

SERVO-TOP

QE5542

CE

SINGER

S20SE

Instruction Manual

Part 3

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Technical updatings reserved!

11. Survey and List of Parameters

11.1 Explanation of Parameter Survey

The parameter survey is designed as an aid for finding parameters quickly. It is a summary of references for the parameter list. Listed behind each reference are all parameters which exert an influence on the function described by the reference.

The parameter survey is divided into five columns:

Column 1 shows the references (functions) to which parameters are assigned.

Column 2 shows the abbreviations of the respective functions.

Column 3 shows all parameters (setting numbers) belonging to the respective reference.

Column 4 shows, for each function (reference) which controls inputs or outputs, the applicable indications such as Ex or Ax which can also be found on the connections diagram.

Column 5 shows, for each function (control inputs (Ex) or control outputs (Ax)), the respective plugs with the number of contacts (see connections diagram).

Example for searching a parameter:

Keyword (function): inverse rotation

The parameter survey shows in column 3 the parameter numbers 618, 623, 801.

Suppose that the inverse rotation function is to be enabled. The parameter list shows this function under parameter number 618.

11.2 Explanation of Parameter List

The parameter list is divided into 5 columns. These comprise, in

column 1: the parameter number,

column 2: is the explanation (meaning) of the parameters and the coding system of row 1 of the keys of the mini operator's panel, used when the parameter concerned can be programmed with the mini operator's panel,

column 3: the programming level (A, B, C) on which the parameter in question can be accessed,

column 4: the range of values within which the parameter in question can be set,

column 5: the value of the parameter in question is set on delivery ex factory.

Parameters having "either/or" validity (software switches) can merely be set to value I or II. In the case of such parameters, column 4 is empty.

11.3 Parameter survey S20SE (2a_C05_5)

Function	Abbrev'n Output	Parameter Socket/Contacts	Input	Connection
Blower	BLA	668		
Control	REG	884/885/886 887/889/890 891/894		
Direction of rotation	DRR	800		
Inverse rotation	RDR	618/623/801		
Machine class	MAKL	799		
Needle position	NAPO	700/701/702 703/704/705 710		
Needle position change-over	NPW	616		
Needle up without trimming	NHOS	616/710		
Programming level C	EBC	798		
Residual brake	STBR	718		
Safety switch no run	ANLSP	665		
Soft start	SANL	116/117		
Speed	DRZ	117/605/606 607/608/609 676/850/901		
Speed decrease	DRZAB	723		
Speed increase	DRZAN	722		
Stop	STOP	665		
Thread trimming	SN	601/609/646 704/705/901		
Thread wiper	WI	646/668/715		

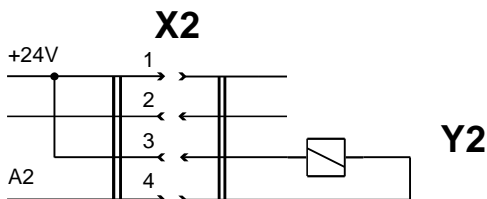
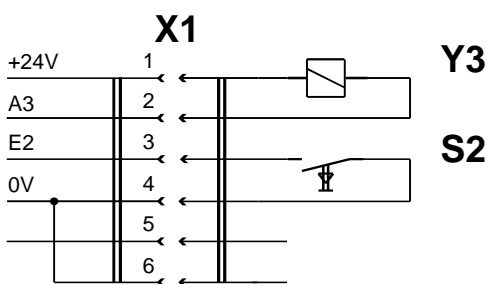
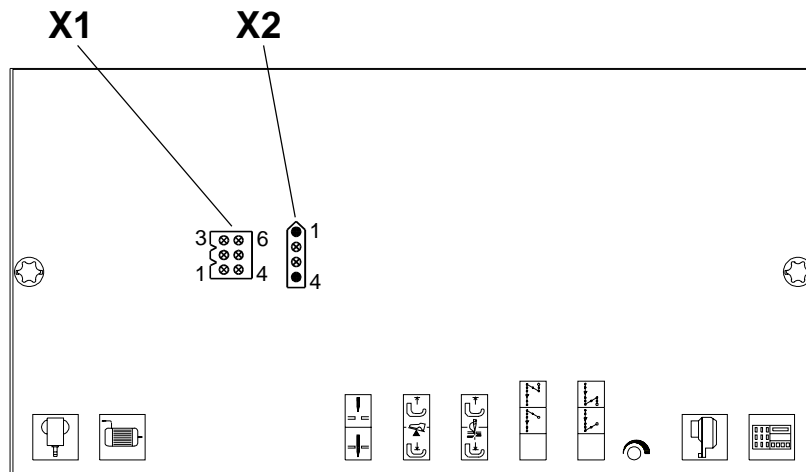
11.4 List of parameters S20SE (2a_C05_5.EN)

Nr.	Function	Progr.- Level	Range of Adjustment	Adjustment exworks
116	(SANL) Soft start stitches (11100000)	A,B	0-254	0
117	(SANL/DRZ) Speed for soft start stitches (00010000)	B	30-640	500
601	(SN) Trimming I yes II no (00001000)	B		I
605	(DRZ) Actual speed in display I yes II no	B		II
606	(DRZ) Speed: level 1 (min.) (10001000)	B	30-640	200
607	(DRZ) Speed: level 12 (max.) (01001000)	B	100-10000	4000
608	(DRZ) Speed level curve (treadle characteristic) I linear II not linear	B		I
609	(SN/DRZ) Trimming speed 1 (11001000)	B	30-400	200
616	(NPW/NHOS) Function of external key (input E2) I needle position change-over (NPW) II needle up without trimming (NHOS)	B		II
618	(RDR) Inverse rotation after seam end I yes II no (00101000)	B		II
623	(RDR) Delay in start-up time (ms) for inverse rotation	B	0-2550	100
646	(SN/WI) Switch on the control panel S9 I thread trimmer and thread wiper off II thread wiper off	B		I
665	(ANLSP/STOP) Run locking/stop I contact closed II contact open	C		I
668	(BLA/WI) Thread wiper/thread clearer I yes II no (10101000)	B		I
676	(DRZ) Speed adjustment via potentiometer possible I yes II no	B		I
700	(NAPO) Needle position 0 (reference position of the needle) (01101000)	B	0-239	0 *

701	(NAPO) Angular adjustment I with handwheel (teach-in) II by keys (+/-)	B		I
702	(NAPO) Needle position 1 (needle down) (11101000)	B	0-239	65
703	(NAPO) Needle position 2 (thread take-up lever up) (00011000)	B,C	0-239	211
704	(NAPO/SN) Needle position 4 (start trimming signal 1) (01011000)	B	0-239	95
705	(NAPO/SN) Needle position 5 (end of trimming signal 1) (10011000)	B	0-239	168
710	(NAPO/NHOS) Needle position 3 (needle up) (11011000)	B	0-239	200
715	(WI) Duration (ms) of thread wiper	B	0-2550	50
718	(STBR) Timing of residual brake (0 = brake off) (00111000)	B	0-100	0
722	(DRZAN) Acceleration ramp 1 gradual 50 steep	B	1-50	45
723	(DRZAB) Brake ramp 1 gradual 50 steep	B	1-50	31
798	(EBC) Programming level C I yes II no	B		II
799	(MAKL) Machine class which has been selected (10111000)	C	1-1	1
800	(DRR) Direction of motor rotation viewed from belt pulley I lefthand rotation II righthand rotation (01111000)	B,C		I *
801	(RDR) Reverse rotation angle after seam end	B,C	5-200	30
850	(DRZ) Maximum motor speed	C	2000-6000	4500
884	(REG) Proportional part of the speed control (in general)	B,C	4-50	13
885	(REG) Integral part of the speed control	C	0-100	30
886	(REG) Proportional part of the superior order controllers	C	1-50	20
887	(REG) Proportional part for the speed of order controllers	C	1-100	30
889	(REG) Time required for order controlling (0 = always)	C	0-1000	400
890	(REG) Proportional part of the superior order controllers for the residual brake	C	1-50	25
891	(REG) Proportional part of the lower speed controllers for the residual brake	C	1-50	20
894	(REG) Rotational direction of synchronizer during sewing operation (self teaching) I righthand rotation II lefthand rotation	C		I

897	(SONST) Quick internal	C		II
898	(SONST) Quick internal	C		II
901	(DRZ/SN) Trimming release speed	C	30-500	300

12. Electrical Connections Diagram S20SE



Bedeutung der Magnete bzw. Magnetventile, Taster / Meaning of magnets and/or solenoids and keys
 Signification des aimants resp. solenoides et touches / Significação dos ímãs e/ou as solenoidas e teclas
 Significato dei magneti, delle valvole magnetiche e dei tasti / Significación de los imanes y/o los solenoides y pulsadores / Betekenis van de magneten resp. magneetkleppen, toetsen

S2		<616> = I: Nadelpositionswechsel / needle position change-over / changement de position d'aiguille / troça de posição da agulha / cambio di posizione dell'ago / cambio de posición de aguja / naaldpositie-verwisseling
S2		<616> = II: Nadel hoch ohne Schneiden / needle up without thread trimming / aiguille en haut sans coupe / agulha para cima sem corte de linhas / ago su senza taglio / aguja arriba sin corte / naald omhoog zonder snijden
Y2 I max 10 A		Fadenschneider / thread trimmer / coupe-fil / corte de linhas / rasafilo / cortahilos / draadsnijder
Y3 I max 10 A		Fadenwischer / thread wiper / écarteur de fil / retira-linhas / scartafilo / retirahilos / draadwisser

13. Maintenance and Repair



!! Before starting maintenance or repair work, switch off the SERVO-TOP, separate the drive system from mains power (for instance by pulling out the mains plug) and wait for the motor to come to a complete stop.

General maintenance work must only be done by specially trained personnel paying close attention to the operating instructions.

The SERVO-TOP is largely maintenance-free.

However, make sure to perform the following maintenance work:

Depending on the operating conditions, clean the drive system regularly, at least once a week, from any dust or lint. Make sure in particular that the ventilation louvres and cooling fins of the motor, especially the cooling fins between the motor and the control box, are perfectly clean (Fig. 13).

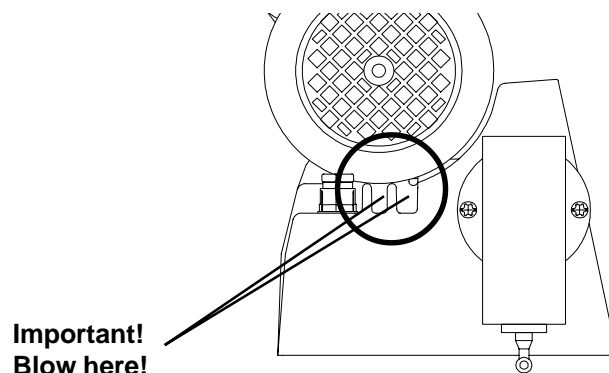


Fig. 13

Remove any threads caught on the synchronizer shaft or on the belt pulley and/or motor shaft.

Check if the drive system is perfectly secured to the stand and that the accessories (synchronizer on machine shaft, speed control unit on control box) are safely mounted in their respective positions.

Check the drive belt for any wear and for correct tension. Incorrect belt tension can increase noise and vibrations.



When opening covers or removing parts, apart from those removable by hand, live elements can be exposed. Connections can also be electrically live.

If you require to open the drive system before starting maintenance or repair work or before replacing any parts, disconnect the drive system from any and all power sources.

If maintenance or repair work on the open unit is unavoidable, this may only be done by qualified personnel familiar with the risks involved. Observe all regulations as per EN 50110.

There can still be capacitors carrying a charge in the power electronics system, even when the drive system has been disconnected from all power sources. To avoid injury by electrical shock, it is therefore essential to wait at least 10 minutes between mains power shutoff and opening the control box.

In order to protect semi-conductor components from overvoltage, use only high-resistivity measuring equipment when making checks on the control system.

Any repair or servicing work requiring skilled knowhow may only be done by qualified personnel authorized by Quick-Rotan.

We emphasize that in accordance with the product liability law we are under no responsibility for damages caused by our products if these are due to

- unqualified repair
- the use of components not authorized by us
- actions made by any persons not authorized by us.

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