Efka variostop

CONTROL 5H62AV

INSTRUCTION MANUAL

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Efka
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EFKA ELECTRONIC MOTORS
SINGAPORE PTE. LTD.

Contents

1. Safety Instructions 4

1.1 Safety Functions 5
1.1.1 Blocking of Machine Run in Case of Positioner Error 5
1.1.2 Fuse Protection of the Stitch Condensing Solenoid 5

2. Field of Application of the Control 6

3. Short Instructions for the Operator 8

3.1 How to Set the Operating Speed 8
3.2 How to Select the Presser Foot Position, the Basic Position of the Needle and the Trimming Signals 8

4. Instructions for the Technician 9

4.1 How to Open and Close the Control Box 9
4.2 Necessary Settings before Use 9
4.2.1 How to Set the Positioning Speed 9
4.2.2 How to Adjust the Positioner Type P5-2 9
4.3 How to Adapt the Control to the Sewing Machine 10
4.3.1 How to Select the Speed Range 11
4.3.2 How to Adapt the Speed Stages to the Maximum Speed of the Sewing Machine 11
4.3.3 The External Speed Reduction 12
4.3.4 How to Select the Function of the External Pushbutton "Needle Up/Down" 12
4.3.5 How to Activate the Blocking of Machine Run 12
4.3.6 How to Set the Braking at Machine Standstill 12
4.4 How to Set the Softstart 13
4.5 How to Select Stitch Condensing at the Start of the Seam 13
4.6 How to Select Stitch Condensing at the Seam End 13
4.7 How to Select the Function of the External Pushbutton "Manual Stitch Condensing" or "Initiation of the Seam End" 14
4.8 How to Set the Basic Position of the Needle 14
4.9 How to Select the Presser Foot Position, the Basic Position of the Needle and the Trimming Signals 14
4.10 Setting the Operating Time and the Delay Time of the Signals M1...M4 15
4.10.1 Setting M1 15
4.10.2 Setting M2 15
4.10.3 Setting M3 16
4.10.4 Setting M4 (Presser Foot Lifting) 16
4.11 The Presser Foot Position 16
4.12 How to Set the Number of Stitches for Initial and Final Stitch-Condensing 17
4.13 Setting the Speed for Initial Stitch Condensing 18
4.14 Setting the Speed for Final Stitch Condensing 19
4.15 The Stitch Counting when Working with the VARIOCONTROL 19
4.16 Setting the Stitch Counting Speed 20
4.17 The External Actuator 20

5. Control Settings at Delivery 21

6. Glossary 22

7. Signal Diagram 22

8. Connections to the Sockets 23

9. Connection Diagram of the Sockets 24

10. Unit Consisting of 25

11. Special Accessories 25

1. Safety Instructions

When using an EFKA drive and accompanying appliances (e.g. for sewing machines), basic safety precautions should always be followed, including the following:

- Read all instructions thoroughly before using this drive.
- Drive and accompanying appliances should be mounted and put into operation by qualified personnel in accordance with the guidelines provided in the instruction manual.

To reduce the risk of burns, fire, electric shock, or personal injury:

- Use this drive only for its intended use as described in the instruction manual.
- Use only attachments recommended by the manufacturer or as contained in the instruction manual.
- Do not operate without corresponding protective devices.
- Never operate this drive if one or more parts (e.g. cables, plugs) are damaged, if it is not working properly, if any damages can be identified or are to be suspected (e.g. after it has been dropped). Only qualified personnel are authorized to make adjustments, eliminate faults and complete repair work.
- Never operate the drive with the air openings blocked. Keep ventilation openings of the drive free from the accumulation of lint, dust and loose cloth.
- Never drop or insert any object into any opening.
- Do not use drive outdoors.
- Do not operate where aerosol (spray) products are being used or where oxygen is being administered.
- To disconnect, turn off main switch, then remove plug from outlet.
- Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
- Keep fingers away from all moving machine parts. Special care is required e.g. around the sewing machine needle and the V-belt.
- Before mounting and adjusting accompanying appliances, i.e. postioner, reversing device, light barrier, etc., disconnect drive from mains (turn off main switch, remove mains plug from outlet [DIN VDE 0113 part 301; EN 60204-3-1; IEC 204-3-1]).
- Always switch off (0) machine and remove plug from outlet, when removing covers, mounting accompanying appliances, positioner especially, light barrier, etc., or any other devices mentioned in the instruction manual.
- Only qualified personnel are authorized to work on the electrical components.
- Work on high voltage circuit areas is forbidden, except as stated in the respective regulations, e.g. DIN VDE 0105 part 1.
- Only specially trained personnel are authorized to complete repair work.
- Cables to be wired must be protected against expectable strain and fastened adequately.
- Cables near moving machine parts (e.g. V-belts) must be wired at a minimum distance of 25 mm (see DIN VDE 0113 part 301; EN 60204-3-1; IEC 204-3-1).
- For safety it is preferred to wire the cables separately from each other.
- Before connecting the mains line make sure that the mains voltage corresponds to the specifications on the motor rating plate and on the nameplate of the power pack.
- Connect this drive to a properly grounded outlet only. See Grounding Instructions.
- Electric accompanying appliances and accessories must only be connected to safety low voltage.
- EFKA DC drives are protected according to overvoltage class 2 (DIN VDE 0160 § 5.3.1).
- Observe all safety guidelines before undertaking conversions or modifications.
- For repair and maintenance use only original replacement parts.

Warnings in the instruction manual which point out particular risks of personal injury or risk to the machine are marked with this symbol wherever applicable.

This symbol is a warning on the control and in the instruction manual. It indicates hazardous voltage.

CAUTION - In the case of failure this area can be current-carrying even after having turned the power off (non discharged capacitors).

- The drive is not an independently operating unit, but is designed to be incorporated into other machinery. It must not be put into service until the machinery into which it is to be incorporated has been declared in conformity with the provisions of the EC Directive.

Save these instructions for future reference.

1.1 Safety Functions

1.1.1 Blocking of Machine Run in Case of Positioner Error

- If the positioner is not connected all machine run functions are blocked.
- If the diode current through the positioner is interrupted, i.e. the positioner is defective, the drive stops unpositioned, and all machine run functions are blocked.

1.1.2 Fuse Protection of the Stitch Condensing Solenoid

- If the stitch condensing solenoid remains activated for some time, e.g. during manual stitch condensing at standstill, the solenoid switches off after approx. 20 seconds.

2. Field of Application of the Control

The control can be used for the following sewing machines.

Chainstitch machines of various manufacturers as for example

Juki	**Pegasus**
Kansai Special	**Yamato**
Mauser Special	

The functions of the control are divided into two fields:

Adjustments from outside: (see fig. 1)

with potentiometers

P1 the positioning speed
P2 the adaptation of the speed stages to the maximum speed of the sewing machine
P3 the speed for stitch counting
P4 the speed for initial stitch condensing
P5 the speed for final stitch condensing
P6 the waiting time for presser foot lifting when pedal is in position -1
P7 the start delay after presser foot lowering
P8 the operating speed

In the programming mode

with potentiometer P6

- the braking frequency at standstill
- the activation delay of the solenoids M1...M4

with potentiometer P7

- the activation time of the solenoids M1...M4

with switches

S1 the trimming signals M1...M3 ON/OFF
S2 the basic position of the needle up/down
S3 the automatic presser foot lifting at the seam end after trimming ON/OFF
S4 the automatic presser foot lifting at stop in the seam ON/OFF

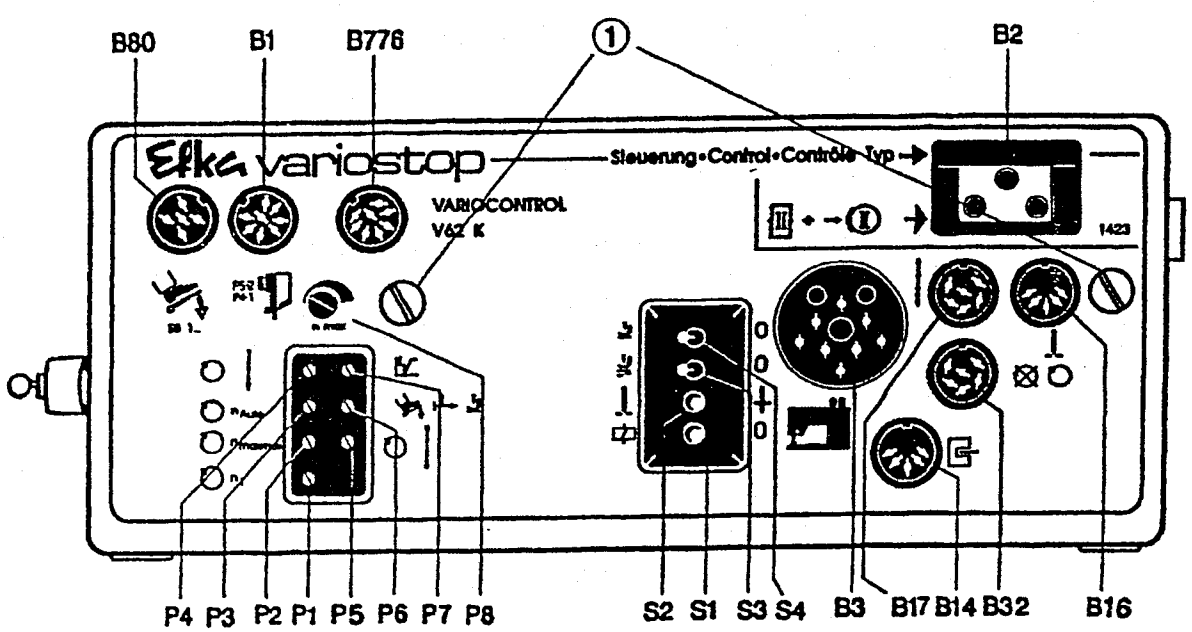


Fig. 1:

Control Settings: (see fig. 2)

with DIL switches:

S8/1	- the blocking of machine run (break [N.C.]/make [N.O.] contact)
S8/2	- the speed range
S8/3	- switching of input B17/1 "manual stitch condensing" or "initiation of the seam end"
S8/4	no setting
S8/5	- needle up/down or needle up
S8/6	- the Softstart ON/OFF
S8/7	- the initial stitch condensing ON/OFF
S8/8	- the final stitch condensing ON/OFF
S7/1-S7/8	- setting the number of stitches for initial stitch condensing
S9/1-S9/8	- setting the number of stitches for final stitch condensing

with jumper:

B101	- the speed for initial stitch condensing - the speed for final stitch condensing - the speed for stitch counting

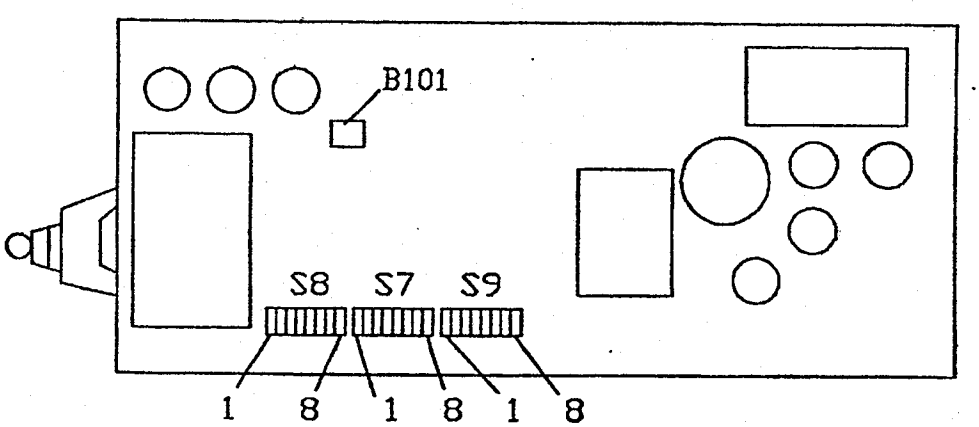


Fig. 2:

The machine is ready for operation immediately after:

- mounting the motor and the positioner
- adaptation of the control to the sewing machine
- setting the needle positions on the positioner.

3. Short Instructions for the Operator

3.1 How to Set the Operating Speed

The operating speed can be set while the drive is running.

Increase the speed by:

- turning potentiometer **P8 n max** (fig. 3) to the right.

Reduce the speed by:

- turning potentiometer **P8 n max** (fig. 3) to the left.

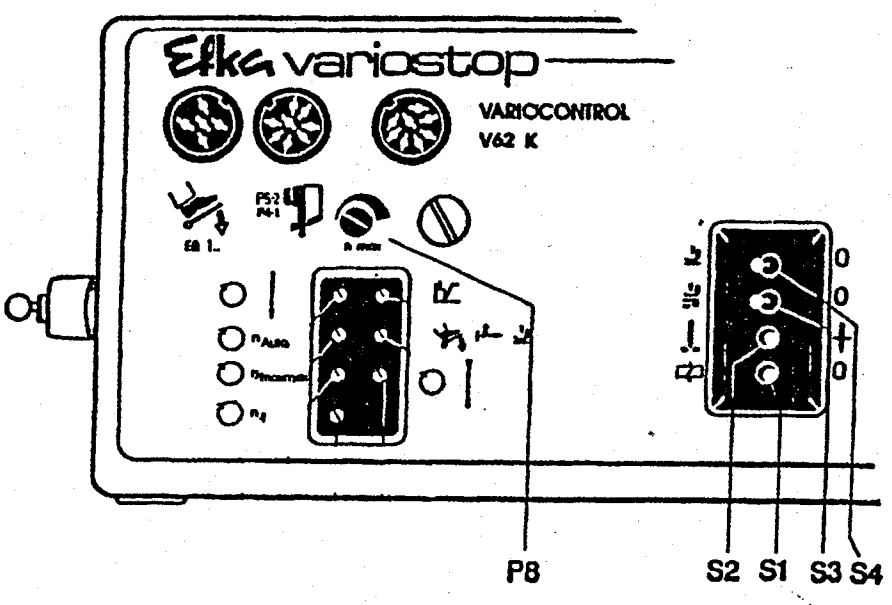


Fig. 3:

3.2 How to Select the Presser Foot Position, the Basic Position of the Needle and the Trimming Signals

Table 1:

Switch	Function	Switch Position left - right
S1	Trimming signals	on - off
S2	Basic position of the needle	up - down
S3	Presser foor up after trimming at the seam end	yes - no
S4	Presser foot up at each stop in the seam	yes - no

4. Instructions for the Technician

4.1 How to Open and Close the Control Box

For opening the control box

- Switch off the drive.
- Pull off all the plugs.
- Loosen the screws on the control (see page 6 fig. 1 reference number (**1**)).
- Remove the front panel.

For closing the control box

- Put the front panel on.
- Tighten the screws (see page 6 fig. 1 reference number (**1**)).
- Insert all the plugs.
- Switch on the drive.

4.2 Necessary Settings before Use

- the positioning speed
- the positioner

4.2.1 How to Set the Positioning Speed

Note:
Use a screw driver for adjusting the potentiometer.

- Push the pedal to the first position. Maintain this position.

Reduce the speed by:

- turning potentiometer **P1** to the left

Increase the speed by:

- turning potentiometer **P1** to the right

Note:
The positioning speed is the lowest possible speed of the sewing machine. It should amount to 180 RPM.

The positioning speed can be set within a range from 120 RPM up to 1/8 nmaxmax (P2).

4.2.2 How to Adjust the Positioner Type P5-2

Attention!
Turn power off when adjusting the positioner discs.

Caution! Ensure that the generator disc is not damaged when setting the positions.

- Open the positioner.
(Unscrew positioner cover)

Setting position 1 (lower needle position)

-Set switch **S2** to the right.
-Push pedal forward, then release it.
-Set (central) disc for position 1.

Repeat above procedure until the desired position is reached.

Setting position 2 (upper needle position)

-Set switch **S2** to the left.
-Push pedal forward, then release it.
-Set (outer) disc for position 2.

Repeat above procedure until the desired position is reached.

Attention!

Ensure that the minimum slot width of the two positions between leading and trailing edge is not below 20°.

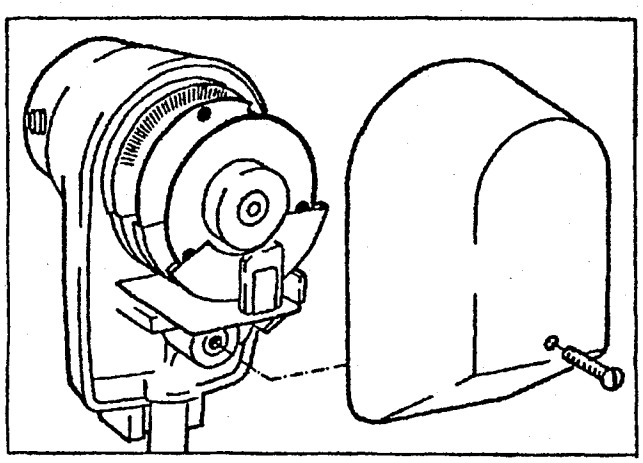


Fig. 4:

4.3 How to Adapt the Control to the Sewing Machine

You can:
- set the speed range of the sewing machine
- adapt the speed stages to the maximum speed
- select the function of external pushbutton S53
- set the braking at machine standstill of the drive

4.3.1 How to Select the Speed Range

- Open the control (see chapter 4.1)

You can see 3 groups of miniature switches (called DIL switches)

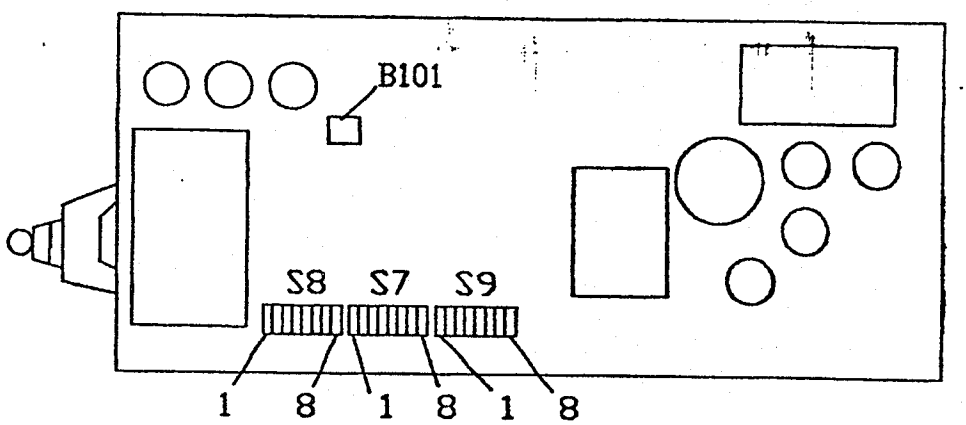


Fig. 5:

Note:
The DIL switches are switched on, when the labeled side is pressed down.

Note:
For the maximum speed of your sewing machine see the documentation of the sewing machine manufacturer.

Speed up to 10000 RPM	**Speed uo to 6000 RPM**
S8/2 = ON	**S8/2 = OFF**

Note:
When the speed range of up to 6000 RPM has been selected, a higher speed cannot be reached.

- Close the control (see chapter 4.1).

4.3.2 How to Adapt the Speed Stages to the Maximum Speed of the Sewing Machine

- Choose the right pulleys for the motor so that the desired maximum speed of the sewing machine can be reached .
- Turn potentiometer **P2** nmaxmax with a screw driver completely to the left.
- Turn potentiometer **P8** nmax completely to the right.
- Switch on the drive.
- Turn potentiometer **P2** nmaxmax with a screw driver to the right until the desired speed is adjusted.

4.3.3 The External Speed Reduction

The maximum speed (**n.maxmax**) adjusted with potentiometer **P2** can be reduced to up to 1/4 by using potentiometer **P8 nmax**. When potentiometer **P8** is turned completely to the right, the maximum speed adjusted with potentiometer **P2** is performed.

4.3.4 How to Select the Function of the External Pushbutton "Needle Up/Down"

(see page 24 chapter 9)

If pushbutton "needle up/down" should have the function:

Needle up without trimming	**Change of needle position**
S8/5 = ON	**S8/5 = OFF**

4.3.5 How to Activate the Blocking of Machine Run

The function blocking of machine run is activated by external pushbutton **S54** (see also chapter "Connection Diagram of the Sockets"). **S54** can work alternatively as break (N.C.) or make (N.O.) contact (depending on **S8/1**).
Instead of switch **S54** a proximity switch can also be used.

Blocking of machine run when S54 closed	**Blocking of machine run when when S54 opened**
S8/1 = ON	**S8/1 = OFF**

Attention!
During maintenance and repair work the machine must still be switched off.

4.3.6 How to Set the Braking at Machine Standstill

Note! The braking at machine standstill can only be set immediately after **power ON.**

Switch **S3** within 1 s **ON/OFF/ON** and/or **OFF/ON** according to position of switch **S2.**

After activating the adjustment routine an acoustic signal will be emitted.

Now the braking effect can be adjusted by potentiometer **P6.** By turning potentiometer **P6** to the right the braking effect becomes stronger.

Check braking effect by turning the handwheel.

Storage

A new value will only be recognized if potentiometer **P6** has been turned by more than ±5°. The new value is saved when starting to sew, and the adjustment routine is exited.

Note:

When the adjustment routine is exited, potentiometer P6 receives its original function. The value for the delay of presser foot lifting with pedal in position -1 must be reset only when the potentiometer is turned by more than ±5°.

4.4 How to Set the Softstart

Set the function Softstart with DIL switch **S8/6**.

Softstart on	**Softstart off**
S8/6 = ON	**S8/6 = OFF**

When the Softstart is on, the first 2 stitches are performed at a speed of 500 RPM. If the set speed is below 500 RPM the corresponding pedal speed is performed.

4.5 How to Select Stitch Condensing at the Start of the Seam

Set the function stitch condensing at the start of the seam with DIL switch **S8/7**.

Stitch condensing at the start of the seam ON	**Stitch condensing at the start of the seam OFF**
S8/7 = ON	**S8/7 = OFF**

Note: Stitches must be set with DIL switch S7 (see page 17 chapter 4.12)!

4.6 How to Select Stitch Condensing at the Seam End

Set the function stitch condensing at the seam endwith DIL switch **S8/8**.

Stitch condensing at the seam end ON	**Stitch condensing at the seam end OFF**
S8/8 = ON	**S8/8 = OFF**

Note: Stitches must be set with DIL switch S9 (see page 17 chapter 4.12)!

4.7 How to Select the Function of the External Pushbutton "Needle Up/Down" or "Initiation of the Seam End"

Set the functions with DIL switch **S8/3.**

Initiation of the seam end *	**Manual stitch condensing ****
S8/3 = ON	**S8/3 = OFF**

* When pressing the external pushbutton S52 (see page 24 chapter 9), the seam end is initiated. This function corresponds to heeling the pedal back to position -2.

** When pressing the external pushbutton S52 (see page 24 chapter 9), stitch condensing is performed at machine standstill or during machine run.

4.8 How to set the Basic Position of the Needle

When stopping in the seam, the needle stops in the selected basic position.

Needle up
Switch **S2** to the left
(see table 2)

Needle down
Switch **S2** to the right
(see table 2)

4.9 How to Select the Presser Foot Position, the Basic Position of the Neeedle and the Trimming Signals

Table 2:

Switch	Function	Switch Position left		right
S1	Trimming signals	on	-	off
S2	Basic position of the needle	up	-	down
S3	Presser foot up after trimming at the seam end	yes	-	no
S4	Presser foot up at each stop in the seam	yes	-	no

4.10 Setting the Operating Time and the Delay Time of the Signals M1..M4

Attention! The operating time and delay time can only be set immediately after **power ON.**

By heeling the pedal back to position -2 the signals can be generated and measured, e.g. with an oscilloscope.

A change of values will only be recognized if the potentiometer settings have been changed by more than ±5°.

The values will be saved when the setting is continued or by running a test operation.

Entering the setting routine

Set switch **S1** within 1 s **ON/OFF/ON** and/or **OFF/ON** according to the position of switch **S1.**

When activating the setting routine an acoustic signal (1 short beep...) is emitted.

4.10.1 Setting M1

Start delay

A time from 0 ms to 500 ms can be set with potentiometer **P6**

Operating time

A time from 0 ms to 500 ms can be set with potentiometer **P7**

Check by heeling the pedal back

Continue setting

Set switch **S1** again **OFF/ON (within the setting routine)**

An acoustic signal is emitted (2 short beeps...)

4.10.2 Setting M2

Start delay

A time from 0 ms to 500 ms can be set with potentiometer **P6**

Operating time

A time from 0 ms to 500 ms can be set with potentiometer **P7**

Check by heeling the pedal back

Continue setting

Set switch **S1** again **OFF/ON (within the setting routine)**

An acoustic signal is emitted (3 short beeps...)

4.10.3 Setting M3

Start delay

A time from 0 ms to 2.5 s can be set with potentiometer **P6**

Operating time

A time from 0 ms to 2.5 s can be set with potentiometer **P7**

Check by heeling the pedal back

Continue setting

Set switch **S1** again **OFF/ON (within the setting routine)**

An acoustic signal is emitted (4 short beeps...)

4.10.4 Setting M4 (Presser Foot Lifting)

Start delay when trimming

A time from 0 ms to 2.5 s can be set with potentiometer **P6.**

Operating time (full power)

A time from 0 ms to 2.5 s can be set with potentiometer **P7.**

Check by heeling the pedal back

Back to M1

Set switch **S1** 2 x **OFF/ON**

Exit setting routine

Set switch **S1** (within 3 s) 3 x **OFF/ON**

Note:

When the adjustment routine is exited, potentiometers **P6** and **P7** receive their original function.
The value for the delay of presser foot lifting with pedal in position -1 and activation delay from lifted presser foot must be reset only when the potentiometer is turned by more than ±5°.

4.11 The Presser Foot Position

Presser foot lifting after switching the machine on

- automatically if preselected with switch S3, otherwise
- with pedal in pos. -1 or -2
- by external pushbutton (see socket B16 page 24)

Presser foot lifting in the seam

- automatically if preselected with switch S4, otherwise
- with pedal in pos. -1 or
- by external pushbutton (see socket B16 page 24)

Presser foot lifting after trimming

- automatically if preselected with switch S3, otherwise
- with pedal in pos. -1 or -2
- by external pushbutton (see socket B16 page 24)

4.12 How to Set the Number of Stitches for Initial and Final Stitch Condensing

- **With opened control box (see chapter 4.1).**

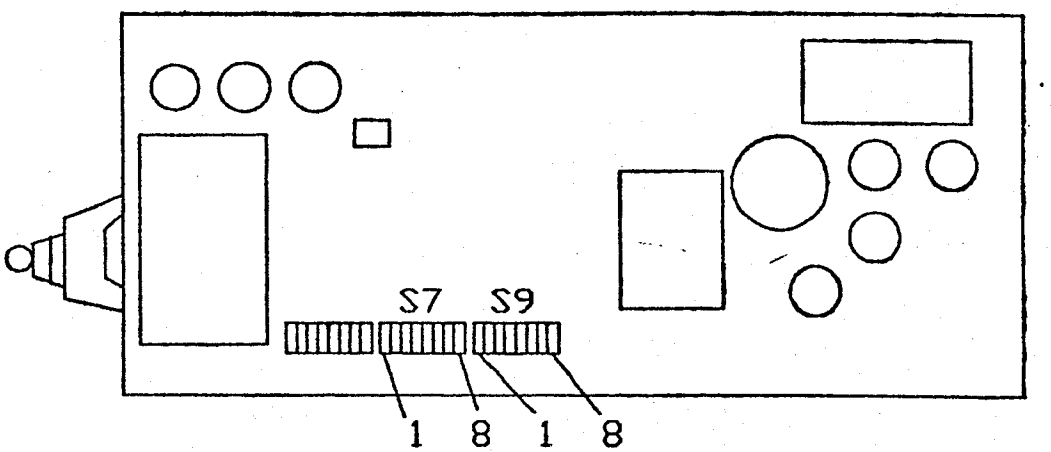


Fig. 6:

The number of stitches for initial and final stitch condensing can be set with DIL switches S7 and S9.

A maximum of 165 stitches each is possible.

S7/1 = 10 stitches for initial stitch condensing	S9/1 = 10 stitches for final stitch condensing
S7/2 = 20 "	S9/2 = 20 "
S7/3 = 40 "	S9/3 = 40 "
S7/4 = 80 "	S9/4 = 80 "
S7/5 = 1 "	S9/5 = 1 "
S7/6 = 2 "	S9/6 = 2 "
S7/7 = 4 "	S9/7 = 4 "
S7/8 = 8 "	S9/8 = 8 "

The total number of stitches is the sum of the numbers of stitches preset by DIL switches in position ON.

E.g.: 146 stitches are to be set for initial stitch condensing.

The following DIL switches must be in position ON:

S7/4 = ON = 80 stitches
S7/3 = ON = 40 "
S7/2 = ON = 20 "
S7/7 = ON = 4 "
S7/6 = ON = 2 "

The stitches for final stitch condensing are set in the same manner.
See table overleaf for the coding of the switches!

Table 3: Coding of the stitch numbers

Number of stitches S7/1-S7/4 S9/1-S9/4	Switch				Number of stitches S7/5-S7/8 S9/5-S9/8	Switch			
	S7/1 S9/1	S7/2 S9/2	S7/3 S9/3	S7/4 S9/4		S7/5 S9/5	S7/6 S9/6	S7/7 S9/7	S7/8 S9/8
0	OFF	OFF	OFF	OFF	0	OFF	OFF	OFF	OFF
10	ON	OFF	OFF	OFF	1	ON	OFF	OFF	OFF
20	OFF	ON	OFF	OFF	2	OFF	ON	OFF	OFF
30	ON	ON	OFF	OFF	3	ON	ON	OFF	OFF
40	OFF	OFF	ON	OFF	4	OFF	OFF	ON	OFF
50	ON	OFF	ON	OFF	5	ON	OFF	ON	OFF
60	OFF	ON	ON	OFF	6	OFF	ON	ON	OFF
70	ON	ON	ON	OFF	7	ON	ON	ON	OFF
80	OFF	OFF	OFF	ON	8	OFF	OFF	OFF	ON
90	ON	OFF	OFF	ON	9	ON	OFF	OFF	ON
100	OFF	ON	OFF	ON	10	OFF	ON	OFF	ON
110	ON	ON	OFF	ON	11	ON	ON	OFF	ON
120	OFF	OFF	ON	ON	12	OFF	OFF	ON	ON
130	ON	OFF	ON	ON	13	ON	OFF	ON	ON
140	OFF	ON	ON	ON	14	OFF	ON	ON	ON
150	ON	ON	ON	ON	15	ON	ON	ON	ON

4.13 Setting the Speed for Initial Stitch Condensing

Switch
- the initial stitch condensing **ON S8/7 = ON** (see also chapter 4.5)
- the Softstart **OFF S8/6 = OFF** (see also chapter 4.5)

Sew one seam, then trim.
- Slip on jumper B101 according to fig. 7 page 19
- Push pedal forward: run at initial stitch condensing speed
- Set speed with potentiometer **P4**

Note:

The initial stitch condensing speed can be set within a range from 1/8 to up to the preset maximum speed (n.maxmax).

Finish speed setting and stop machine

Remove jumper.

4.14 Setting the Speed for Final Stitch Condensing

Switch
- the initial stitch condensing **OFF S8/7 = OFF** (see also chapter 4.5)
- the final stitch condensing **ON S8/8 = ON** (see also chapter 4.5)

Push pedal forward.
- Slip on jumper B101 according to fig. 7
- Heel pedal back: run at final stitch condensing speed
- Set speed with potentiometer **P5**

Note:

The final stitch condensing speed can be set within a range from 1/8 to up to the preset maximum speed (n.maxmax).

Finish speed setting and stop machine

Remove jumper.

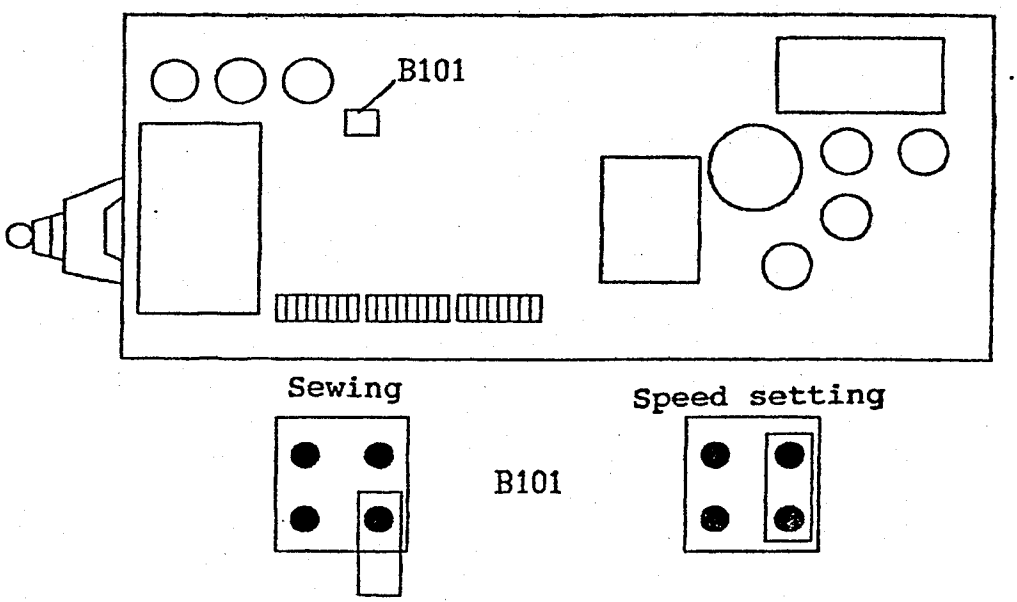


Fig. 7:

4.15 The Stitch Counting when Working with the VARIOCONTROL

The sewing programs for stitch counting are programmed by using the control panel V62K (see sep. instructions V62K).

Attention!

Plug in or unplug Variocontrol only when drive is switched off.

4.16 Setting the Stitch Counting Speed

(The stitch counting speed is only effective when the control panel is connected.)

Switch
- the initial stitch condensing **OFF S8/7 = OFF** (see also chapter 4.5)
- the Softstart **OFF S8/6 = OFF** (see also chapter 4.5)

- Slip on jumper B101 according to fig. 7 page 19
- Push pedal forward: run at stitch counting speed
- Set speed with potentiometer **P3**

Note:

The stitch counting speed can be set within a range from 1/8 to up to the preset maximum speed (n.maxmax).

Finish speed setting

Remove jumper.

4.17 The External Actuator

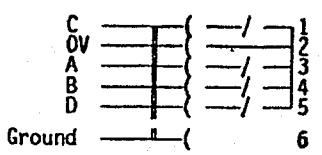
The external actuator is connected to socket b80 (see page 23 fig. 8).
The coding of the pedal steps is shown in the following table.

Pedal step:	D	C	B	A	Function
-2	H	H	L	L	Functional sequence for seam end
-1	H	H	H	L	Lift presser foot
0	H	H	H	H	Drive stops
½	H	H	L	H	Lower presaser foot
1	H	L	L	H	Speed stage 1
2	H	L	L	L	Speed stage 2
3	H	L	H	L	.
4	H	L	H	H	.
5	L	L	H	H	.
6	L	L	H	L	
7	L	L	L	L	
8	L	L	L	H	
9	L	H	L	H	
10	L	H	L	L	
11	L	H	H	L	
12	L	H	H	H	Speed stage 12

L= Input set to 0V
H= Input is open

Switch closed
Switch open

Setting of socket b80



5. Control Settings at Delivery

Programming the stitch condensing sections		
Switch	Position	Signification
S7/1	off	Initial stitch condensing stitches
S7/2	off	
S7/3	off	
S7/4	off	
S7/5	off	
S7/6	off	
S7/7	off	
S7/8	off	
S9/1	off	Final stitch condensing stitches
S9/2	off	
S9/3	off	
S9/4	off	
S9/5	off	
S9/6	off	
S9/7	off	
S9/8	off	

Programming the running behavior		
Switch	Position	Signification
S8/1	on	Blocking of machine run activated with switch closed
S8/2	off	Speed class 6000 RPM
S8/3	off	Manual stitch condensing
S8/4	--	
S8/5	off	Needle up/down
S8/6	off	Softstart off
S8/7	on	Initial stitch condensing off
S8/8	on	Final stitch condensing on

Potentiometer settings		
Potentiometer	Position	Signification
P1	180 RPM	Positioning speed (n.pos)
P2	6000 RPM	Maximum speed (n.maxmax) upper limit for all speeds
P3	1200 RPM	Stitch counting speed (n.stich)
P4	1500 RPM	Initial stitch condensing speed (n.ar)
P5	1500 RPM	Final stitch condensing speed (n.er)
P6	max.	Delay with pedal in position -1
P7	50 ms (+/-10 ms)	Start delay from lifted presser foot
P8	6000 RPM	reduced speed of P2 (n.max)

Switches accessible from outside		
Switch	Position	Signification
S1	left	Trimming signals M1...M3 on
S2	left	Basic position position 2
S3	left	Automatic presser foot lifting at the seam end on
S4	right	Automatic presser foot lifting at stop in the seam off aus

Other preset values

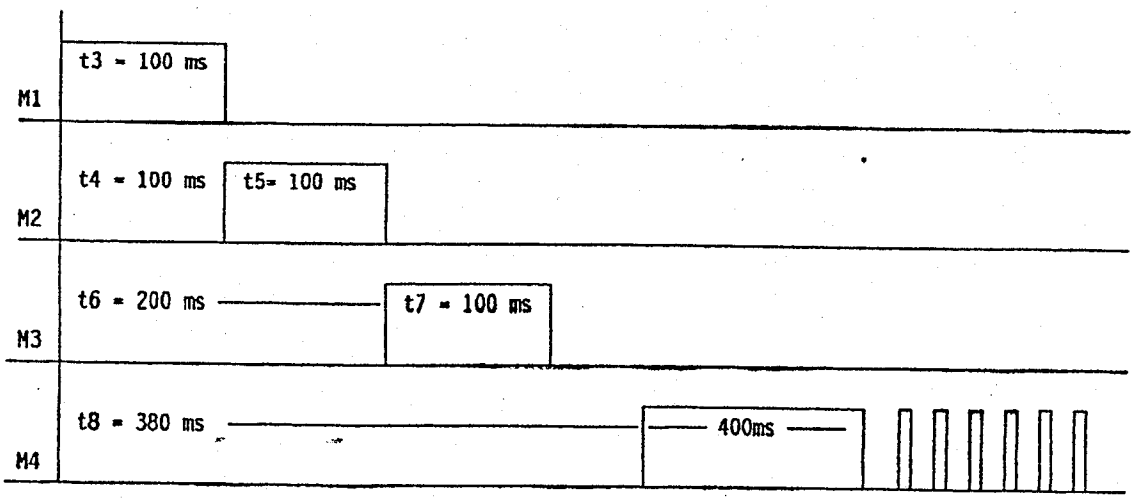
The following values are preset in the EEPROM and cannot be modified by the operator.

	Clock frequency of presser foot lifting	approx. 1 kHz
	Start delay after trimming with wiper	100 ms (+/-10ms)
n.soft	Softstart speed	500 RPM
c.soft	Softstart stitches	2

6. Glossary

Basic position of the needle	Needle position at stop in the seam
Braking at standstill	Braking effect at machine standstill in order to prevent the handwheel from moving by itself
Final stitch counting	Stitch length reduction at the seam end
Initial stitch counting	Stitch length reduction at the start of the seam
Maximum speed	Highest possible speed of the sewing machine
to position	Machine stop in certain positions (needle positions)
Positioning speed	Lowest set speed of the sewing machine, at which positioning is performed
Potentiometer	Adjustable electric resistance
Softstart	The first two stitches of a seam are performed at a reduced speed
Speed range	Operative range of the sewing machine limited by the positioning and maximum speed

7. Signal Diagram



8. Connections to the Sockets

Socket:

B1 - Positioner P5-2
B2 - Clutch and brake of the motor
B3 - Solenoids for "thread puller", "thread trimmer", "thread catcher" and "presser foot lifting"
B14 - Hall sensor or pushbutton "blocking of machine run"
B16 - Pushbutton for "presser foot lifting with pedal in position zero (neutral)" and "needle up" without trimming and/or change of positions
B17* - Pushbutton "manual stitch condensing", solenoid for "stitch condensing" and pushbutton for recall and/or suppression of automatic stitch condensing
B32 Solenoid valves for "machine running" and "machine at standstill"
B80 - External actuator EB1..
B776 - Control panel V62K

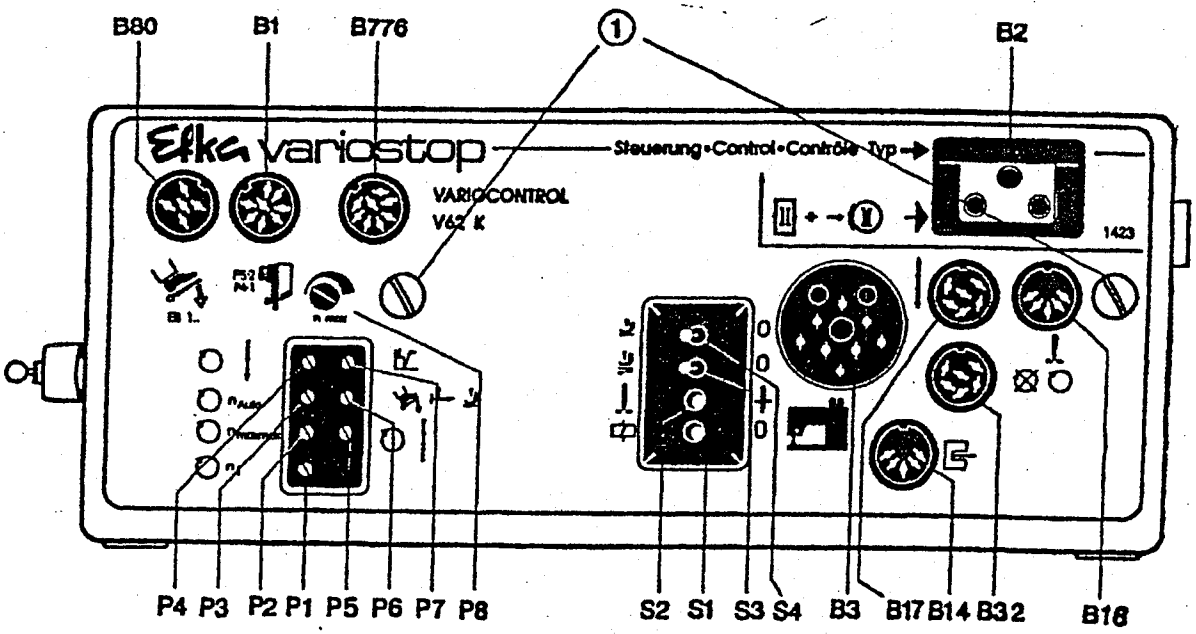
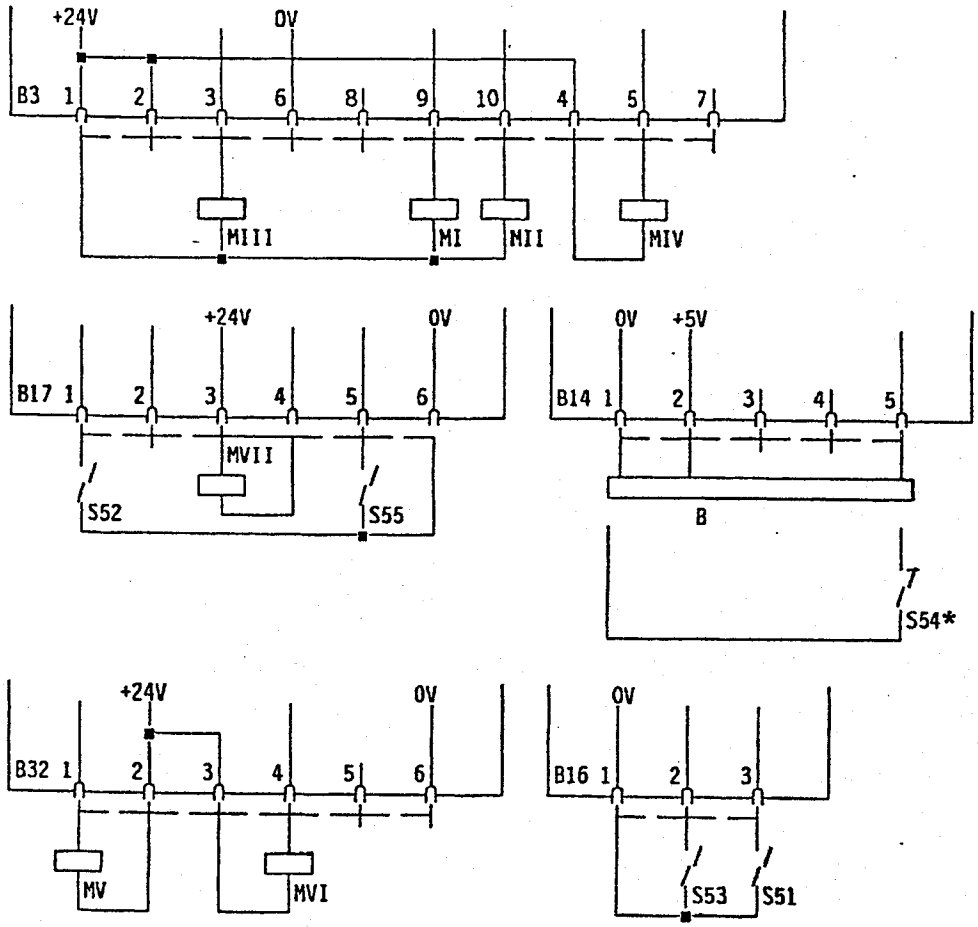


Fig. 8:

Attention!

Plug for solenoid "stitch condensing (MVII)" must not be plugged into socket B32.

9. Connection Diagram of the Sockets



*** Attention!**
During maintenance and repair work the machine must still be switched off.

MI	- Solenoid (or solenoid valve)
MII	- Solenoid (or solenoid valve)
MIII	- Solenoid (or solenoid valve)
MIV	- Solenoid (or solenoid valve) presser foot lifting
MV	- Signal: machine running
MVI	- Signal: machine at standstill
MVII	- Solenoid (or solenoid valve) stitch condensing
S51	- Pushbutton for: Presser foot lifting with pedal in position zero (neutral)
S52	- Pushbutton for: Activation of stitch condensing in the seam and/or initiation of the seam end
S53	- Pushbutton for: Needle up/down and/or only up
S54	- Microswitch for blocking of machine run
S55	- Pushbutton for: recalling and/or suppressing stitch condensing once
B	- Hall sensor 5V supply

10. Unit Consisting of

The drive consists of the following parts

1 induction motor with electromagnetic clutch type V..	
1 control 5H62AV with	
-power pack	type N13 or N14
1 positioner	type P5-2
1 set of standard accessories	B10
1 set of accessories	Z39
1 pulley	DIN 42692-L

11. Special Accessories

Control panel VARIOCONTROL type V62K	- part no. 59.0144
Belt guard (for pulleys up to 180 mm Ø)	- part no. 7960012
Solenoid type EM1.. (for e.g presser foot lifting, backtacking, etc.)	- available versions on inquiry
Set of adapter cords for the connection to Kansai-Special class RX 9803 A/UTC and D/UTC	- part no. 1112238
Set of adapter cords for the connection to Pegasus class W600/UT/MS with stitch condensing)	- part no. 1111832
Set of adapter cords for the connection to Pegasus class W500/UT, W600/UT, W700/UT (without stitch condensing)	- part no. 1112079
Adapter cord for the connection to Pegasus class 664 (sensor)	- part no. 1107409
Adapter cord for the connection to Brother class FD3-B257-chainstitch	- part no. 1112337
Adapter cord for Yamato machines (1x 10-pin Hirschmann on 1x 6-pin and 1x 4-pin Molex), for the connection of thread trimmer, thread wiper, thread tension release, thread catcher and presser foot lifting	- part no. 1107454
External actuator type EB301 with approx. 250 mm adapter cord and 5-pin plug with slide index	- part no. 41.0011
External actuator type EB302 (softer springs) with approx. 250 mm adapter cord and 5-pin plug with slide index	- part no. 41.0012
Foot control type FB302 for standing operation with approx. 1400 mm connecting cable and plug	- part no. 4160018
Potential equalization cord 700 mm long, LIY 2.5 mm^2, grey, with forked cable brackets on both sides	- part no. 1100313
Extension cable for external actuator, approx. 750 mm long, complete with plug and socket connector	- part no. 1111845
Extension cable for external actuator, approx. 1500 mm long, complete with plug and socket connector	- part no. 1111787
5-pin plug with slide index for the connection of another external actuator	- part no. 0501278
Extension cable for positioner P4-.. and P5-.., approx. 315 mm long, complete with plug and socket connector	- part no. 1111229
Extension cable for positioner P4-.. and P5-.., approx. 1100 mm long, complete with plug and socket connector	- part no. 1111584
Extension cable for commutation transmitter, approx. 315 mm long, complete with plug and socket connector	- part no. 1111229
Knee switch type KN3 (pushbutton) with cord of approx. 950 mm length without plug, for the connection of the functions overleaf	- part no. 58.0013
Sewing light transformer	- please indicate line voltage and sewing light voltage (6.3V or 12V)

3-pin plug with slide index	- part no. 0500402
5-pin plug with slide index	- part no. 0501431
6-pin plug with slide index	- part no. 0500703
10-pin plug	- part no. 0500357

For your notes

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