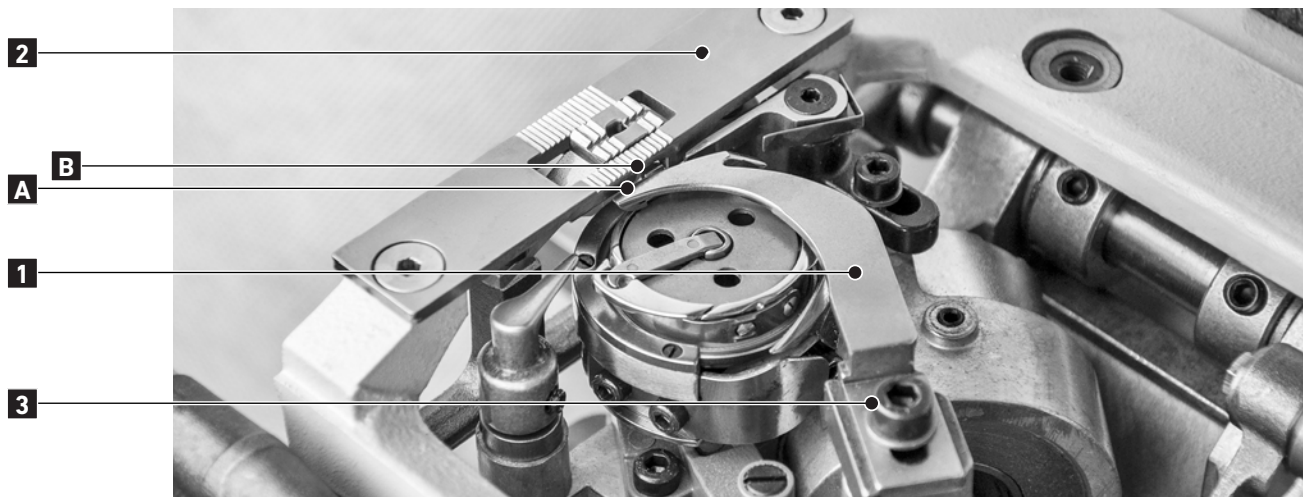
-2-2

DISPLAY	STEP	DESCRIPTION
»	THREAD CATCHER HEIGHT	
05		Pull the thread catcher support 2 away upwards.
06		If necessary add or remove washers.
	INFO	During the assembly of the thread catcher support 2 , be sure to put the washer C between the roller lever 5 and the hook saddle 6 .
07		Tighten screw 1 with taking care to avoid vertical play.
08		»  Confirm to proceed to the next step.

03. ADJUSTMENT

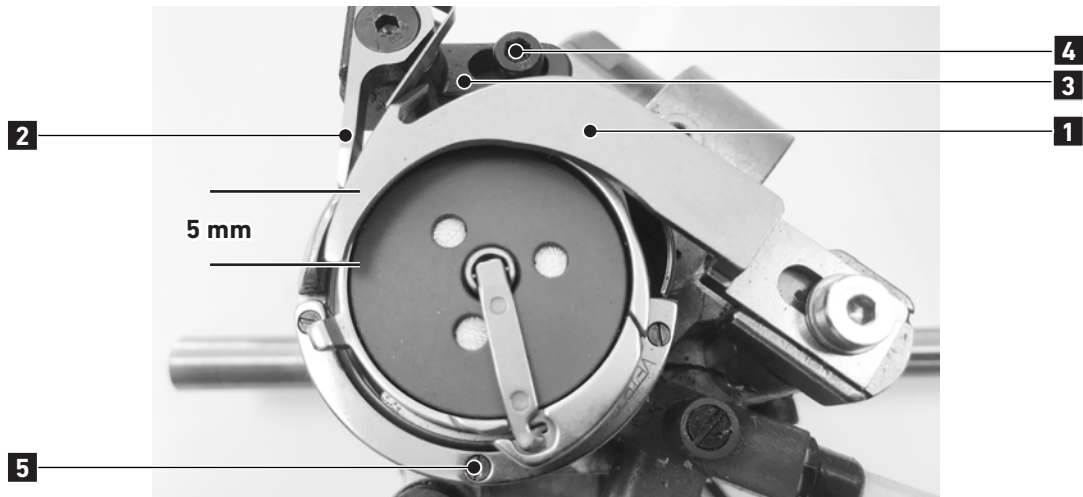
25. LATERALLY ADJUSTMENT OF THE THREAD CATCHER

NOTE: When in position **A** the thread catcher **1** should be congruent with edge **B** of the stitch plate **2** but not touching.



DISPLAY	STEP	DESCRIPTION
» LATERALLY ADJUSTMENT OF THE THREAD CATCHER		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	» Until chapter 25 appears on the display.	
03	» Confirm.	INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm .
04	Turn the machine with the mechanical hand wheel until the needle point is positioned below the stitchplate coming from bottom dead position.	
05	Loosen screw 3 and move the thread catcher 1 according the general rule.	
06	Tighten screw 3 .	
07	Move the thread catcher by hand to make sure that it is not touching the stitch plate in any position.	
08	» Confirm to proceed to the next step.	

NOTE: The knife pressure should only be strong enough for reliable thread cutting.

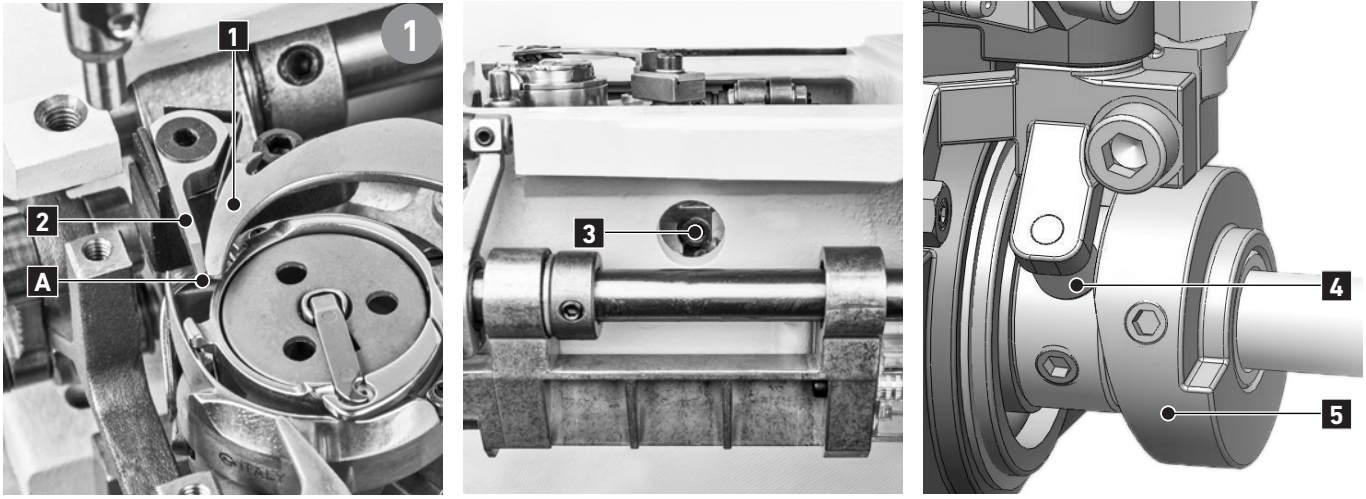


DISPLAY	STEP	DESCRIPTION
» KNIFE POSITION AND PRESSURE		
<p>NOTICE: The knife pressure needs to be adjusted depending on the thread in use. Adjusting the pressure too strongly leads to premature wear and possible malfunction of the thread cutting device.</p>		
	01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).
	02	» Until chapter 26 appears on the display.
	03	» Confirm. INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm .
	04	Turn the machine with the mechanical hand wheel until the middle screw 5 of the hook grip is at the front.
	05	Loosen screw 4 , until the knife carrier 3 can swing.
	06	Move the thread catcher 1 until the point has a distance to the cutting edge of the knife 2 of 5mm .
	07	In this position turn the knife carrier 3 until the cutting edge of the knife 2 touches the catcher 1 .
	08	Tighten screw 4 .
	09	Check the cutting pressure according to the general rule.
	10	» Confirm to proceed to the next step.

03. ADJUSTMENT

27. THREAD CATCHER RESTING POSITION

NOTE: In resting position of the thread catcher **1** the cutting edge of the knife **2** should be in line with the point of the thread catcher **1** (**A**).



DISPLAY	STEP	DESCRIPTION
» THREAD CATCHER RESTING POSITION		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	» Until chapter 27 appears on the display.	
03	» Confirm.	i INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm .
04	Turn the machine by hand so that the thread cutting operation is safely completed.	
05	Loosen screw 3 .	
06	Move the thread catcher 1 until its point is in line with the cutting edge of the knife 2 as shown in image 1(A).	
07	With attention to the secure touching of the roller lever 4 to the control cam 5 , tighten screw 3 .	
	NOTICE: Avoid vertical play.	
08	» Confirm to proceed to the next step.	

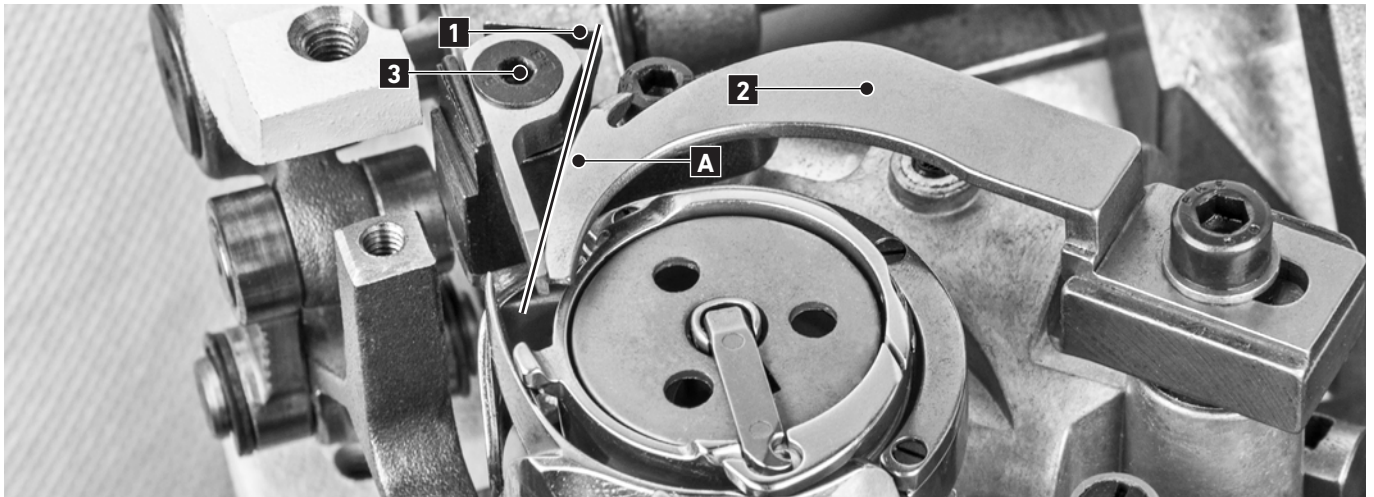
03. ADJUSTMENT







28. BOBBIN THREAD CLAMP



NOTE:

In resting position of the thread catcher **2** the bobbin thread clamp **1** should touch the line **A** without pressure. After the thread cutting procedure the bobbin thread should be securely held.



DISPLAY	STEP	DESCRIPTION
» BOBBIN THREAD CLAMP		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	»  Until chapter 28 appears on the display.	
03	 »  Confirm.	 INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm .
04	Turn the machine by hand so that the thread cutting operation is safely completed.	
05	Loosen screw 3 and turn the bobbin thread clamp 1 until it touches the thread catcher in line A .	
06	Tighten screw 3 .	
	 NOTICE: The bobbin thread should not be clamped too hard. After the first stitch the needle thread should have pulled it out of the clamp.	
07	»  Confirm to proceed to the next step.	

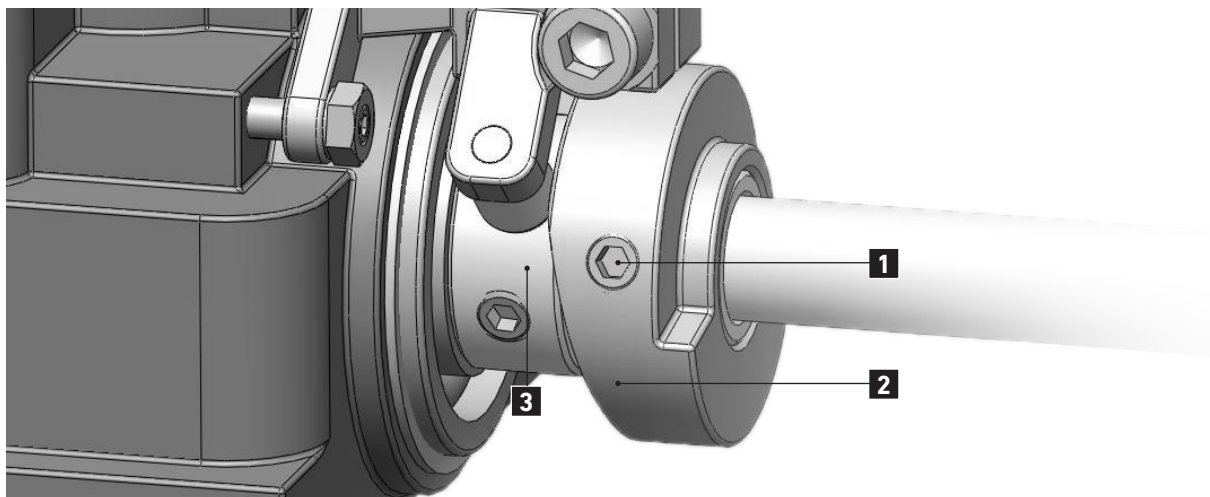
03. ADJUSTMENT





29. THREAD CUTTING TIMING (CONTROL CAM)



NOTE:

At top dead center of the take up lever (**about 57°-60°**) the thread cutting process should be securely finished.






DISPLAY	STEP	DESCRIPTION
»	THREAD CUTTING TIMING (CONTROL CAM)	
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	»  Until chapter 29 appears on the display.	
03	»  Confirm.	 INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm .
04	Loosen screw 1 of the control cam 2 .	
05	Turn the machine with the mechanical hand wheel to its 57° position.	
06	Turn the control cam 2 until the thread cutting process is securely finished.	
07	With attention to the control cam touching bushing 3 at the left, tighten screw 1 .	
08	»  Confirm to proceed to the next step.	



NOTE:

The tension of the thread take up spring should be strong enough to secure keeping the needle thread tight while entering of the needle point into the sewing material.

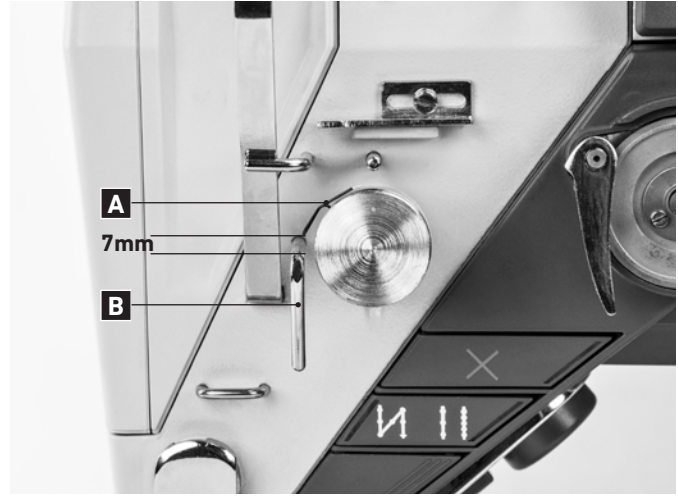






DISPLAY	STEP	DESCRIPTION
» ADJUSTMENT OF THE THREAD TAKE UP SPRING TENSION		
<p>! NOTICE: The tension of the thread take up spring needs to be adjusted in relation to the thread and sewing material in use. The force should always be lower than the needle thread tension and it has strong influence on the seam quality.</p>		
01		Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).
02		»  Until chapter 30 appears on the display.
03		<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 10px;">30 Takeup spring force setup</div> <div>»  Confirm.</div> <div style="margin-left: 20px;"> <p>i INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm.</p> </div> </div>
04		Loosen screw 1 and turn the rear tension disk 2 clockwise until reaching the desired tension adjustment.
05		Tighten screw 1 .
06		»  Confirm to proceed to the next step.

03. ADJUSTMENT

31. ADJUSTMENT OF THE THREAD TAKE UP SPRING TRAVEL / 1-NEEDLE

NOTE:
 The thread tension spring **2** should keep the needle thread tight, from the time thread take-up lever top position to needle eye entering into the material.
 The thread take up spring movement should be **7mm**.



DISPLAY	STEP	DESCRIPTION
» ADJUSTMENT OF THE THREAD TAKE UP SPRING TRAVEL		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	»  Until chapter 31 appears on the display.	
03	»  Confirm.	INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm .
04	Loosen screw 1 .	
05	Turn the bushing 2 until the thread take up spring A has a distance of 7mm to the thread guide B .	
	NOTICE:  Make sure that the collar is pressed back to the stop.	
06	Tighten screw 1 .	
07	»  Confirm to proceed to the next step.	

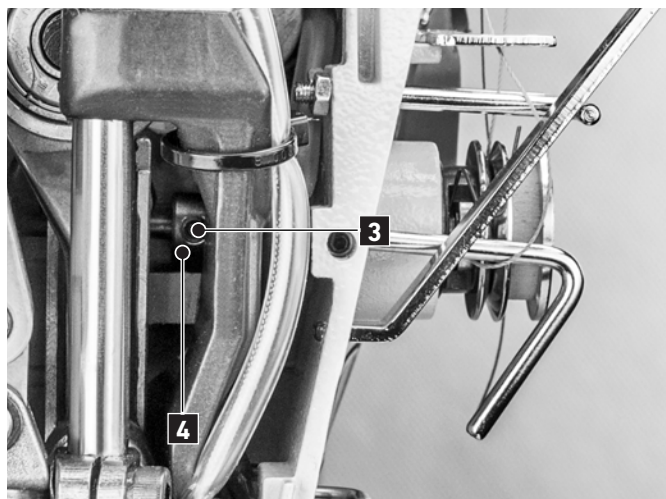
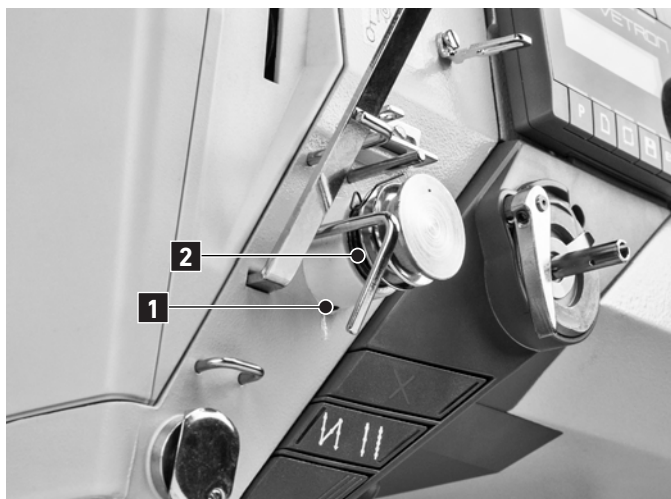
DISPLAY	STEP	DESCRIPTION
» THREAD TENSION SERVICE		
01		Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).
02		» Until chapter 32 appears on the display.
03		» Confirm.
04		Via JOG KEY the following functions are available:
	A	Threadtension testing
	B	Threadtension moving
	C	Threadtension assembling
	D	Threadtension setup leaving
05		» Confirm to proceed to the next step.

DISPLAY	STEP	DESCRIPTION
» THREAD TENSION CHECK		
04A		» Until chapter THREAD TENSION CHECK appears on the display.
05A		» Confirm. INFO: Thread tension device is going to be initialized. The actual thread tension is displayed.
06A		» By turning the JOG KEY , the value can be altered from 0 to 100% . The thread tension can be checked with a measuring device.
07A		» To proceed to the next step.

03. ADJUSTMENT


32. THREAD TENSION SERVICE / 1-NEEDLE



-2-4



DISPLAY	STEP	DESCRIPTION
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» DISASSEMBLY OF THE THREAD TENSION

04B »  Until chapter **THREAD TENSION MOVING** appears on the display.

05B  »  Confirm.


06B  »  By turning the **JOG KEY**, the motor axis can be moved forward or reverse.

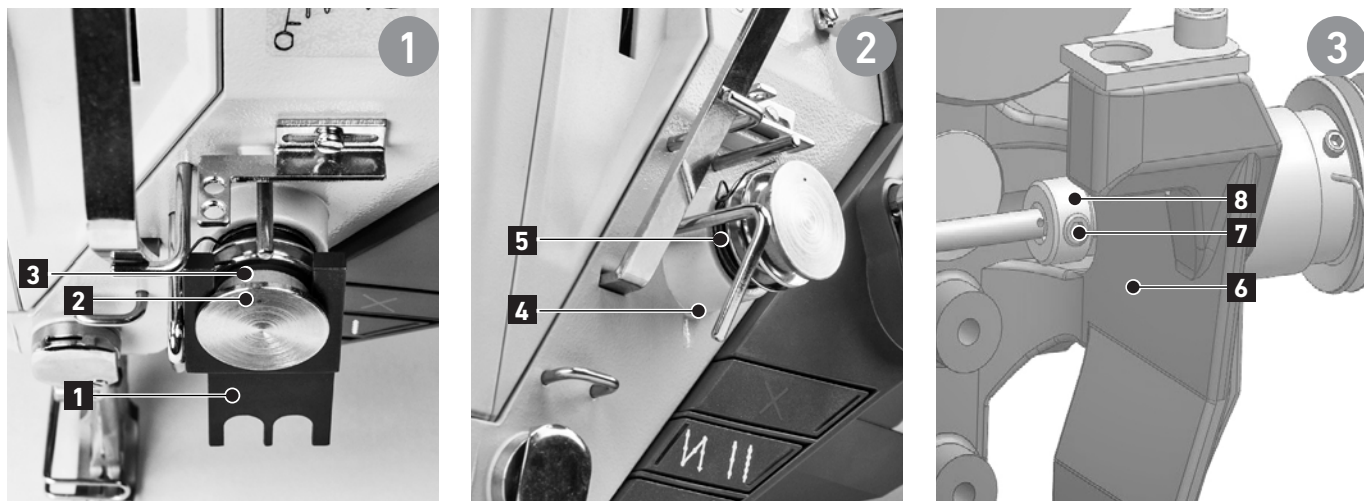
07B Move the motor shaft so that screw **3** from collar **4** can be reached.





08B Loosen screw **1** from bushing **2** and screw **3** from collar **4**.

09B Pull out the complete thread tension device.

10B »  To proceed to the next step.

 **INFO:**
To remove or install the collar, the motor shaft is fully retracted.
This allows the positioning ring to be taken out or reused.

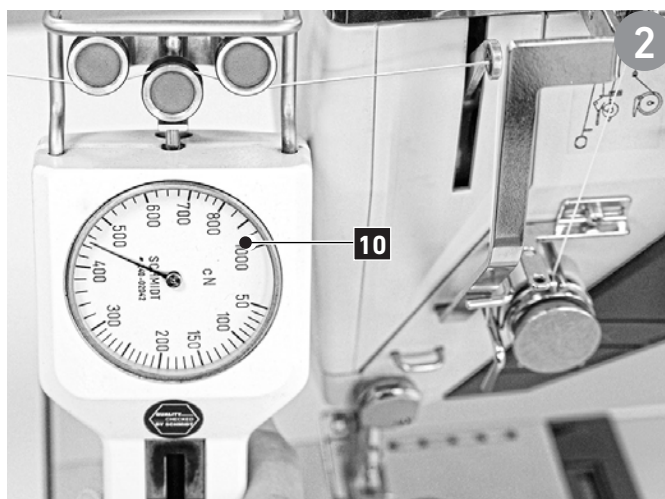
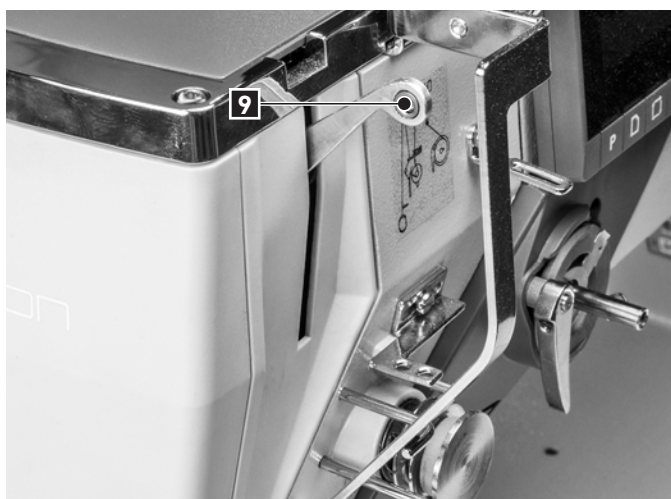


DISPLAY	STEP	DESCRIPTION
» ASSEMBLY AND ADJUSTMENT OF THE THREAD TENSION		
04C	»  Until chapter THREADTENSION ASSEMBLY appears on the display.	
05C	»  Confirm.	 INFO: In this function the thread tension stepper motor moves automatically into its assembly position.
06C	Put the thread tension into the machine. Make sure that the small mark 2 is positioned to the top. The bushing 5 must be moved inside the housing to the stop.	
07C	The bushing 5 should be adjusted as described in step 03.31 .	
08C	Push the gauge 1 over the elastic part 3 (image 1).	
09C	Press part 2 against gauge 1 until there is no play.	
10C	In this position place the hexagon key in screw 7 .	
11C	Move the collar 8 to the right until the hexagon key is touching the needle bar frame 6 (image 3).	
12C	Tighten screw 7 in this position.	
13C	»  Confirm.	

03. ADJUSTMENT

32. THREAD TENSION SERVICE / 1-NEEDLE

-4-4



DISPLAY	STEP	DESCRIPTION
» ASSEMBLY AND ADJUSTMENT OF THE THREAD TENSION		
<p>! NOTICE: The thread tension is set at 50% to have sufficient adjustment range up and down.</p>		
14C	Set tensionA for 50% 157	Turn the machine with the mechanical handwheel, the thread take-up lever 9 in the position top dead center.
15C		Thread the thread tension and measuring device 10 as shown in image 2 and measure tension. Turn JOG KEY until the thread tension device shows 450 -500g .
16C		» Confirm.
17C	Set tensionA for 0% 157	» Turn until the thread tension plates are touching each other slightly without force.
18C		» Confirm.
19C	YES/NO SAVE	Save (see 02.03. / Page 21).

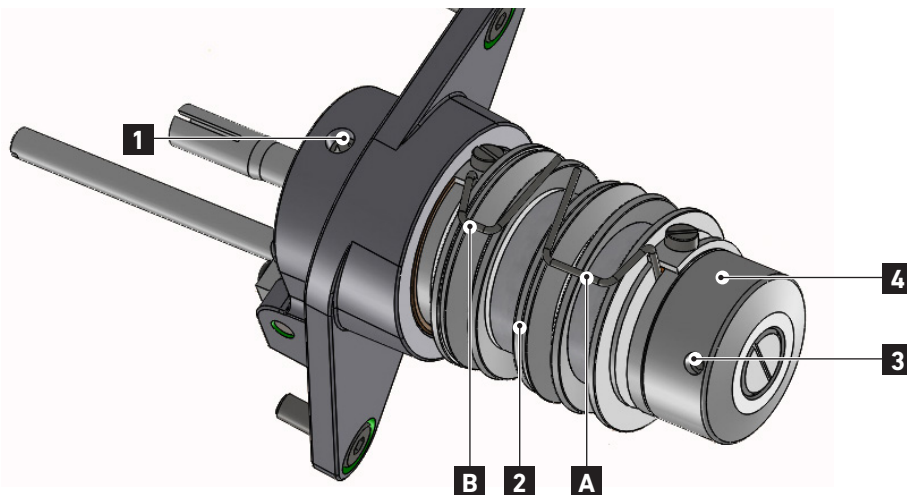
03. ADJUSTMENT

30.01. ADJUSTMENT OF THE THREAD TAKE UP SPRING TENSION / 2-NEEDLE



NOTE:

The tension of the thread take up spring should be strong enough to secure keeping the needle thread tight while entering of the needle point into the sewing material.

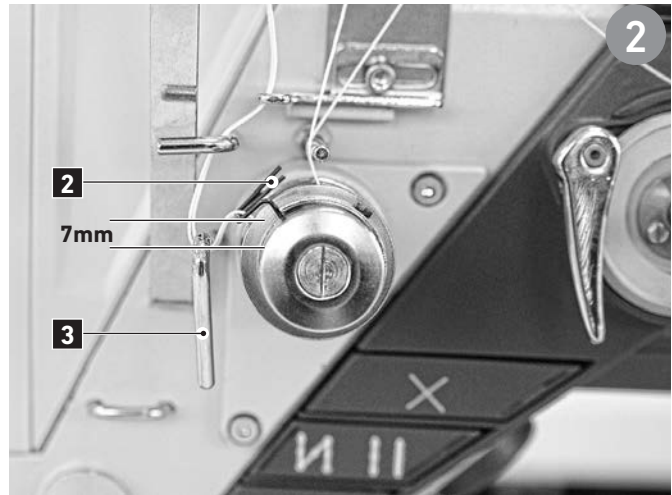
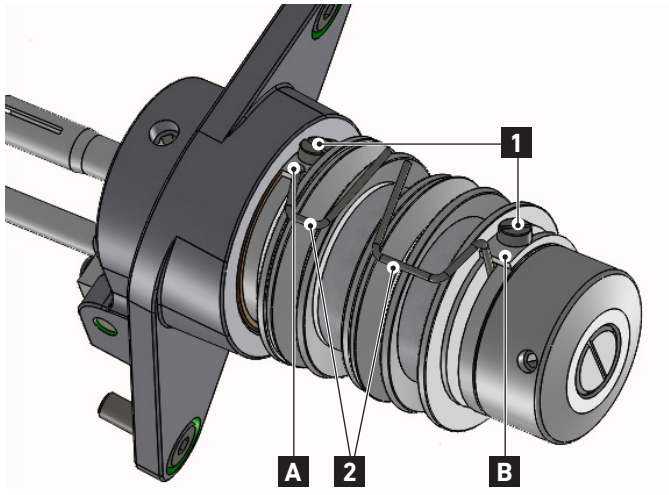


DISPLAY	STEP	DESCRIPTION
» ADJUSTMENT OF THE THREAD TAKE UP SPRING TENSION		
<p>NOTICE: The tension of the thread take up spring needs to be adjusted in relation to the thread and sewing material in use. The force should always be lower than the needle thread tension. It has strong influence on the seam quality.</p>		
01		Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).
02		» Until chapter 30 appears on the display.
03		<p> Confirm.</p> <p>INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm.</p>
04		To adjust thread tension spring B loosen screw 1 and turn the knurled washer 2 clockwise until the desired pretension is reached.
05		Tighten screw 1 .
06		To adjust thread tension spring A loosen screw 3 and turn the bushing 4 clockwise until the desired pretension is reached.
07		Tighten screw 3 .
08		» Confirm to proceed to the next step.



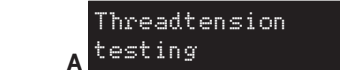
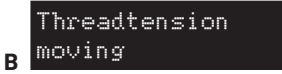
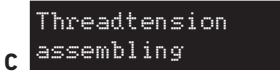
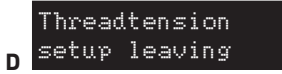

03. ADJUSTMENT






31.01. ADJUSTMENT OF THE THREAD TAKE UP SPRING TRAVEL / 2-NEEDLE

NOTE:
 The thread tension springs **2** should keep the needle thread tight, from the time thread take-up lever top position to needle eye entering into the material.
 The thread take up spring movement should be **7mm**.



DISPLAY	STEP	DESCRIPTION
» ADJUSTMENT OF THE THREAD TAKE UP SPRING TRAVEL		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	» Until chapter 31 appears on the display.	
03	» Confirm.	INFO: The pedal is blocked. While turning by hand the display shows the machine position in degrees. Stitch length is set to 0mm .
04	Loosen screws 1 .	
05	Move the stops A and B until the thread take up spring 2 has a distance of 7mm to the thread guide 3 .	
06	Tighten screws 1 .	
07	» Confirm to proceed to the next step.	

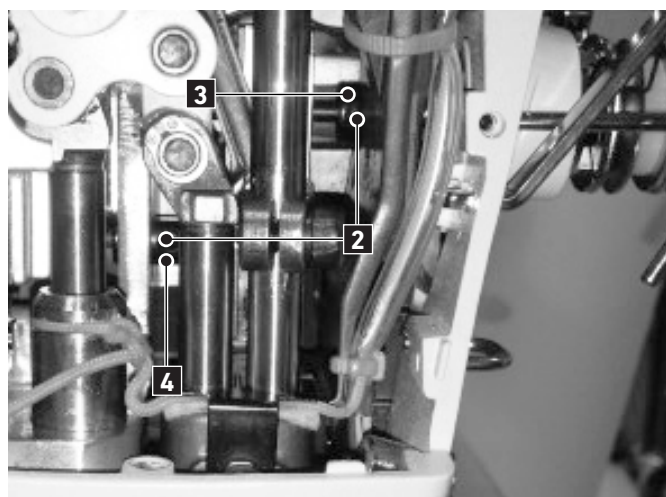
DISPLAY	STEP	DESCRIPTION
» THREAD TENSION SERVICE		
01		Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).
02		»  Until chapter 32 appears on the display.
03		»  Confirm.
Via JOG KEY the following functions are available:		
04		<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>A</p> </div> <div style="text-align: center;">  <p>B</p> </div> <div style="text-align: center;">  <p>C</p> </div> <div style="text-align: center;">  <p>D</p> </div> </div>
05		»  Confirm to proceed to the next step.

DISPLAY	STEP	DESCRIPTION
» THREAD TENSION CHECK		
04A		»  Until chapter THREAD TENSION CHECK appears on the display.
05A		»  Confirm.  INFO: Thread tension device is going to be initialized. The current thread tension is displayed.
06A		»  By turning the JOG KEY the value can be altered from 0 to 100% . The thread tension can be checked with a measuring device.
07A		»  To proceed to the next step.

03. ADJUSTMENT


32.01. THREAD TENSION SERVICE / 2-NEEDLE

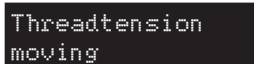

-2-5



DISPLAY	STEP	DESCRIPTION
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» DISASSEMBLY OF THE THREAD TENSION

04B »  Until chapter **THREAD TENSION MOVING** appears on the display.

05B  »  Confirm.


06B  »  By turning the **JOG KEY** the motor axis can be moved forward or reverse.

07B Move the motor shaft so that screw **2** from collar **3** and bushing **4** can be reached,

08B Loosen screws **1** and **2**.

09B Pull out the complete thread tension device.

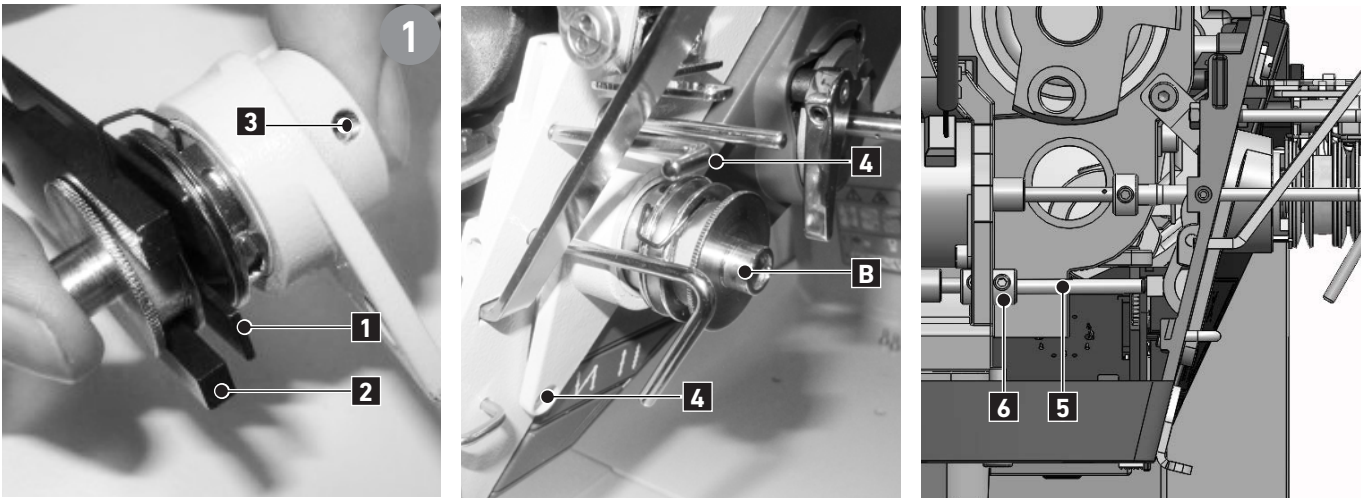
10B »  To proceed to the next step.




 **NOTICE:**
To remove or install the collar, the motor shaft is fully retracted.
This allows the positioning ring to be taken out or reused.

03. ADJUSTMENT

32.01. THREAD TENSION SERVICE / 2-NEEDLE

-3-5

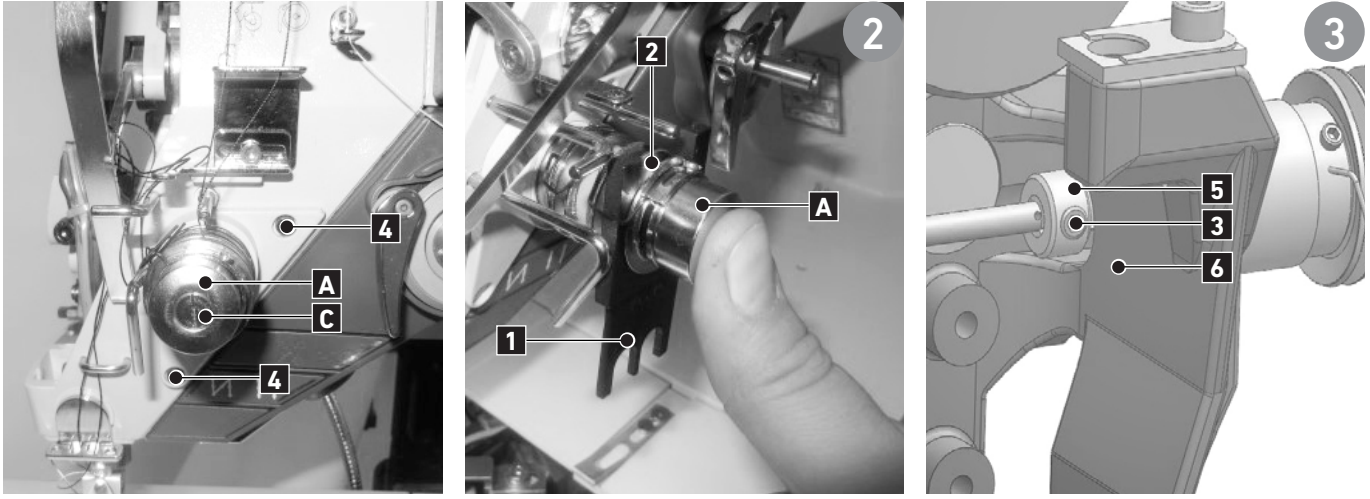


DISPLAY	STEP	DESCRIPTION
»	ASSEMBLY OF THE THREAD TENSION "B"	
04C	»  Until chapter THREAD TENSION ASSEMBLY appears on the display.	
05C	»  Confirm.	 INFO: In this function the thread tension stepper motor is moving automatically into its assembly position.
06C	In disassembly state put the gauge 1 between the thread tension discs and put the gauge 2 over the elastic part. (image 1).	
07C	Press all parts together and preload tension of the thread tension spring.	
08C	In this position tighten screw 3 .	
09C	Mount thread tension B .	
10C	Place shaft 5 into bushing 6 .	
11C	Slightly tighten screws 4 .	
12C	Then tighten screw from bushing 6 .	

03. ADJUSTMENT

32.01. THREAD TENSION SERVICE / 2-NEEDLE

-4-5

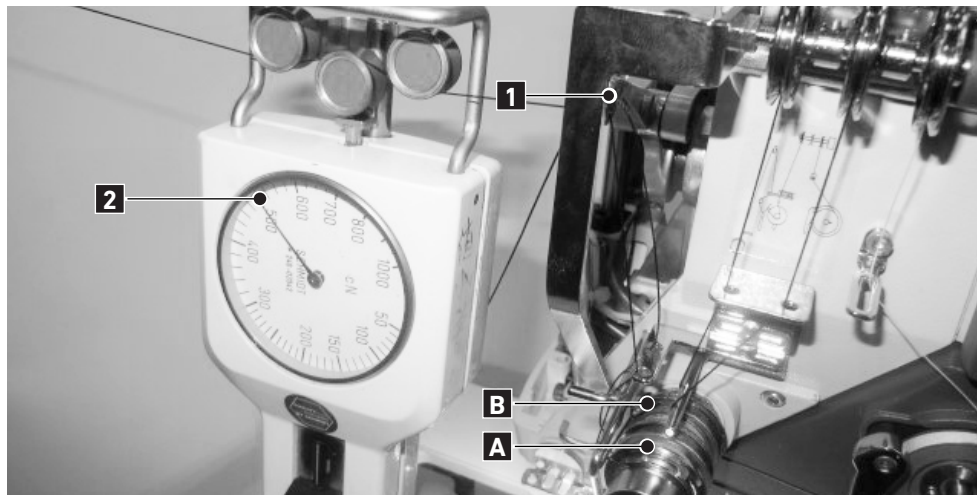








DISPLAY	STEP	DESCRIPTION
» ASSEMBLY OF THE THREAD TENSION "A"		
13C		Mount thread tension A into the machine. Be aware that the slot C is vertical and the thread tension spring is to the left.
14C		Push gauge 1 over the elastic part 2 .
15C		Press thread tension A against gauge 1 until there is no play (image 2).
16C		In this position place hexagon key into screw 3 .
17C		Move the collar 5 to the right until the hexagon key is touching the needle bar frame 6 (image 3).
18C		In this position tighten 3 .
19C	» Confirm.	INFO: Thread tension closes.
20C		Loosen screws 4 so that the surface tension of the plate can be released.
21C		Tighten screws 4 .
22C	» Confirm.	

03. ADJUSTMENT

32.01. THREAD TENSION SERVICE / 2-NEEDLE

-5-5

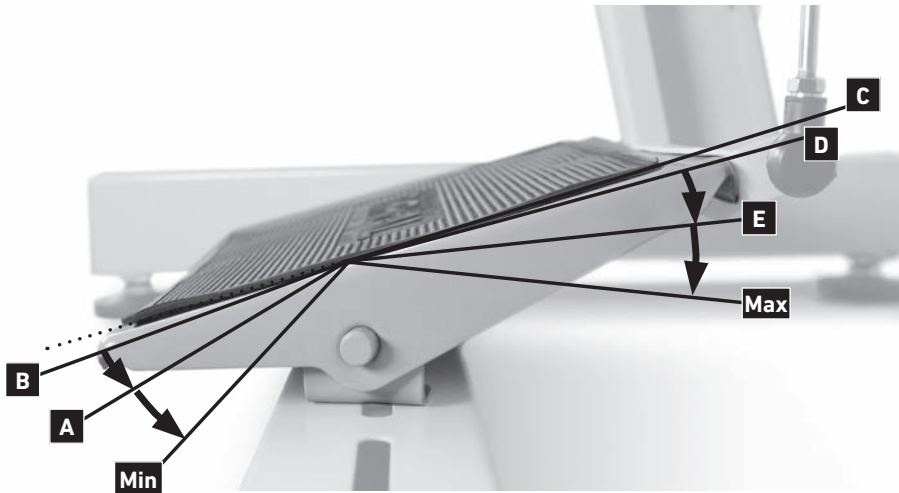


DISPLAY	STEP	DESCRIPTION
»	ADJUSTMENT OF THE THREAD TENSION "A" AND "B"	
23C	Set tensionA for 50% 157	Turn thread take-up lever 1 in top dead position.
24C		Thread the thread tension A and measuring device 2 as shown in image and measure tension. Turn JOG KEY until the thread tension device shows 450 -500g.
25C		»  Confirm.
26C	Set tensionB for 50% 157	Thread the thread tension B and measuring device 2 as shown in image and measure tension. Turn JOG KEY until the thread tension device shows 450 -500g.
27C		»  Confirm.
28C	Set tensionA for 0% 157	»  Turn until the thread tension plates A are touching each other slightly without force.
29C		»  Confirm.
30C	Set tensionB for 0% 157	»  Turn until the thread tension plates B are touching each other slightly without force.
31C		»  Confirm.
32C	YES/NO SAVE	SAVE (see 02.03. / Page 21).

03. ADJUSTMENT

33. PEDAL

i **INFO:** Optional wizard to optimize interaction with the pedal.



DISPLAY	STEP	DESCRIPTION
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» PEDAL

01 Activate the **ADJUSTMENT WIZARD** (see 02.01. / Page 19).

02 »  Until chapter **33** appears on the display.

03  »  Confirm. **i** **INFO:** Machine run is blocked.

Via **JOG KEY** the following functions are available:

A 	B 	C 	D 	E 
F 	G 	H 	I 	

A  Press the pedal. The actual areas are displayed.

B-G Choose **B-G**, and move the pedal to desired position, and press the **JOG KEY** to confirm. **INFO:** The software will automatically switch to the testing position again.

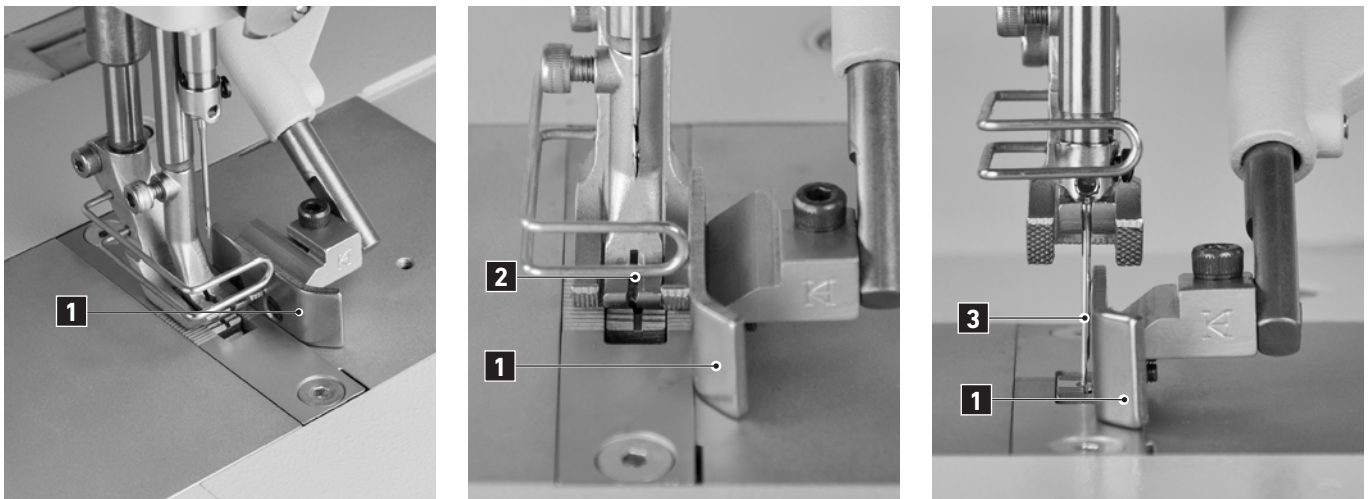
H  »  Confirm to reset to the default values.

I  »  Confirm to proceed to the next point.

04  **SAVE** (see 02.03. / Page 21).

03. ADJUSTMENT

34. ELECTRICAL EDGE GUIDE SETUP



DISPLAY	STEP	DESCRIPTION
» ELECTRICAL EDGE GUIDE SETUP		
	01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).
	02	» Until chapter 34 appears on the display.
	03	» Confirm.
	04	» To turn the electrical edge guide 1 on.
	05	» Confirm.
	06	» Until the electrical edge guide 1 just touches the foot 2 . INFO: Thread tension is initializing.
	07	» Confirm.
	08	Manually shift the foot 2 up und drag the needle 3 down.
	09	» Until the electrical edge guide 1 just touches the needle 3 .
	10	» Confirm.
	11	SAVE (02.03. / Page 21).

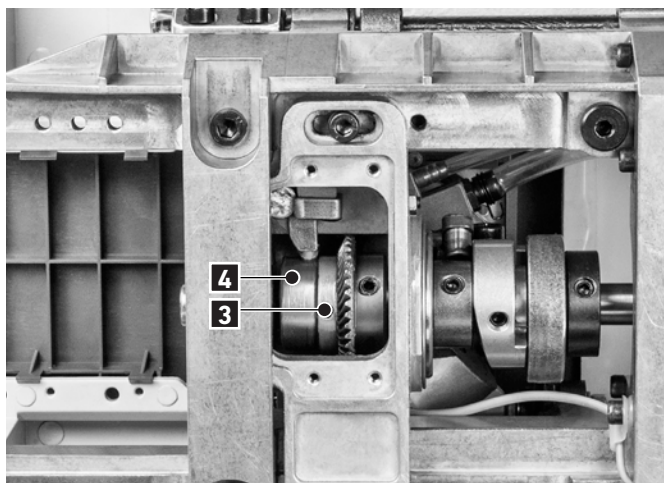
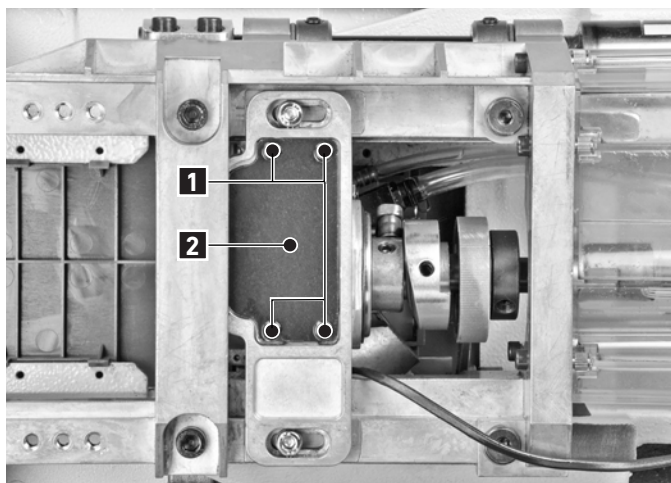
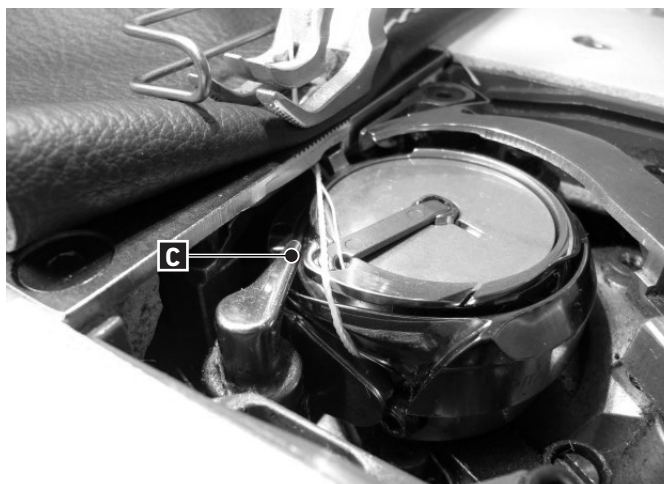
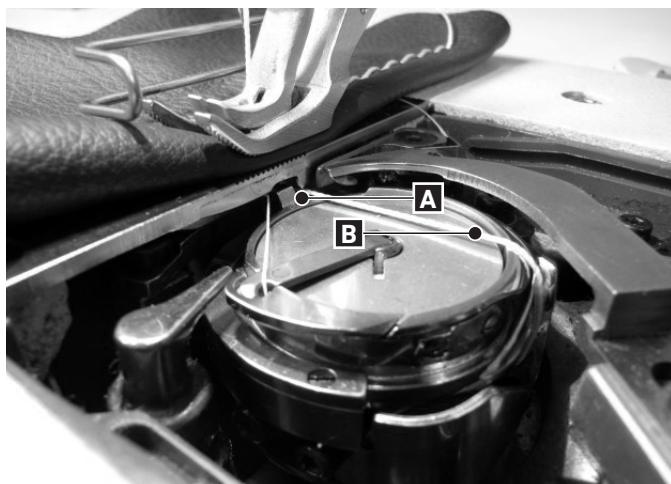
03. ADJUSTMENT


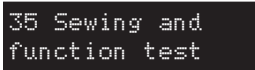

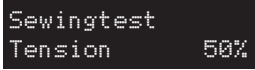



35. SEWING AND FUNCTIONS CHECK

1-2

! NOTE:



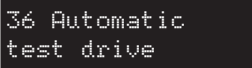


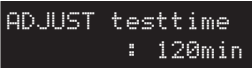




- » The bobbin case opener timing is set to **285°** in chapter **03.17**. Check and adjust in accordance with the note if any adjustment is necessary.
- » The thread **B** needs to be guided unhindered around the bobbin case when bypassing the upper thread around the hook. At the moment of the thread passage **A** the retaining finger of the bobbin capsule has to be open to such an extent that it can be passed without hindrance. The thread has to bypass position **C** without hindering as well.
- » Setting the bobbin case opener too small can lead to a poor stitch pattern. Setting the bobbin case opener too big leads to a high noise emission.



DISPLAY	STEP	DESCRIPTION
» SEWING AND FUNCTIONS CHECK		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	»  Until chapter 35 appears on the display.	
03	 »  Confirm.	
04	 Press the pedal.	 INFO: The testing program is used: Speed 2.000 rpm , 5mm stitch length, 3mm top feed stroke, 20% foot pressure, 20% thread tension start and end backtack with 3 stitches at 800 rpm , thread cutting active.
 NOTICE: As indicated in Chapter 03.17 . the final adjustment of the bobbin case opener is at the sewing trials.		
05	Loosen screws 1 of the cover 2 .	
06	Loosen screws 3 of the drive 4 .	
07	Turn the eccentric 4 according to the rule.	
08	Tighten screws 3 .	
09	Tighten screws 1 of the cover.	
10	»  To proceed to the next point.	

03. ADJUSTMENT

36. DURABILITY CHECK

DISPLAY	STEP	DESCRIPTION
» DURABILITY CHECK		
	INFO:	The machine can run automatically for a given period of time. During the procedure the test can run through a distinct pedal profile to test all functions. After the testing period the machine stops and the sewing light flashes.
	01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).
	02	»  Until chapter 36 appears on the display.
	03	»  Confirm.
	04	Press the pedal.
	05	»  Turn the JOG KEY to select the duration of the test.
	06	»  Confirm.
	07	Press the pedal to start the test.
		 INFO: By pressing the pedal forward or backward the test can be paused or restarted.
	08	»  To proceed to the next step.

04. SHORT THREAD CUTTER

01. ACTIVATING THE SHORT THREAD CUTTER



NOTICE:

After thread cutting the thread ends under the material should be as short as possible. To achieve this, a shortened stitch is performed before cutting, to position the thread ends close to each other.

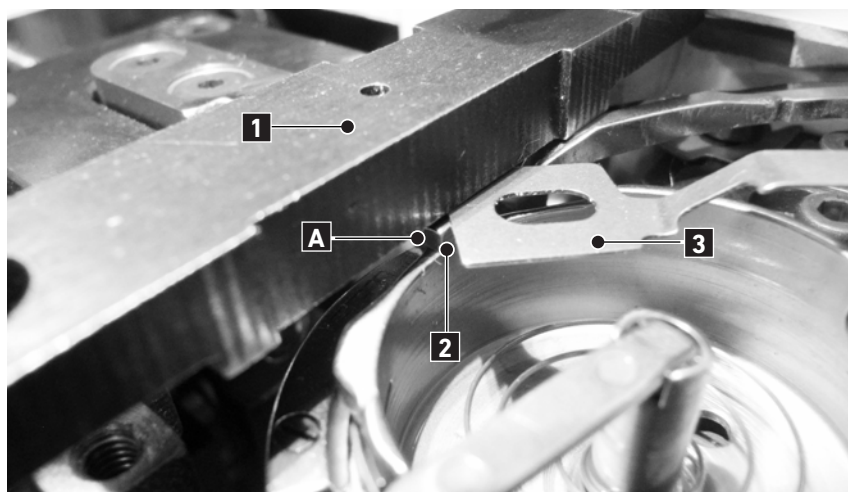
DISPLAY	STEP	DESCRIPTION
» ACTIVATE THE ADJUSTMENT WIZARD		
01	Turn the machine on.	
02	Wait until the message PRESS PEDAL appears in the display.	
03	PEDAL REMOVE MATERIAL	Press the pedal. INFO: After pressing the pedal the machine initializes itself.
04	001 TEST PROGRAMME	Press the PARAMETER KEY . » P
Via JOG KEY the following functions are available.		
	Service	Data manager
		Basic parameter
05	Basic parameter	» Turn the JOG KEY if necessary, until BASIC PARAMETER is appears on the display.
06		» Confirm.

#	Parameter	Display EN	Set Values
019	Stitch length	M019 9.0 mm Stitchlength max	6mm
153	Trim tension level	M153 -1% Trim tension lvl	-1%
154	Turn off position cutting magnet	M154 60.0 Pos trim end	356
155	Position mobile knife	M154 60.0 Pos trim end	310°
156	Trimming speed	M156 180 S/min Trimming speed	160 1/min
157	Thread tension in short cut stitch	M157 60.0 Reserved	5%
158	Trimming stitch count	M158 OFF Trim stitches	1
159	Trimming stitch length	M159 DEF Trim stitchlen	1.8mm
450	Output X2-1 function (Output mobile knife short thread cutter)	M450 OFF Output X2-1 func	ON
601	2 Position	M601 60.0 Position 2	70°

04. SHORT THREAD CUTTER

02. HOOK HEIGHT CHECK / ADJUSTMENT

NOTE: There must be a gap of **0.4mm** between the adjustment gauge **1** and the bobbin case horn **2**. See position **A**.



DISPLAY	STEP	DESCRIPTION
»	HOOK HEIGHT CHECK / ADJUSTMENT	
01	Activate the ADJUSTMENT WIZARD (02.01. / Page 19).	
02	» Until chapter 24 appears on the display.	
03	» Confirm.	INFO: Stitch length is set to 0mm , pedal is blocked, the display shows the machine position in degrees.
	NOTICE: The height of the hook is 0.4mm below the height of the standard machine.	
04	Remove feed stitch plate and feed dog.	
05	Position the gauge 1 as shown in image.	
06	It should be possible to move the bobbin thread clamp 3 exactly between gauge 1 and bobbin case horn 2 .	
07	Readjust height of hook if necessary.	
08	» Confirm to proceed to the next point.	

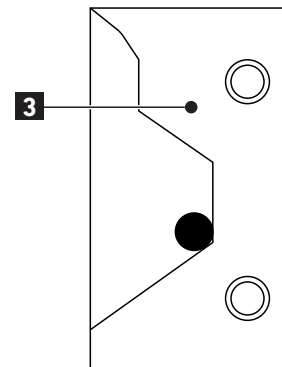
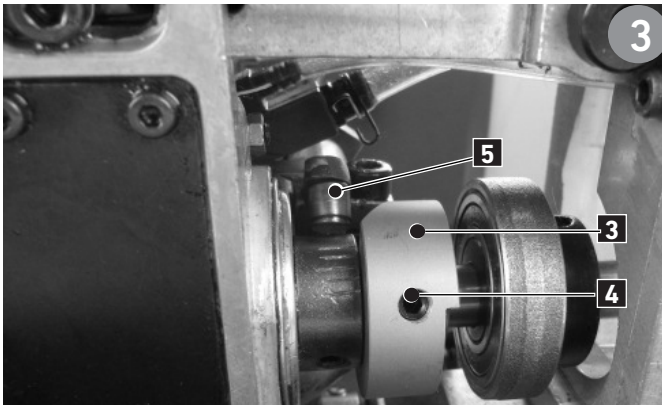
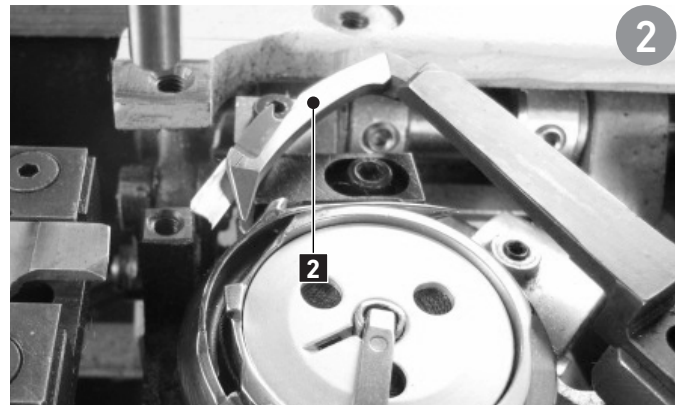
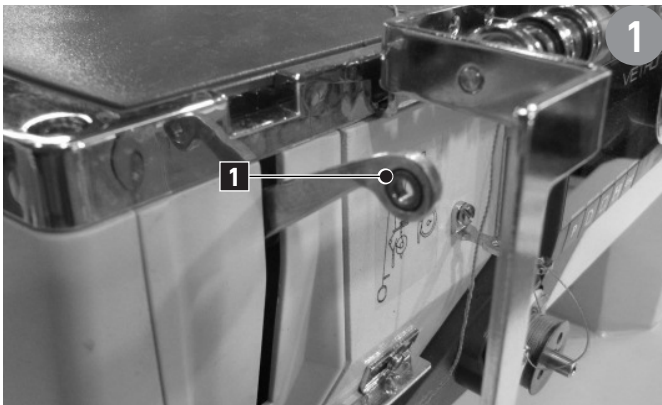
04. SHORT THREAD CUTTER


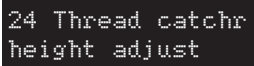


03. THREAD CUTTING TIMING (CONTROL CAM)



NOTE:

At top dead center of the take up lever **1** the thread catcher **2** should be in its parking position. At position **333°** the roller of the lever **5** should be positioned as shown in image 4.

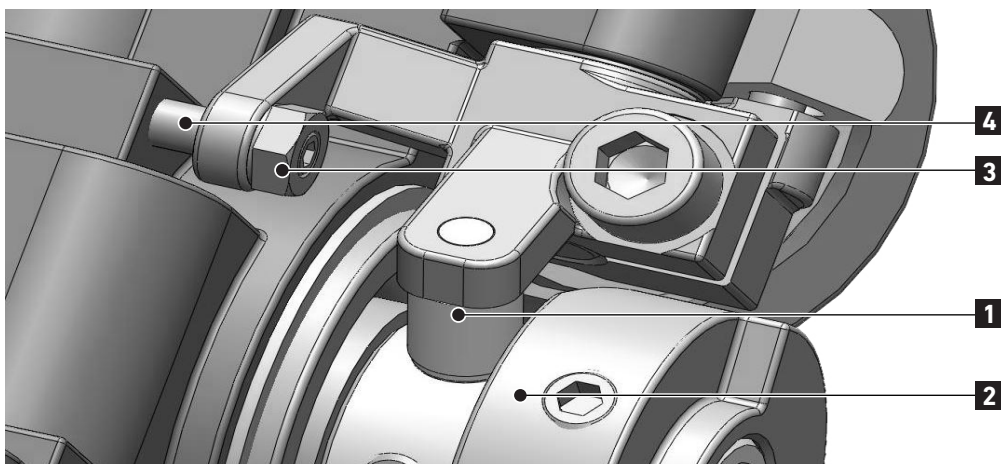


DISPLAY	STEP	DESCRIPTION
» THREAD CUTTING TIMING (CONTROL CAM)		
01	Activate the ADJUSTMENT WIZARD (02.01. / Page 19).	
02	»  Until chapter 24 appears on the display.	
03	 24 Thread catchr height adjust	»  Confirm. i INFO: Stitch length is set to 0mm , pedal is blocked, the display shows the machine position in degrees.
04	Loosen screws 4 .	
05	Turn machine with the mechanical handwheel to the position 333° .	
06	Move the roller lever 5 into the cam 3 while turning the cam to reach the position shown in image 4.	
07	Tighten screws 4 while making sure the cam is positioned against the stop on the left side.	
08	»  Confirm to proceed to the next point.	

04. SHORT THREAD CUTTER

04. RESTING POSITION OF ROLLER LEVER (THREAD CATCHER PLAY)

NOTE: In the resting position from the roller lever, the roll **1** should have a lateral distance from **0.1-0.3mm** to the control cam **2**.

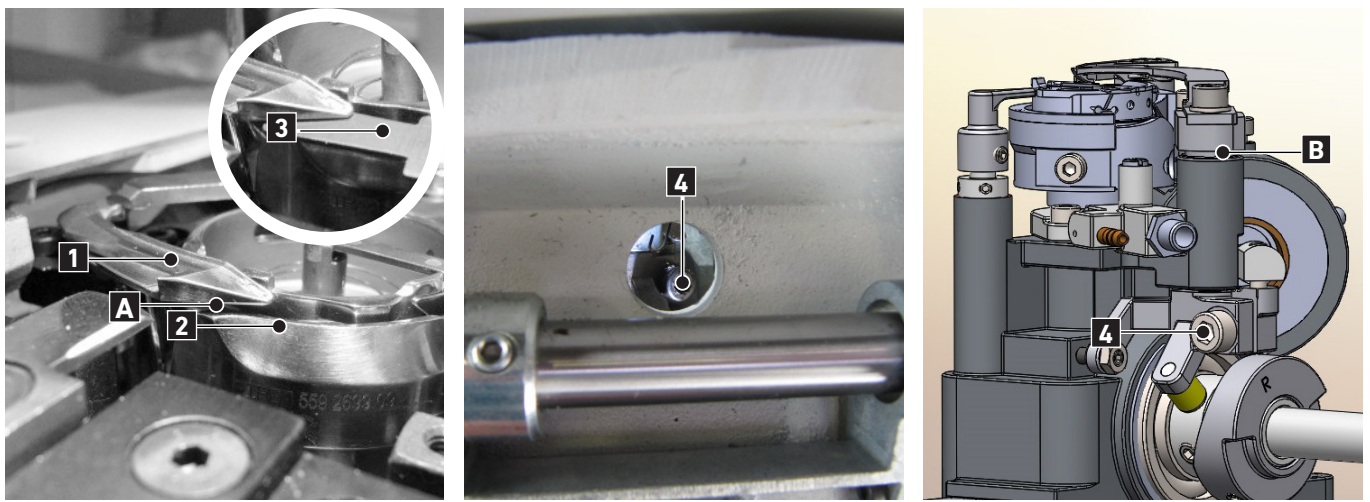





DISPLAY	STEP	DESCRIPTION
»	RESTING POSITION OF ROLLER LEVER (THREAD CATCHER PLAY)	
!	NOTICE:	The distance is factory set and only if necessary can be adjusted.
01	Activate the ADJUSTMENT WIZARD (02.01. / Page 19).	
02	» Until chapter 24 appears on the display.	
03	» Confirm.	i INFO: Stitch length is set to 0mm , pedal is blocked, the display shows the machine position in degrees.
04	Turn control cam 2 opposite to the roll 1 according to image.	
05	Loosen lock nut 3 .	
06	Turn screw 4 until the roll 1 has a lateral gap from 0.1-0.3mm to the control cam 2 .	
07	Tighten lock nut 3 .	
08	» Confirm to proceed to the next point.	

04. SHORT THREAD CUTTER

05. THREAD CATCHER HEIGHT

NOTE:
In position **A** the thread catcher point **1** should have a distance of **0.8mm** to the hook shoulder **2**.

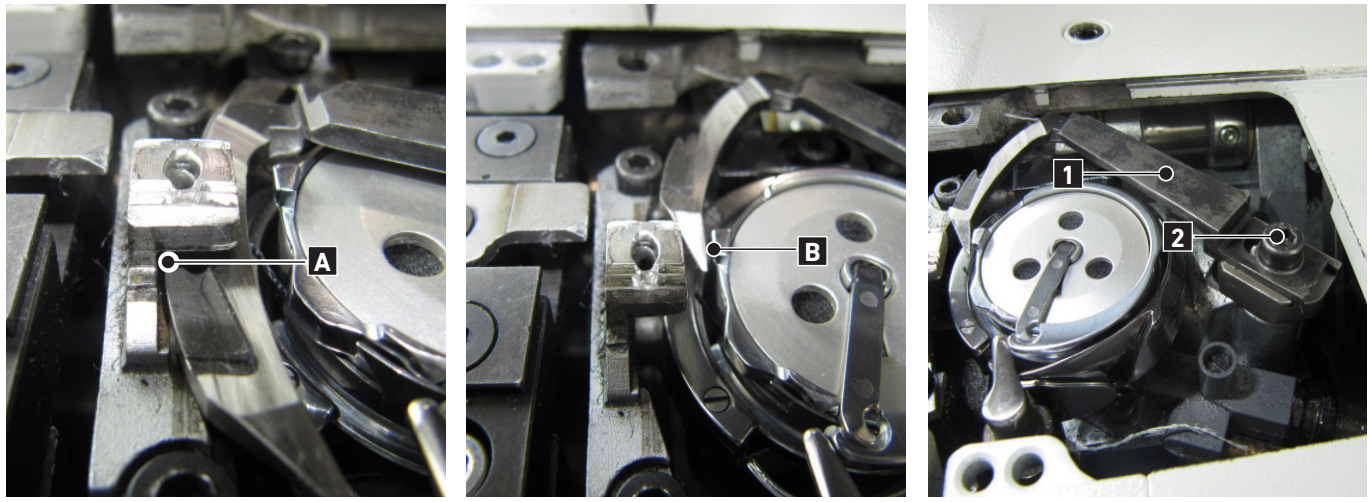





DISPLAY	STEP	DESCRIPTION
» THREAD CATCHER HEIGHT		
01	Activate the ADJUSTMENT WIZARD (02.01. / Page 19).	
02	»  Until chapter 24 appears on the display.	
03	»  Confirm.	i INFO: Stitch length is set to 0mm , pedal is blocked, the display shows the machine position in degrees.
<p>NOTICE: The height of the thread catcher is factory set through the use of washers. However if a correction is necessary add or remove washers at position B.</p>		
04	Loosen screw 4 .	
05	Turn the hook until the hook shoulder 2 is positioned below the thread catcher point 1 .	
06	Measure the distance between the catcher point 1 and the hook shoulder 2 with a 0.8mm gauge 3 .	
07	If necessary add or remove washers at position B .	
08	Considering that the adjustment 04.07. is performed, tighten screw 4 .	
09	»  Confirm to proceed to the next point.	

04. SHORT THREAD CUTTER

06. LATERALLY ADJUSTMENT OF THE THREAD CATCHER

NOTE: In position **A** the thread catcher **1** should have a distance from **0.5 - 0.8mm** to the feed dog. Also, in position **B** the bobbin case shouldn't be touched by the thread catcher **1** when it passes.

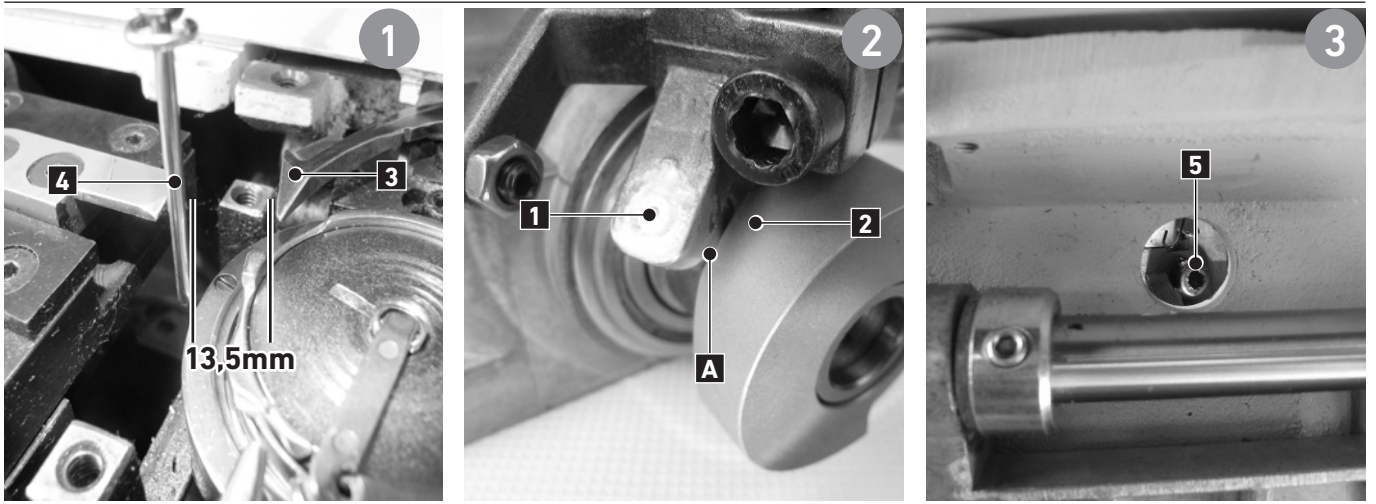


DISPLAY	STEP	DESCRIPTION
» LATERALLY ADJUSTMENT OF THE THREAD CATCHER		
01	Activate the ADJUSTMENT WIZARD (02.01. / Page 19).	
02	»  Until chapter 24 appears on the display.	
03	»  Confirm.	i INFO: Stitch length is set to 0mm , pedal is blocked, the display shows the machine position in degrees.
04	Loosen screw 2 .	
05	Move thread catcher 1 according general rule.	
06	Tighten screw 2 .	
07	»  Confirm to proceed to the next point.	

04. SHORT THREAD CUTTER

07. THREAD CATCHER RESTING POSITION

NOTE: While the roller lever **1** is positioned at the outer point of control cam **2**, the thread catcher point **3** should have a distance of **13.3 - 13.5mm** to the gauge pin **4**.

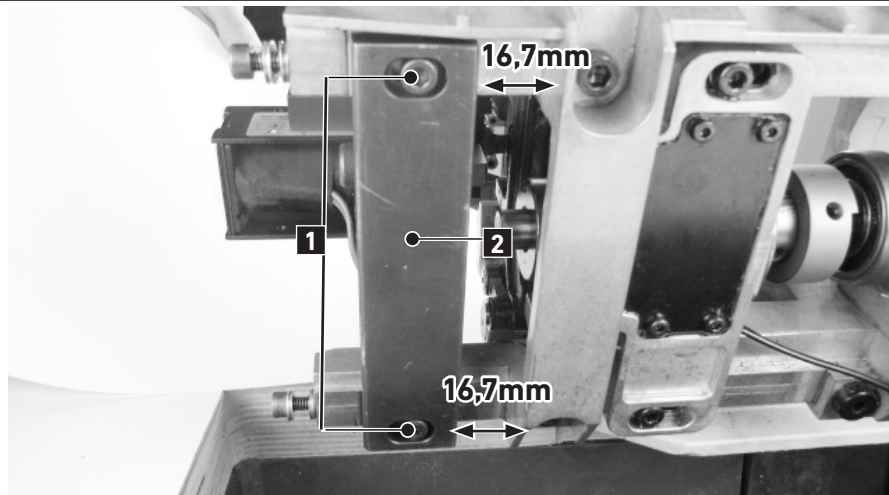



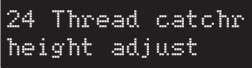


DISPLAY	STEP	DESCRIPTION
» THREAD CATCHER RESTING POSITION		
01	Activate the ADJUSTMENT WIZARD (02.01. / Page 19).	
02	» Until chapter 24 appears on the display.	
03	» Confirm.	i INFO: Stitch length is set to 0mm , pedal is blocked, the display shows the machine position in degrees.
04	Loosen screw 5 until the thread catcher 3 can be moved with force.	
05	Turn the machine with the mechanical handwheel until the roller lever 1 is positioned opposite to control cam 2 (image 2).	
06	Adjust the distance to 13.3 - 13.5mm .	
07	Tighten screw 5 and be sure there isn't any vertical play.	
08	» Confirm to proceed to the next point.	

04. SHORT THREAD CUTTER

08. LATERAL POSITION OF KNIFE BASE TO SEWING DIRECTION

NOTE:
The knife base should have a distance of **16.7mm** to the zinc frame.

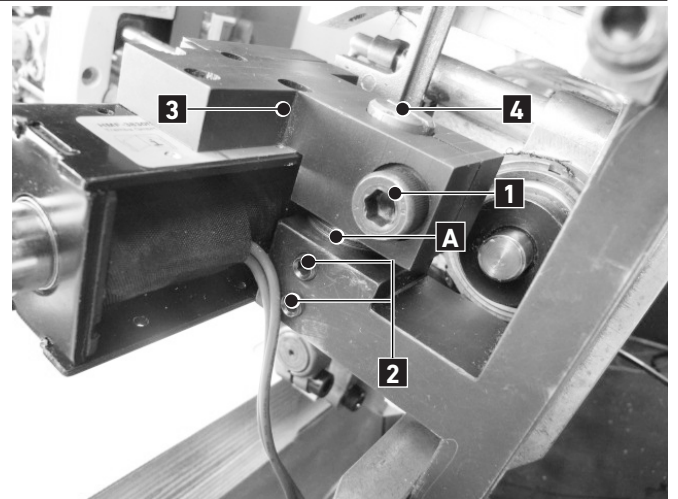
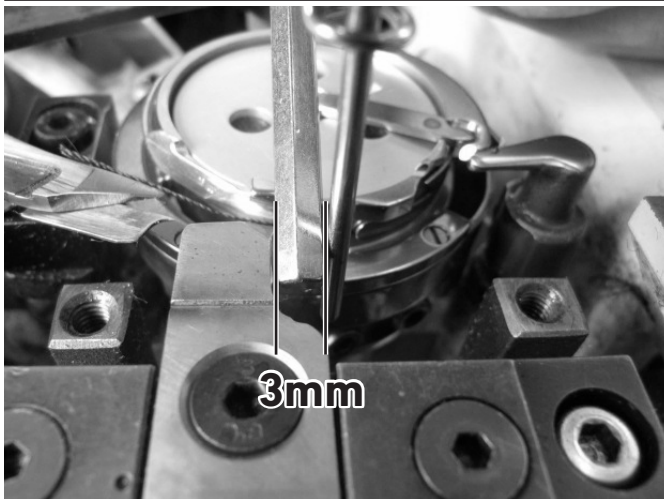


DISPLAY	STEP	DESCRIPTION
»	LATERAL POSITION OF KNIFE BASE TO SEWING DIRECTION	
		NOTICE: Be careful to keep the knife base parallel to the zinc frame.
01	Activate the ADJUSTMENT WIZARD (02.01. / Page 19).	
02	»  Until chapter 24 appears on the display.	
03		»  Confirm. INFO: Stitch length is set to 0mm , pedal is blocked, the display shows the machine position in degrees
04	Loosen screws 1 .	
05	Move the knife base 2 laterally until a parallel distance of 16.7mm is reached.	
06	Tighten screws 1 .	
07	»  Confirm to proceed to the next point.	

04. SHORT THREAD CUTTER

09. KNIFE BASE POSITION IN SEWING DIRECTION

NOTE: In cutting position by stitch length **0** the knife edge should be **3mm** behind the gauge pin.



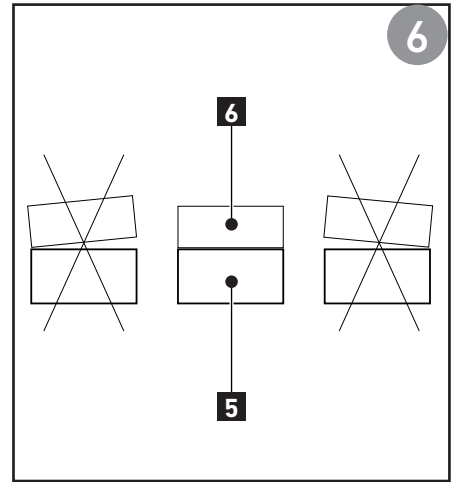
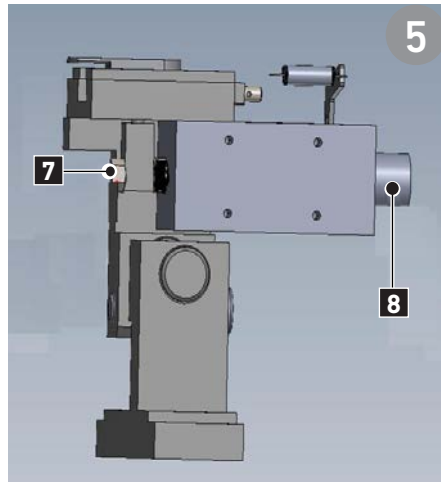
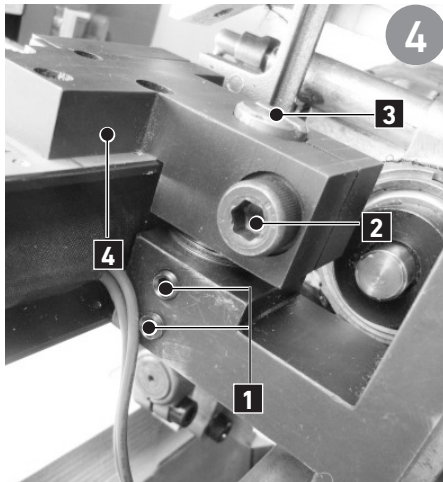
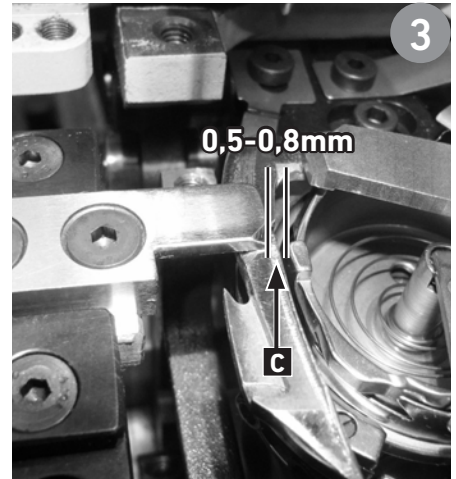
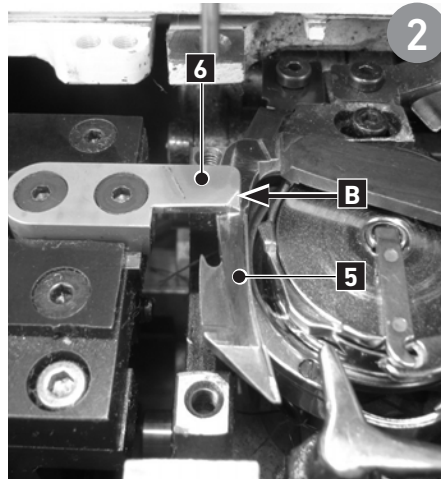
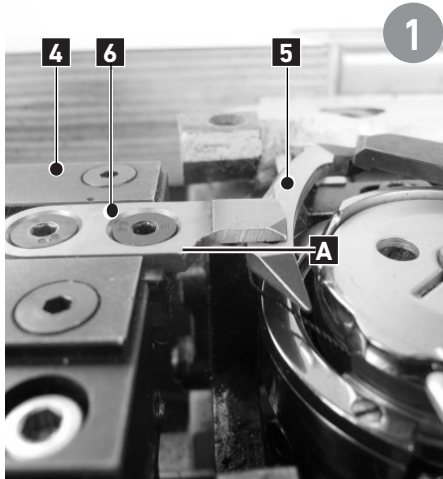
DISPLAY	STEP	DESCRIPTION
» KNIFE BASE POSITION IN SEWING DIRECTION		
<p>NOTICE: The distance between knife and gauge pin is factory set through use of washers at position A. However if a correction is necessary add or remove washers.</p>		
01		Activate the ADJUSTMENT WIZARD (02.01. / Page 19).
02		» Until chapter 24 appears on the display.
03		» Confirm. INFO: Stitch length is set to 0mm , pedal is blocked, the display shows the machine position in degrees.
04		Loosen screw 1 and screws 2 .
05		Dismount knife base 3 and pull eccentric 4 off.
06		If necessary add or remove washers (15x21x0,2) until the desired distance is reached.
07		Tighten screws 1 and 2 .
08		» Confirm to proceed to the next point.

04. SHORT THREAD CUTTER

10. KNIFE POSITION TO THREAD CATCHER AND KNIFE PRESSURE

-1-2

NOTE:
The knife **6** should stand parallel to the thread catcher **5** in position **A**.
While moving the knife **6** should slightly touch the thread catcher **5** in position **B** (image 2).
At position **C** the distance between should have gap of **0.5 - 0.8mm** to the thread catcher **5** (image 3).



04. SHORT THREAD CUTTER


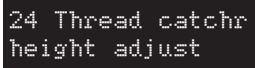




10. KNIFE POSITION TO THREAD CATCHER AND KNIFE PRESSURE

-2-2



NOTICE:

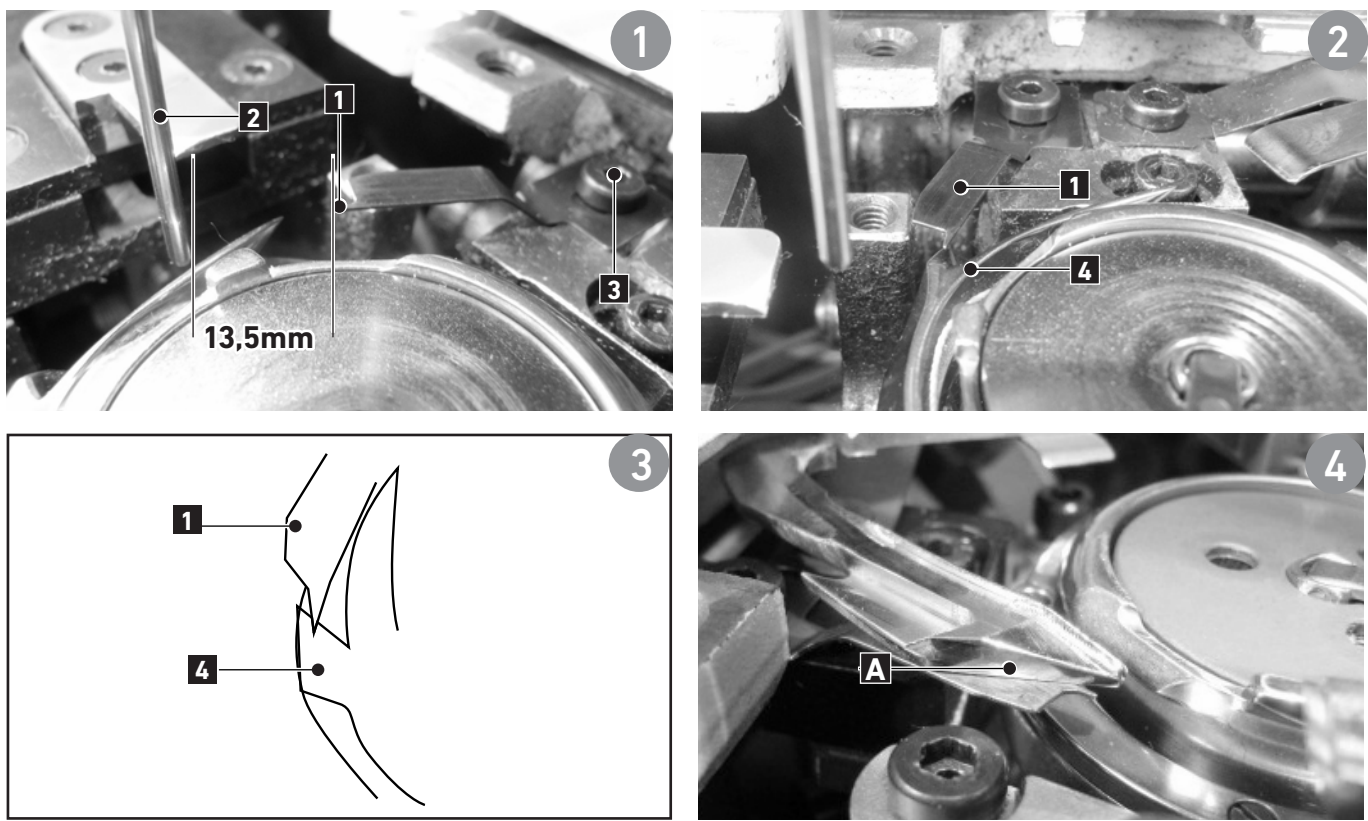
The thread catcher should not perform any downwards movement during inbound movement of the knife.

DISPLAY	STEP	DESCRIPTION
» KNIFE POSITION AND PRESSURE		
01	Activate the ADJUSTMENT WIZARD (02.01. / Page 19).	
02	»  Until chapter 24 appears on the display.	
03	 »  Confirm.	 INFO: Stitch length is set to 0mm , pedal is blocked, the display shows the machine position in degrees
04	Loosen screws 1 and screw 2 .	
05	Turn the excentric 3 until the knife is slightly lying on the thread catcher 5 while in inbound position (image 2).	
06	Tighten screws 1 and 2 .	
07	Loosen the nut 7 and turn the magnetic core 8 until the knife has a distance of 0.5 - 0.8mm to the thread catcher 5 in outbound position (image 5).	
08	Tighten nut 7 .	
09	Perform cutting test at left and right position and check parallelity.	
10	»  Confirm to proceed to the next point.	
 NOTICE: The thread catcher should move easily below the knife without hooking in.		

04. SHORT THREAD CUTTER

11. BOBBIN THREAD CLAMP

NOTE: At stitch length **0mm** the bobbin thread clamp point **1** should be **13.5mm** behind the gauge pin **2** (2mm). Also the bobbin thread clamp point **1** should be above the hook shoulder **4**. The bobbin thread clamp should lie parallel on the thread catcher **A**. The bobbin thread must be fixed securely after thread cutting.



DISPLAY	STEP	DESCRIPTION
» BOBBIN THREAD CLAMP		
01	Activate the ADJUSTMENT WIZARD (02.01. / Page 19).	
02	» Until chapter 24 appears on the display.	
03	» Confirm.	INFO: Stitch length is set to 0mm , pedal is blocked, the display shows the machine position in degrees.
04	Loosen screw 3 .	
05	Move clamp 1 as necessary and set laterally as in image 3.	
06	Tighten screw 3 .	
07	Check the parallel position. If necessary adjust by bending.	
08	» Confirm to proceed to the next point.	

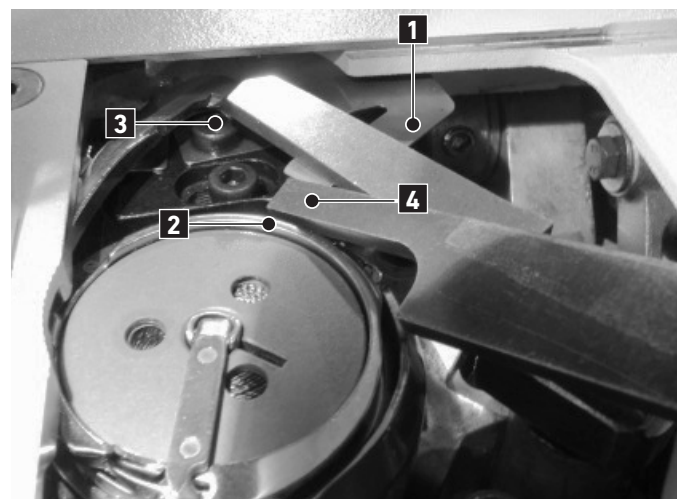
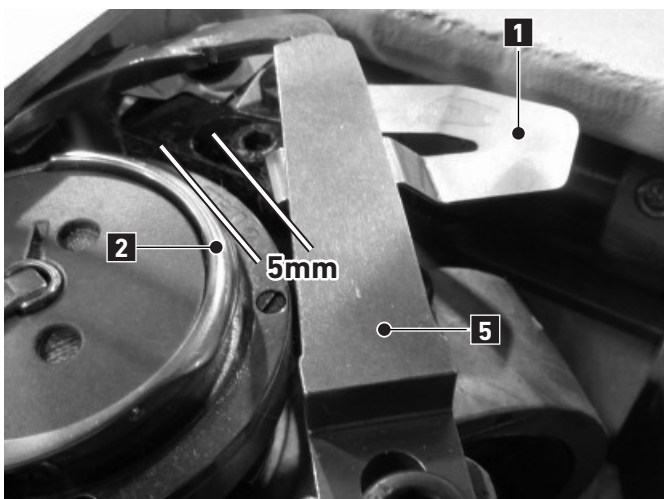
04. SHORT THREAD CUTTER




12. THREAD CATCHER CLAMP



NOTE:

There should be a distance of **5mm** between thread catcher clamp and bobbin case.

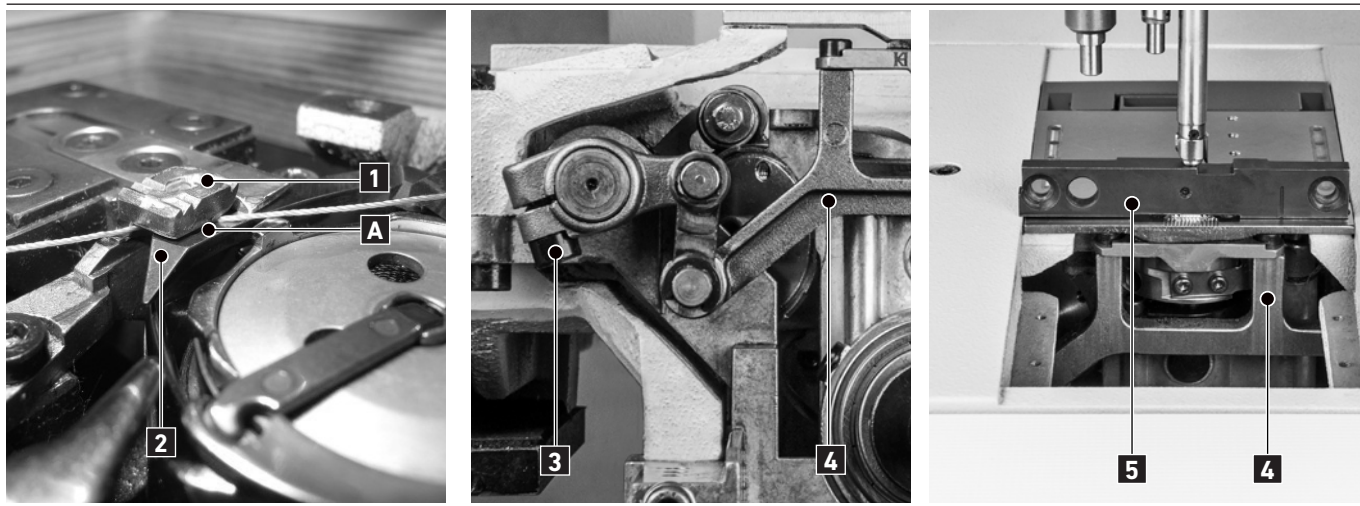


DISPLAY	STEP	DESCRIPTION
» THREAD CATCHER CLAMP		
<p>! NOTICE: Under light pressure the thread catcher clamp 1 should touch the bottom side of the thread catcher 5. If not please adjust. Ensure that the thread catcher clamp 1 can't move on top of the thread catcher 5.</p>		
01	Activate the ADJUSTMENT WIZARD (02.01. / Page 19).	
02	»  Until chapter 24 appears on the display.	
03	»  Confirm.	<p>i INFO: Stitch length is set to 0mm, pedal is blocked, the display shows the machine position in degrees</p>
04	Loosen screw 3 .	
05	Move thread catcher clamp 1 until a distance of 5mm is between bobbin capsule 2 and thread catcher clamp 1 . Use gauge 4 for the adjustment.	
06	Tighten screw 3 .	
07	»  Confirm to proceed to the next point.	

04. SHORT THREAD CUTTER

13. FEED DOG HEIGHT ADJUSTMENT - SHORT CUTTER

NOTE:
 The feed dog **1** should be in its highest position **0.8mm** above the stitch plate (See **03.16**).
 At bottom dead center the gap between bottom edge feed dog **1** and thread catcher **2** position **A** should be **0.8mm** (thread size).

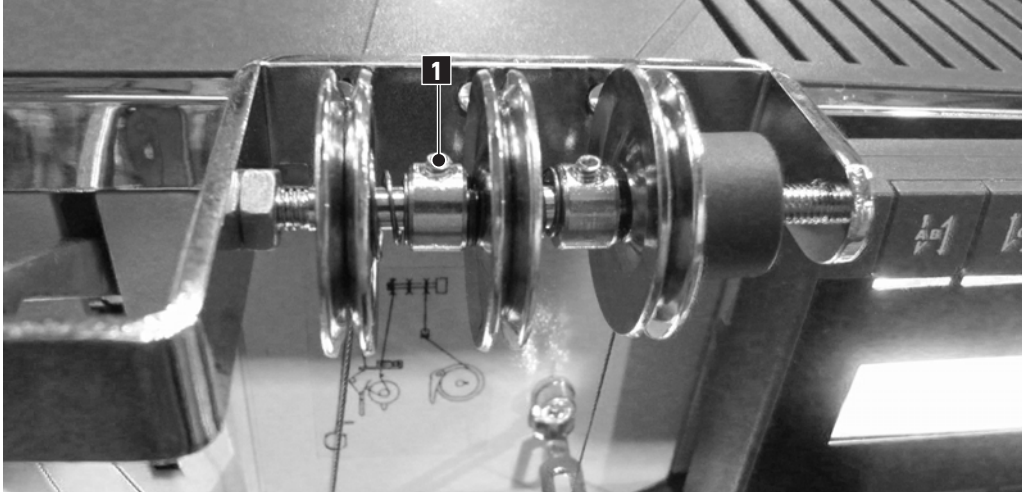



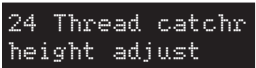


DISPLAY	STEP	DESCRIPTION
» ADJUSTMENT OF THE FEED DOG HEIGHT		
01	Activate the ADJUSTMENT WIZARD (see 02.01. / Page 19).	
02	» Until chapter 24 appears on the display.	
03	» Confirm.	INFO: Stitch length is set to 0mm , pedal is blocked, the display shows the machine position in degrees.
04	Turn the feed dog in its top dead center (190°) with the mechanical handwheel.	
05	Loosen screw 3 until the feed dog carrier 2 can be easily moved up and down.	
06	Put the gauge 5 on the stitch plate.	
07	Press the feed dog carrier 4 with the feed dog upwards until the surface of the feed dog is touching the gauge 5 .	
08	Tighten screw 3 .	
09	» Confirm to proceed to the next step.	

04. SHORT THREAD CUTTER

14. THREAD CUTTING TENSION ADJUSTMENT

NOTE: After thread cutting the needle thread should be approximately **35mm** long.



DISPLAY	STEP	DESCRIPTION
» THREAD CUTTING TENSION ADJUSTMENT		
!	NOTICE:	Additional it is possible to set the thread cutting tension in the parameters (M153) individual according to the program.
01		Activate the ADJUSTMENT WIZARD (02.01. / Page 19).
02		»  Until chapter 24 appears on the display.
03	 24 Thread catchr height adjust	»  Confirm. i INFO: Stitch length is set to 0mm , pedal is blocked, the display shows the machine position in degrees.
04		Loosen screw 3 and adjust the pretension.
05		Tighten screw 3 and perform a cutting test. If necessary readjust.
06		»  Confirm to proceed to the next point.

04. SHORT THREAD CUTTER

05. MAINTENANCE

01. CLEANING AND TESTING

1-2



WARNING!

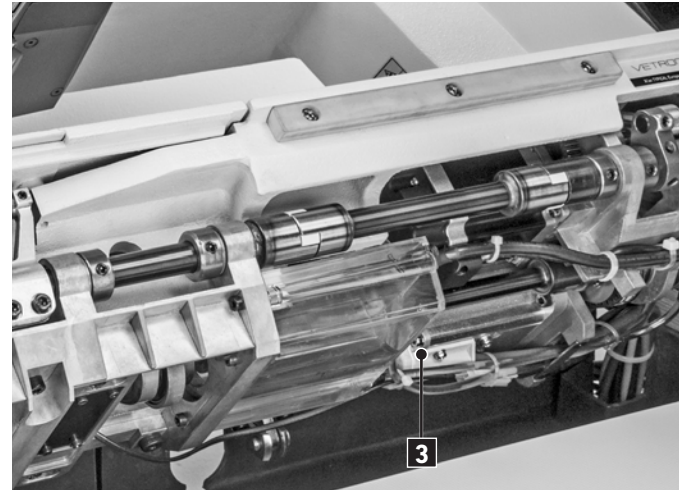
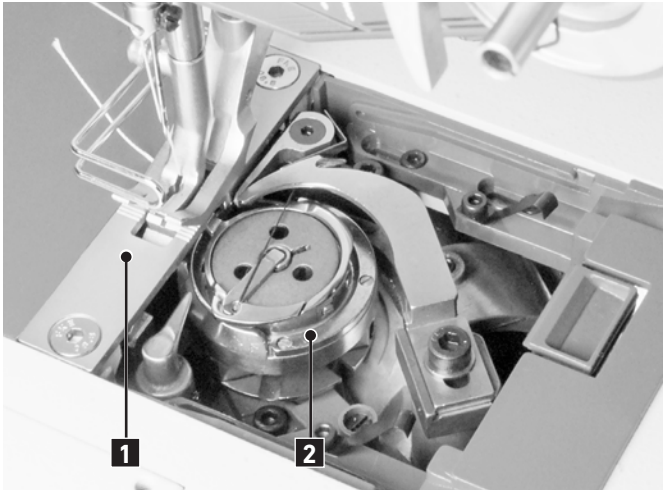
Push the **X-BUTTON** on the machine head, the red light illuminates showing the active **BLOCKED MODE**, or turn the power from the machine off. Failure to comply produces a risk of injury in case of an unintentional machine operation.



NOTICE:

Maintenance work must be carried out no less frequently than the intervals given in the **OPERATING HOURS** column of the table.

The intervals may need to be shorter when processing heavy-shedding materials.



MAINTENANCE WORK	DESCRIPTION	OPERATING HOURS
» MACHINE HEAD		
Remove lint, pieces of thread and other debris (e.g. with an air blow gun).	PLACES IN SPECIAL NEED OF CLEANING:	
	<ul style="list-style-type: none"> » area under the stitch plate 1 » area around the the hook 2 » bobbin housing » feeders » thread trimmer » needle area 	8
» DIRECT DRIVE		
Clean fan grill 3 of the main drive (e.g. with an air blow gun)	Remove lint and pieces of thread from air-intake openings.	8



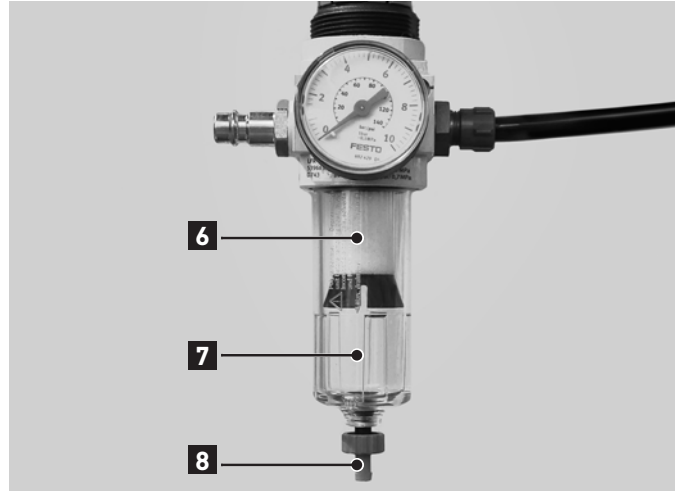
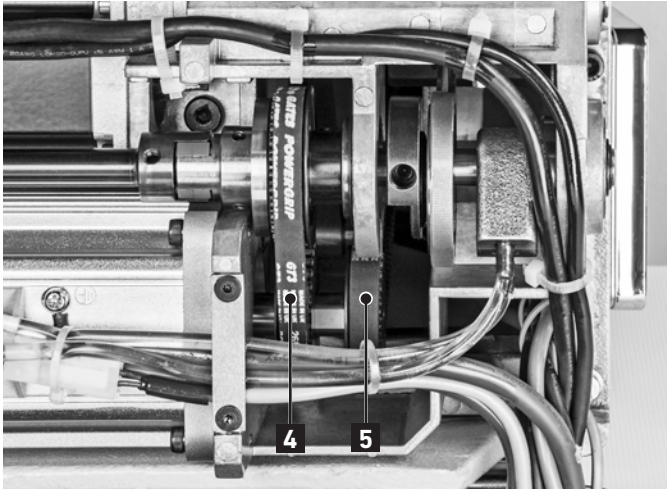
NOTICE:

Hold the air blow gun in a way that the lint is not blown into the oil collector.

05. MAINTENANCE

01. CLEANING AND TESTING

2-2



MAINTENANCE WORK	DESCRIPTION	OPERATING HOURS
» SEWING DRIVE		
Check condition of the timing belts 4 and 5 .	Tilt the machine in order to check the condition of the timing belts. The timing belts can be reached easily in this position.	160
» PNEUMATIC SYSTEM		
Check water in pressure regulator.	The water level shouldn't rise to the level of the filter cartridge 6 . After unscrewing the drain screw 8 , the water will flow under pressure out of the water separator 7 .	40
Clean filter cartridge.	Dirt and condensation are separated by the filter cartridge 6 . 01. Disconnect the machine from the compressed air supply. 02. Loosen the drain screw 8 . There shouldn't be any pressure in the machine pneumatic system. 03. Unscrew the water separator 7 . 04. Unscrew the filter cartridge 6 . Wash the filter shell and cartridge with cleaning fluid (no solvent) and blast clean. 05. Reassemble the maintenance unit.	500
Check for system leaks.		500



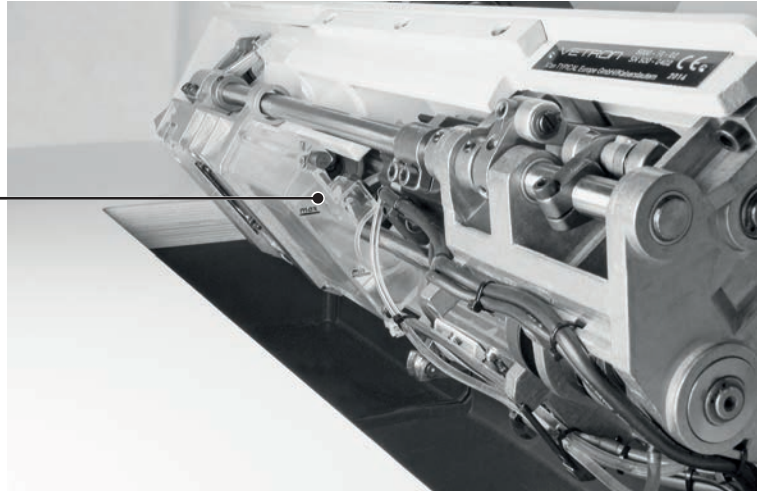
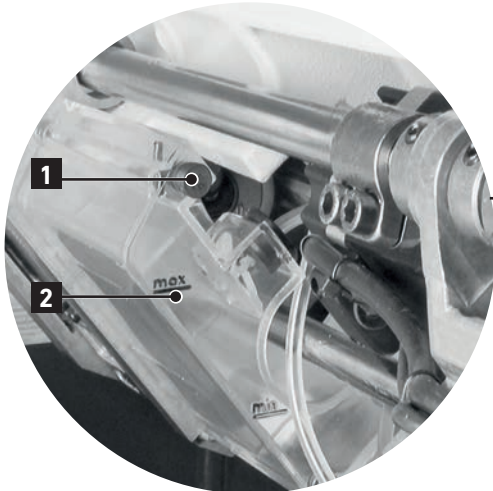
WARNING!

Oil can cause skin irritation. Avoid contact.
If on skin, wash effected area thoroughly.



NOTICE:

The handling and disposal of mineral oils is subject to legal regulation.
Deliver used oil to an authorized collection point.
Protect your environment. Take care not to spill oil.



MAINTENANCE WORK	DESCRIPTION	OPERATING HOURS
» LUBRICATION OF THE MACHINE HEAD		
<p>NOTICE: By tilting the machine during power on, a safety switch automatically switches the machine into BLOCKED MODE. This is noted on the display.</p>		
Lubrication of the machine head	<p>01. Tilt the machine to the back. The oil tank is located below the base plate.</p> <p>02. If necessary, slightly pull out the oil plug 1 and fill the tank up to the MAX marking 2.</p>	8
<p>NOTICE: Please use only oil types recomended by VETRON or an equivalent oil with the following specification: E.g.: Oil PP 20 DAB 10 (Viscosity 40° C: 15 mm²/s; Flashpoint: 150°)</p>		

05. MAINTENANCE

At the time of printing, all information and illustrations in this document were up to date.
Technical Information are subject to change without notice!

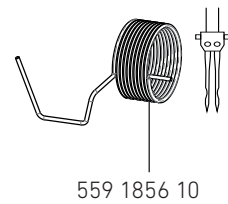
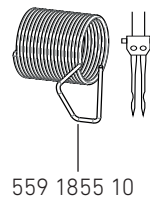
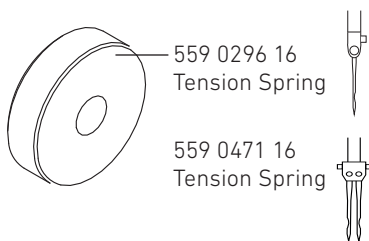
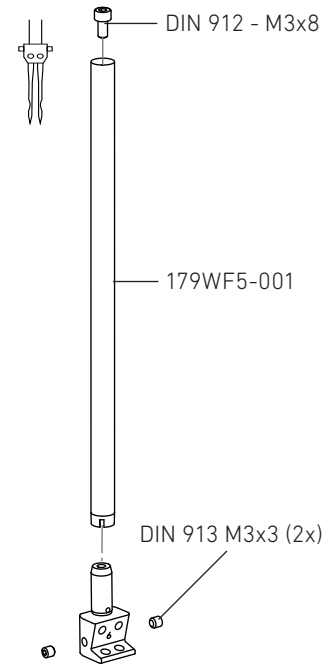
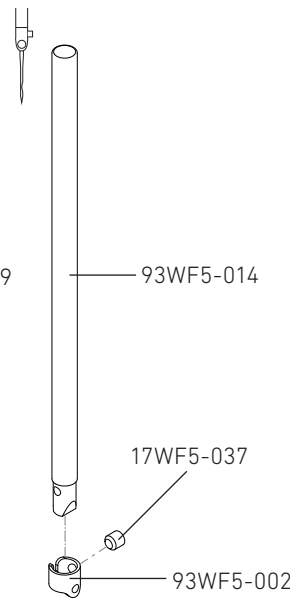
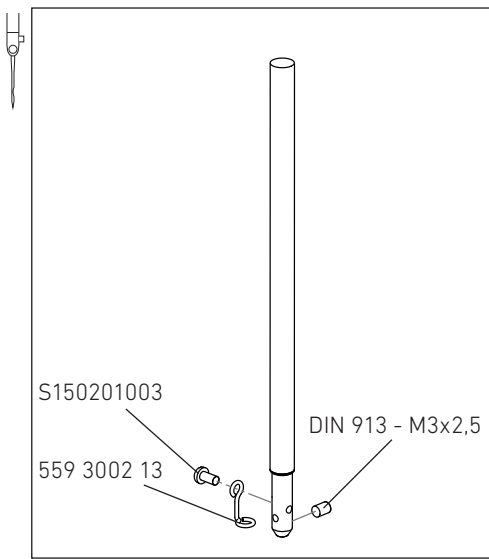
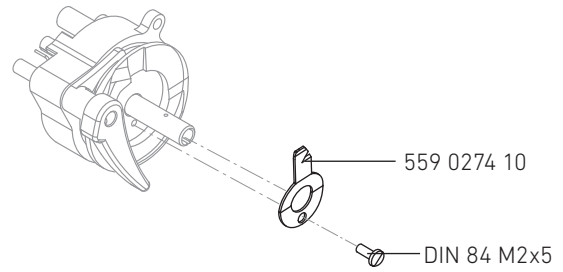
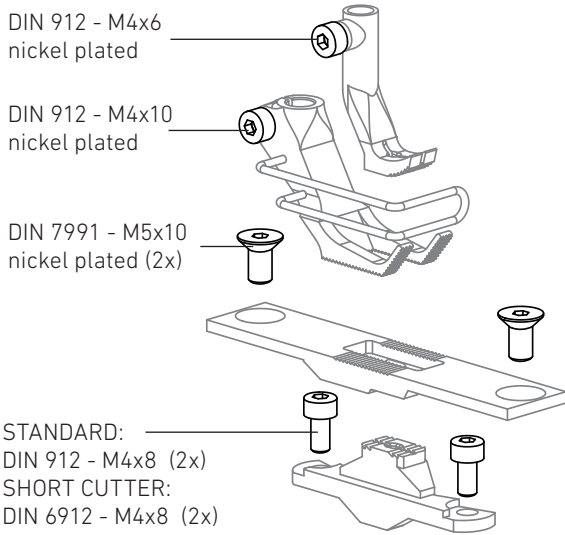


NOTICE

- » Please remember that we are not liable for spare parts and accessories not purchased from us. These parts were neither examined by us, nor released. Consequently, the installation or use of these products can have a negative influence on design-related features of their machine.
- » We accept no liability for any damage caused by the use of non-original parts.
- » This Wear Parts List shows the main parts of the machine.
A detailed list for the complete machine is available on our website www.vetrontypical.com.
It can also be ordered as a manual.

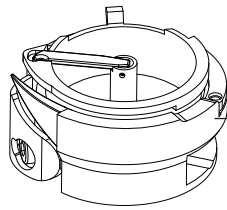
06. WEAR PARTS

02.01. WEAR PARTS



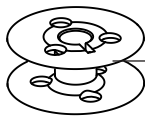
06. WEAR PARTS

02.02. WEAR PARTS

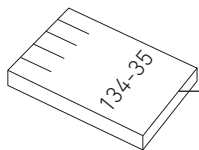


STANDARD:
559 0960 09 (26mm)
559 0961 09 (32mm)

SHORT CUTTER:
559 2656 09 (26mm)
559 1834 09 (32mm)



STANDARD /SHORT CUTTER:
559 2679 10 (26mm)
559 0827 30 (32mm)



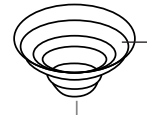
Needle-System 134-35

DIN 913 M6x8 (2x)

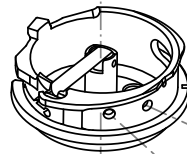
DIN 912 M3x6 (2x)

559 3242 10 (26mm)
559 3243 10 (32mm)

DIN 912 M3x6

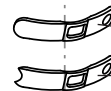


559 3226 10 (0,35)
559 3227 10 (0,45)
559 3228 10 (0,45-Spring is not clamped in the bobbin case)

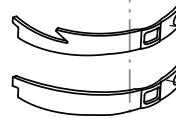


559 3233 10

559 3234 10

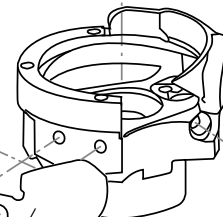


STANDARD:
559 3235 11 (26mm)
559 3236 11 (32mm)



SHORT CUTTER:
559 2743 10 (26mm)
559 2744 10 (32mm)

SHORT CUTTER:
559 1842 10 (32mm)



STANDARD

DIN 912 M5x8

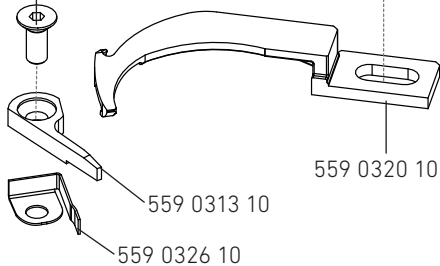
DIN 7991 M4x10

DIN 988 - 5x10x1

559 0320 10

559 0313 10

559 0326 10



SHORT CUTTER

DIN 7984 M4x6

559 0893 10

DIN 7991 M4x10 (2x)

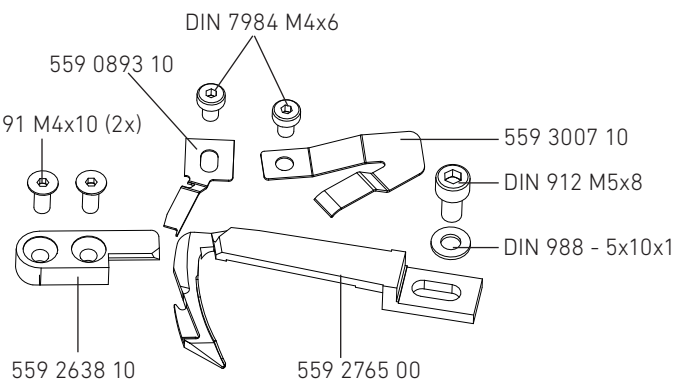
559 3007 10

DIN 912 M5x8

DIN 988 - 5x10x1

559 2638 10

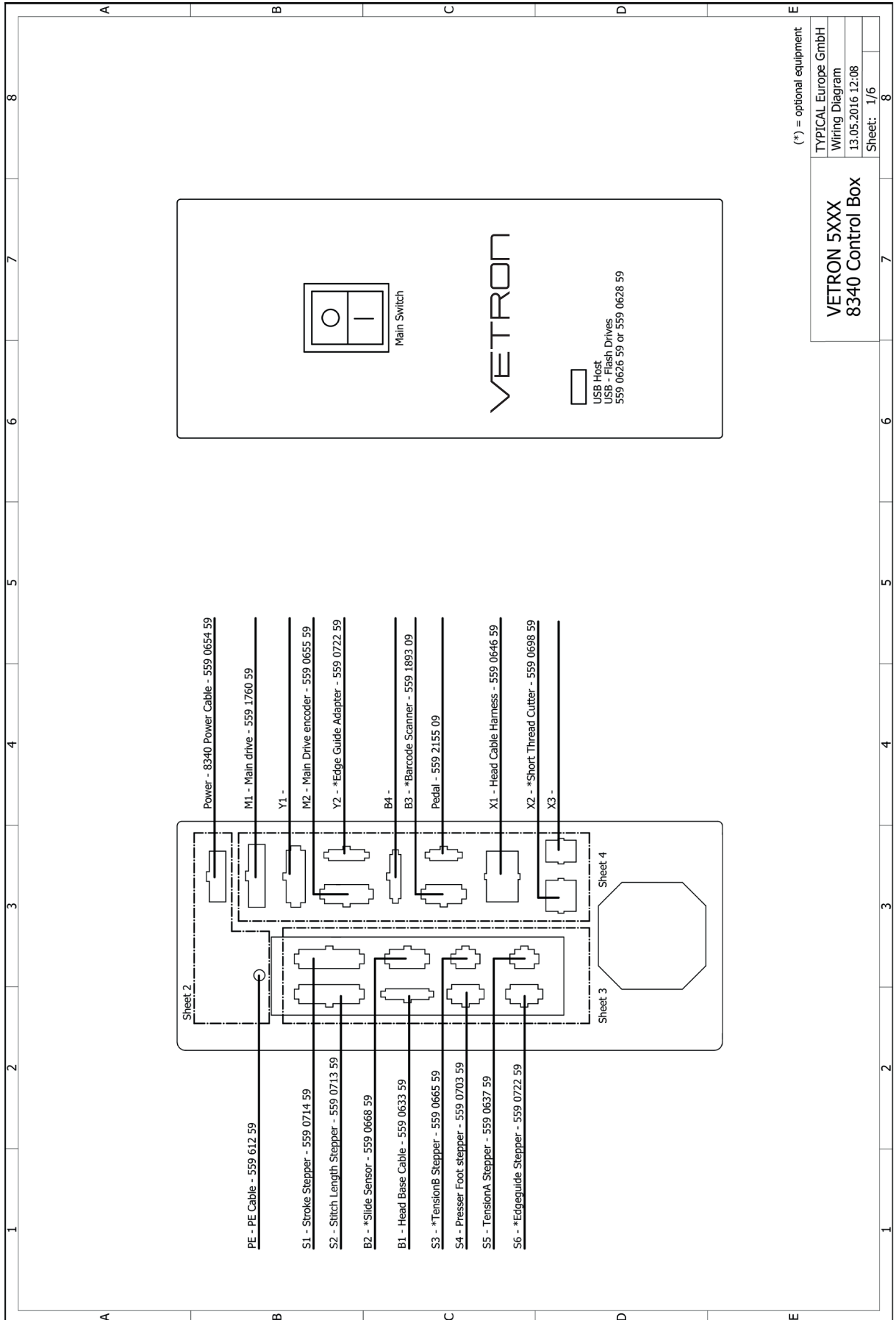
559 2765 00



06. WEAR PARTS

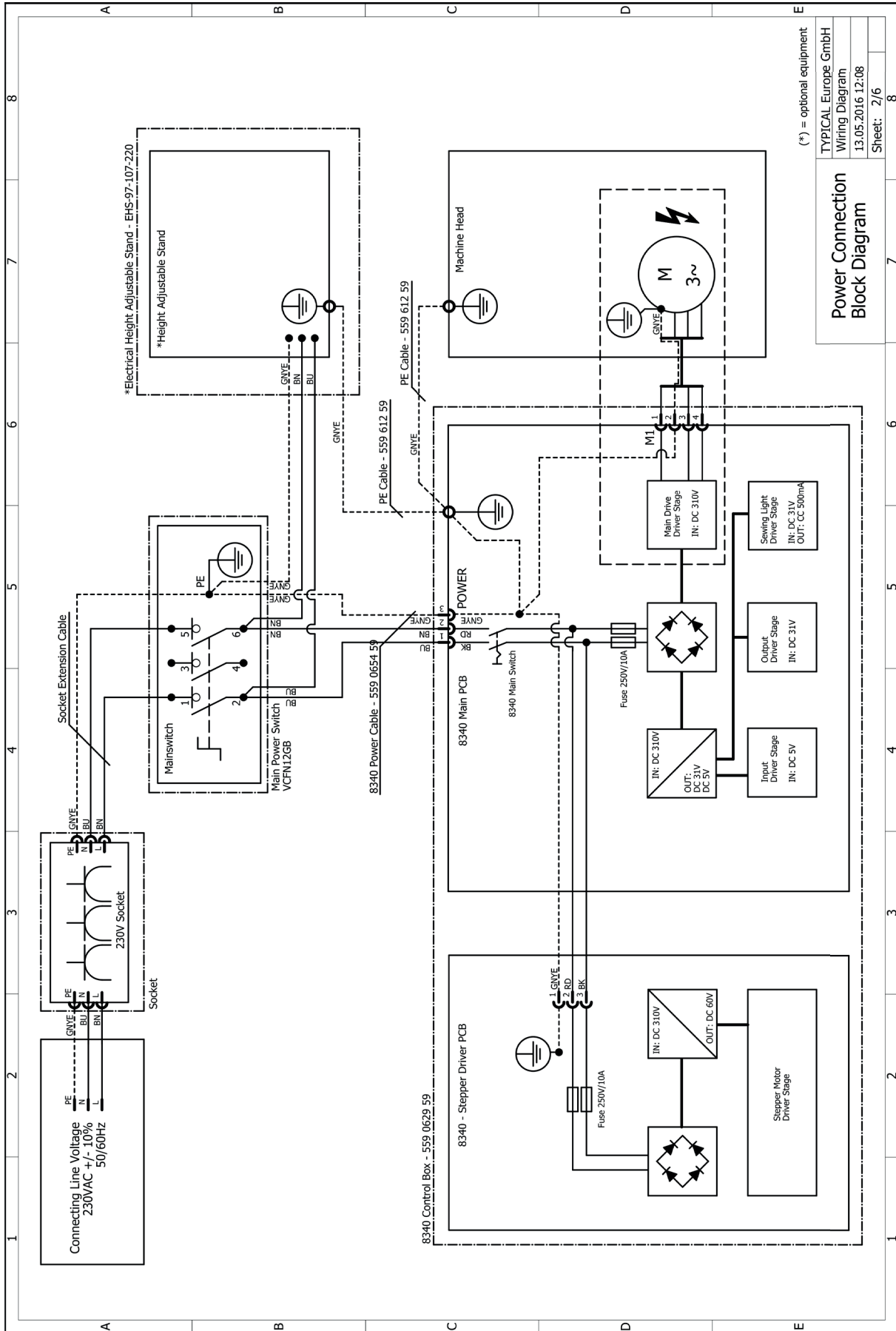
07. WIRING DIAGRAM

01. VETRON 8340 CONTROL BOX



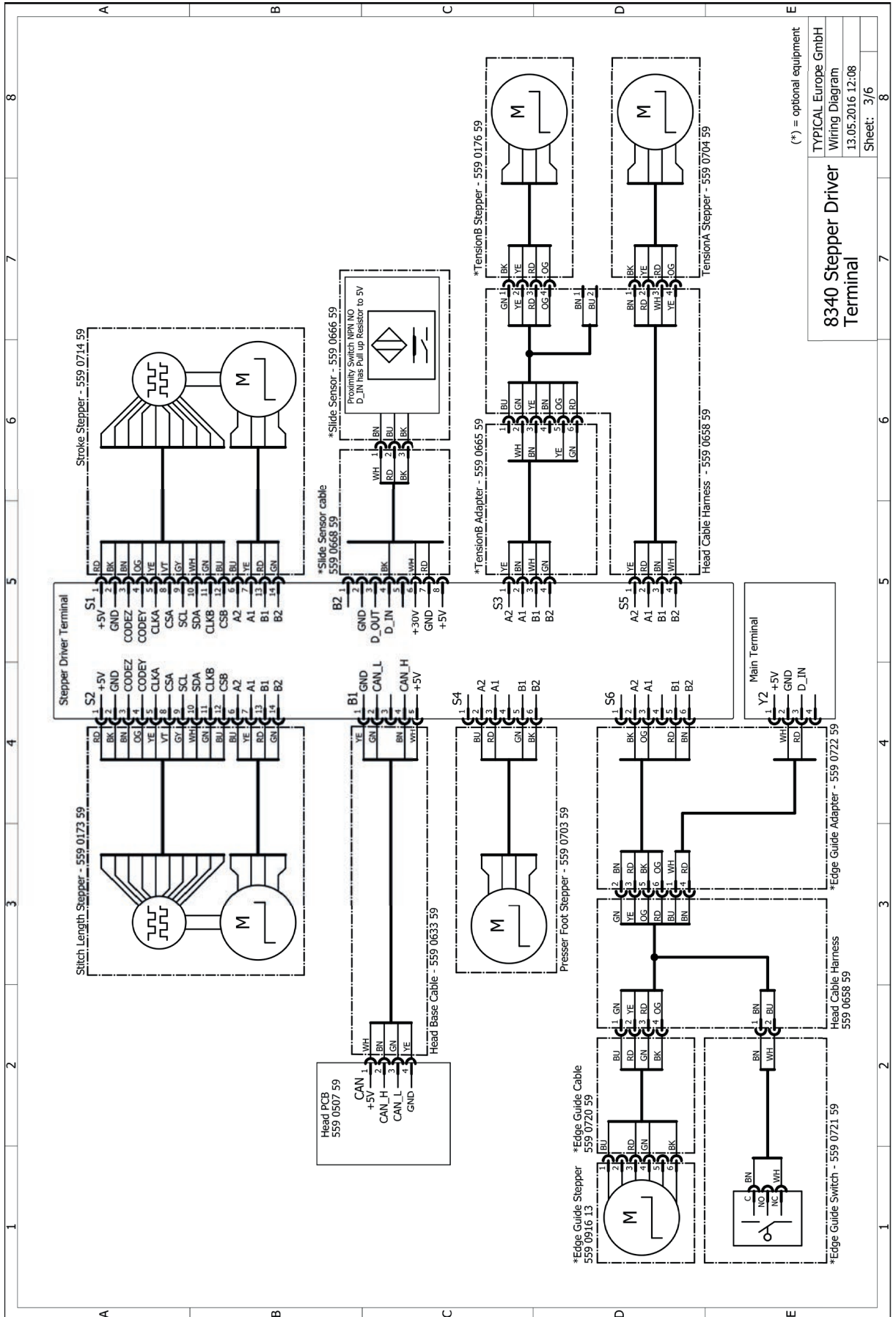
07. WIRING DIAGRAM

02. POWER CONNECTION BLOCK DIAGRAM



07. WIRING DIAGRAM

03. 8640 STEPPER DRIVER TERMINAL

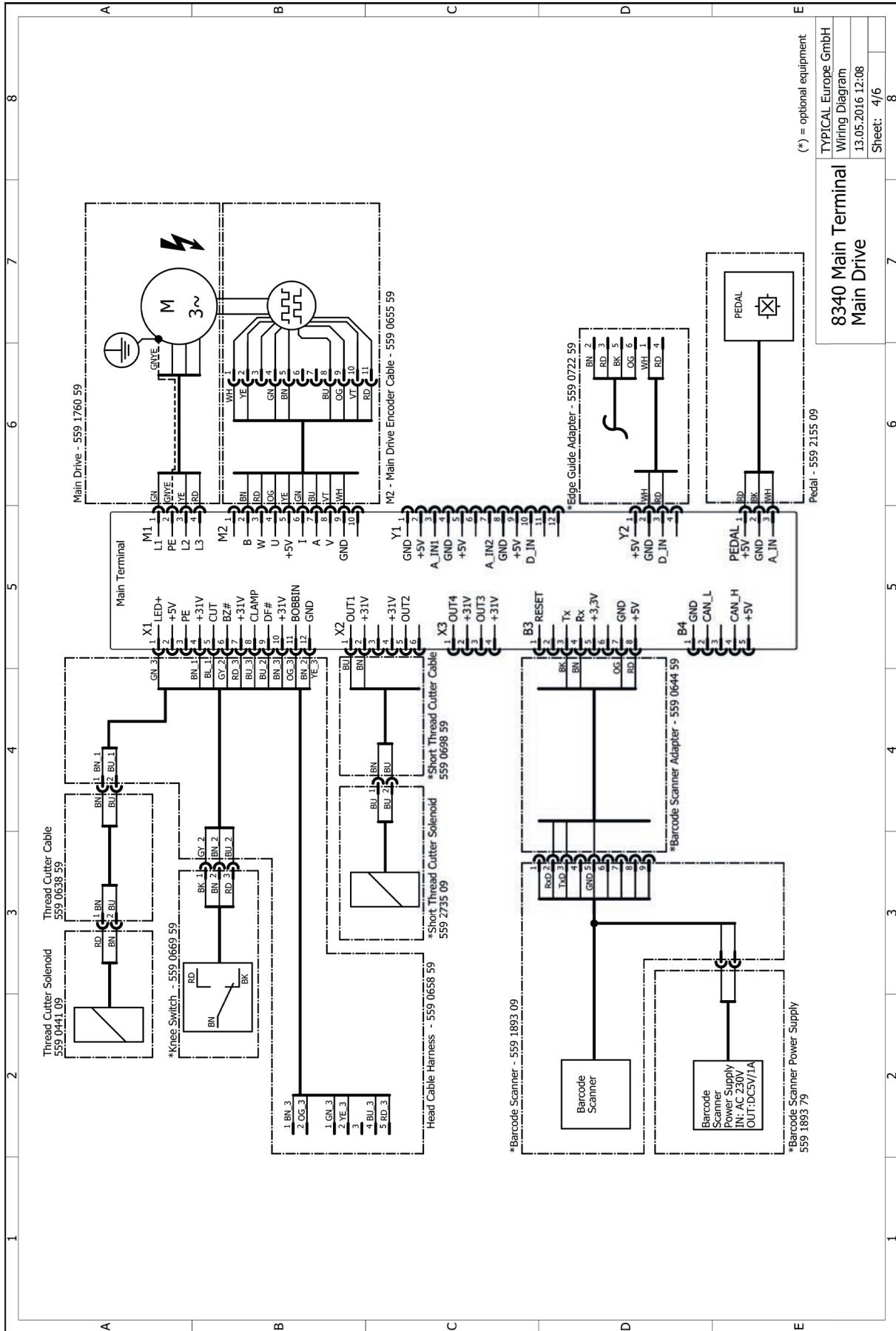


(*) = optional equipment
 TYPICAL Europe GmbH
 Wiring Diagram
 13.05.2016 12:08
 Sheet: 3/6

8340 Stepper Driver Terminal

07. WIRING DIAGRAM

04. 8340 MAIN TERMINAL MAIN DRIVE

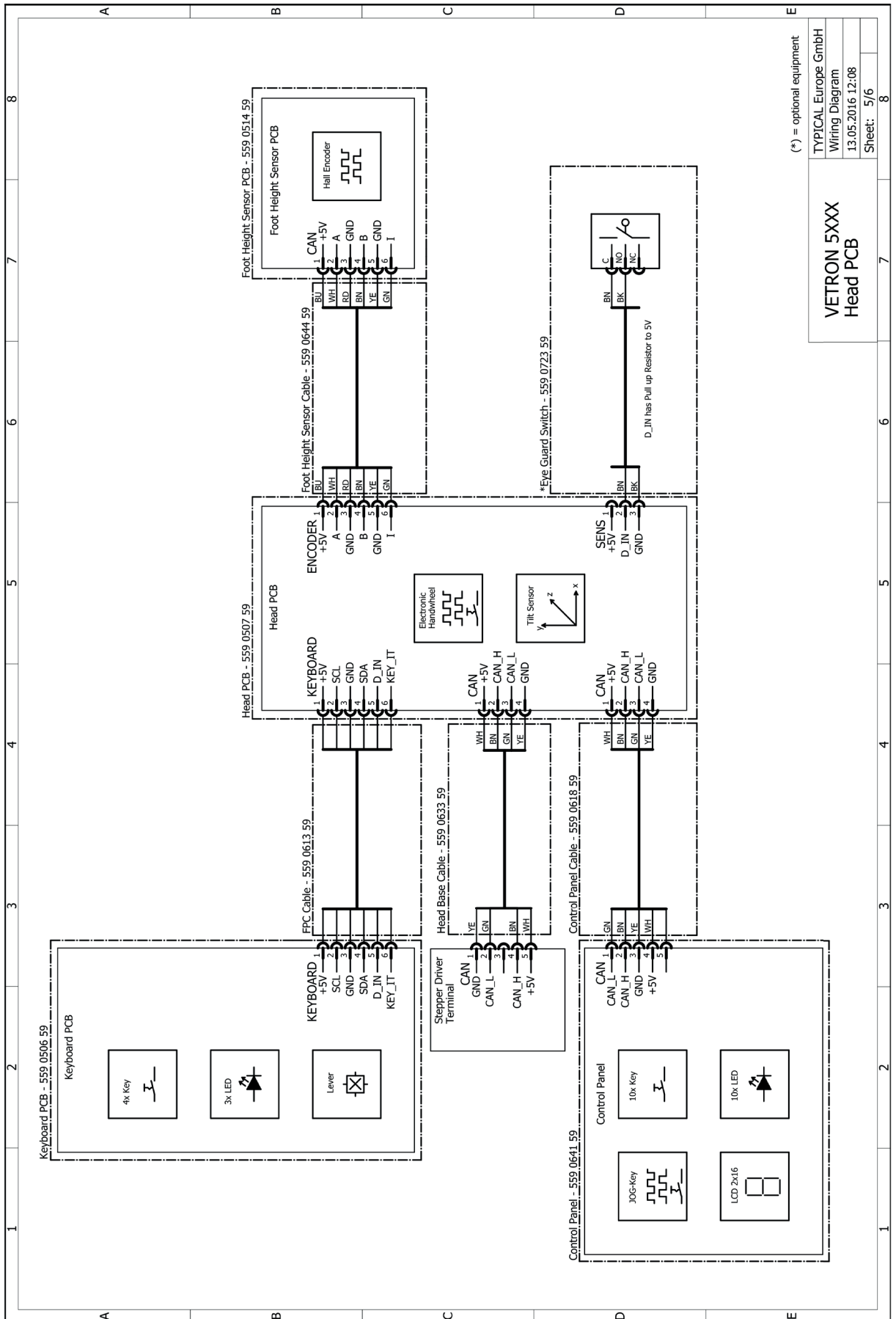


(*) = optional equipment
 TYPICAL Europe GmbH
 Wiring Diagram
 13.05.2016 12:08
 Sheet: 4/6

8340 Main Terminal
 Main Drive

07. WIRING DIAGRAM

05. VETRON 5XXX HEAD PCB



(*) = optional equipment

TYPICAL Europe GmbH	
Wiring Diagram	
13.05.2016 12:08	
Sheet: 5/6	



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