

SERVO-TOP

QE5542

CE

SINGER

S100SE

Instruction Manual

Part 3

QUICK-ROTAN Elektromotoren GmbH
Gräfenhäuser Straße 85
D-64293 Darmstadt
Tel.: 06151 / 87970
Fax: 06151 / 896246

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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 (2A_C40_G.ENO)

Function	Abbrev'n	Parameter	Input Output	Connection Socket/Contacts
Accelerate	DRZAN	722		
Brake	DRZAB	723/794/851		
Control	REG	884/885/886 887/889/890 891/894		
Defect search	HWT	797		
Delay	VERZ	730		
Direction of rotation	DRR	800		
Hardware test	HWT	797		
Inverse rotation	RDR	618/801		
Machine class	MAKL	799		
Positioning	POS	794		
Presser foot	PF	719/729/730		
Program	PR	851		
Programming level C	EBC	798		
Residual brake	STBR	718		
Seam end	NE	143		
Soft start	SANL	116/117		
Speed	DRZ	117/143/605 607/609/676 850		
Speed control unit	SWG	424		
Speed decrease	DRZAB	723/794/851		
Speed increase	DRZAN	722		
Speed limitation	DB	676		
Start delay	STVERZ	430/729		
Thread monitor	FW	620		
Thread trimming	SN	609		
Time needed to switch on	EINZ	889		
Timing output	TA	719		
Units	STUZ	180		
Work retaining clamp	STHK	674		

11.4 List of Parameters (2A_C40_G.EN)

No.	Function (Meaning)	Level	Range of Values	Standard Value	
116	(SANL) Soft start stitches (00000111)	B	0 - 10	2	Kl. 1, 2
117	(SANL/DRZ) Speed for soft start stitches	B	50 - 1350	900	Kl. 1, 2
143	(DRZ/NE) Speed for seam end	B	50 - 600	230	Kl. 1, 2
180	(STUZ) Units displayed	B		II	Kl. 1, 2
	I yes				
	II no				
417	(SONST) Display mode	B		II	Kl. 1, 2
	I mode 1				
	II mode 2				
424	(SWG) Operation sequence	C		II	Kl. 1, 2
	I with Quick-Rotan speed control unit				
	II with Singer speed control unit				
430	(STVERZ) Start delay after lifting of work retaining clamp	B	0 - 2550	0 200	Kl. 1 Kl. 2
605	(DRZ) Actual speed in display	B		II	Kl. 1, 2
	I yes				
	II no				
607	(DRZ) Speed: level 12 (max.)	C	500 - 2500	2300	Kl. 1, 2
609	(SN/DRZ) Trimming speed 1	B	30 - 640	230	Kl. 1, 2
618	(RDR) Inverse rotation after seam end	B		II	Kl. 1, 2
	I yes				
	II no				
620	(FW) Thread monitor function	A,B		II	Kl. 1, 2
	I yes				
	II no				
674	(STHK) Lowering of work retaining clamp when leaving position	B		II	Kl. 1, 2
	I yes				
	II no				
676	(DRZ/DB) Speed adjustment via potentiometer possible	B		I	Kl. 1, 2
	I yes				
	II no				
718	(STBR) Timing of residual brake (0 = brake off)	B	0 - 100	3	Kl. 1, 2
719	(PF/TA) Timing output A4 (0 = 100% switching on)	C	0 - 90	50	Kl. 1, 2
722	(DRZAN) Acceleration ramp	B	1 - 50	50	Kl. 1, 2
	1 gradual				
	50 steep				
723	(DRZAB) Brake ramp	B	1 - 50	26 50	Kl. 1 Kl. 2
	1 gradual				
	50 steep				
729	(STVERZ/PF) Start delay after lowering presser foot	B	0 - 2550	100	Kl. 1, 2
730	(PF/VERZ) Lift delay for presser foot after seam end	B	0 - 2500	0	Kl. 1, 2
794	(DRZAB/POS) End of the braking process before seam end	C	0 - 239	110	Kl. 1, 2
797	(HWT) Hardware test	B		II	Kl. 1, 2
	I yes				
	II no				
798	(EBC) Programming level C	B		II	Kl. 1, 2
	I yes				
	II no				

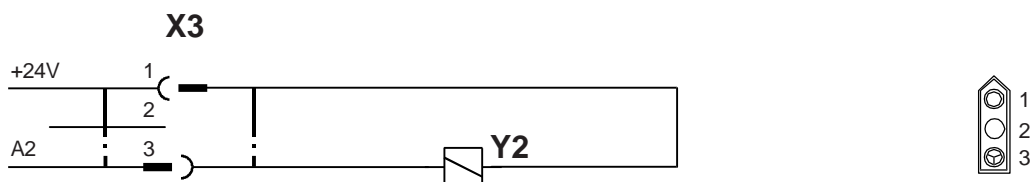
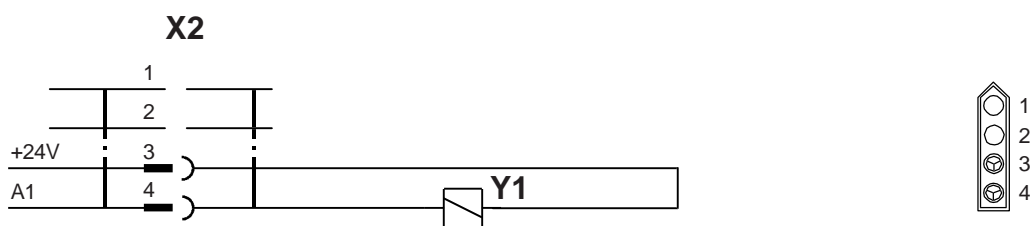
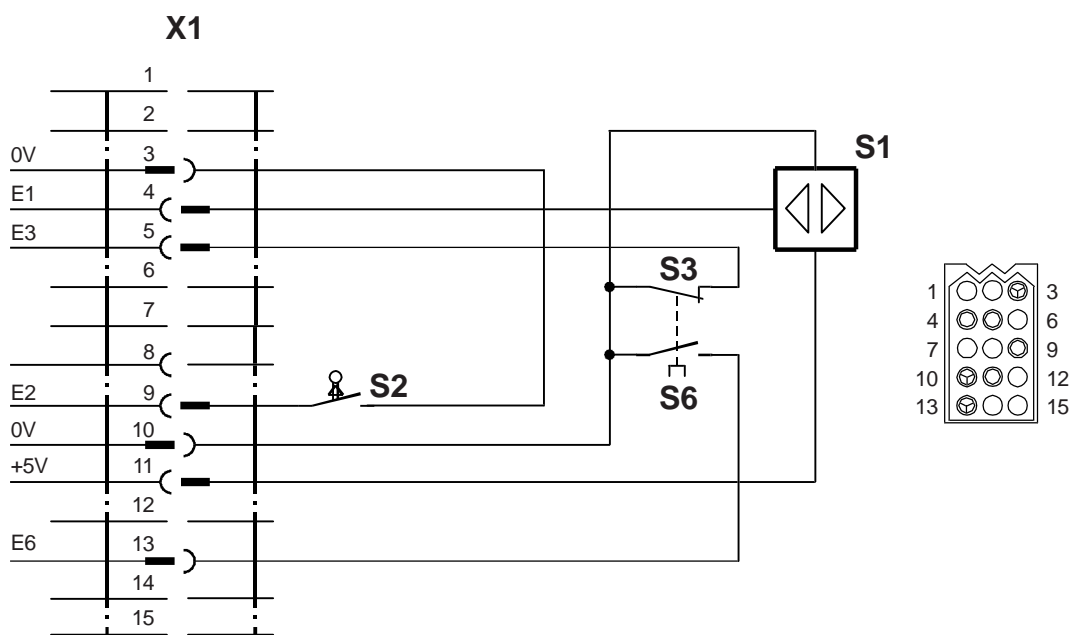
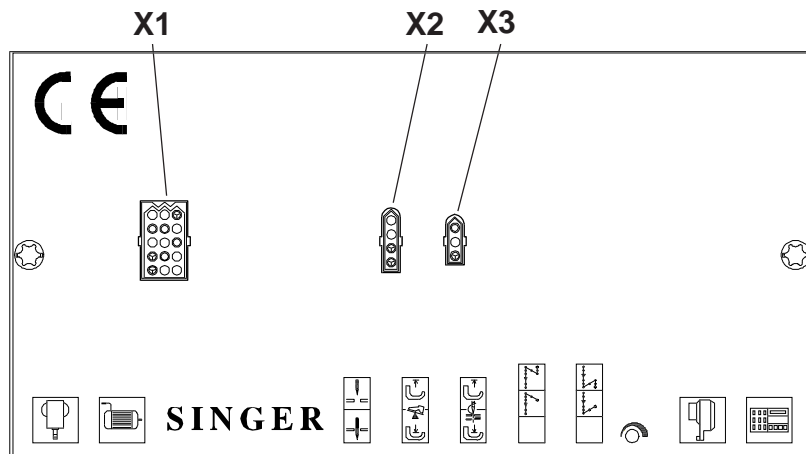
799	(MAKL) Machine class which has been selected (00011101)	C	1 - 2	1 2	Kl. 1 Kl. 2
800	(DRR) Direction of motor rotation viewed from belt pulley I left-hand rotation II right-hand rotation	B,C		I	Kl. 1, 2
801	(RDR) Reverse rotation angle after seam end	B	5 - 200	30	Kl. 1, 2
850	(DRZ) Maximum motor speed	C		3000	Kl. 1, 2
851	(PR/DRZAB) Brake ramp for stitch-count seams I steep II gradual	C		I	Kl. 1, 2
884	(REG) Proportional amplification of the speed control (in general)	B,C	4 - 50	20	Kl. 1, 2
885	(REG) Integral amplification of the speed control	C	0 - 100	30	Kl. 1, 2
886	(REG) Proportional amplification of the order controllers	C	1 - 50	20	Kl. 1, 2
887	(REG) Differential amplification of the order controllers	C	1 - 100	30	Kl. 1, 2
889	(EINZ/REG) Time required for order controlling (0 = always)	C	0 - 1000	400	Kl. 1, 2
890	(REG) Proportional amplification of the superior order controllers for the residual brake	C	1 - 50	25	Kl. 1, 2
891	(REG) Proportional amplification of the lower speed controllers for the residual brake	C	1 - 50	20	Kl. 1, 2
894	(REG) Rotational direction of motor and synchronizer I different II same	C		I	Kl. 1, 2

Machine class (parameter 799)


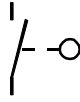



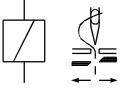
Machine class 1 = 569 U 3100 <799> = 1

Machine class 2 = 569 U 2100 <799> = 2

12. Anschlußplan der Steckerplatte S100SE



Bedeutung der Magnete bzw. Magnetventile, Taster / Meaning of magnets and/or solenoids and keys
 Signification des aimants resp. solenoides et touches / Significação dos imãs 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

S1 	Sensor Nahtende / sensor seam end / senseur fin de couture / sensor fim da costura / sensore fine cucitura / sensor fin de costura / sensor naadeinde
S2 	Halteklammer-Rückmeldung / feedback of work retaining clamp / rétrosignal de l'étrier de retenue / resposta o sujeitador de tecido / messaggio di conferma del fermostoffa / retroaviso de la pinza del retención de la tela / signaal van de stofklemmen nur bei MK1 / only for MC1 / avec MC1 seulement / somente em MC1 / solo da MC1 / sólo durante MC1 / alleen bij MK1
S3 	Halteklammer absenken / lowering of work retaining clamp / descente de l'étrier de retenue / baixar o sujeitador de tecido / abbassare del fermostoffa / bajada de la pinza de retención de la tela / neerlaten van de stofklemmen
S6 	Start / start / start / arranque / start / arranque / start
Y1 I max 8 A * 	Halteklammer anheben / lifting of work retaining clamp / relevage de l'étrier de retenue / levantar o sujeitador do tecido / sollevamento del fermostoffa / elevación de la pinza del retención de la tela / optillen van de stofklemmen
Y2 I max 8 A * 	Fadenschneiden / thread trimmer / coupe-fil / corte de linhas / rasafilo / cortahilos / draadsnijder

- * Die Summe der Lastströme aller gleichzeitig eingeschalteten Stellglieder (Magnete, Magnetventile) darf den Wert von 4A nicht überschreiten (siehe hierzu Kapitel 2. Technische Daten).
- * The total of load currents of all servos activated simultaneously (solenoids, solenoid valves) is not allowed to exceed 4 amps (see also section 2. Technical Specifications)
- * Le total des courants de charge de tous les vérins (aimants,électro-vannes) activés simultanément ne doit pas dépasser 4 A (voir aussi le chapitre 2, „caractéristiques techniques“)
- * A soma das correntes sob carga de todos os actuadores ligados ao mesmo tempo (imans, solenóides) não pode ultrapassar o valor de 4A (ver também capítulo 2, Dados Técnicos).
- * La somma delle correnti di carico di tutti gli attuatori inseriti contemporaneamente (magneti, elettrovalvole) non deve essere superiore a 4 A (vedere il capitolo 2 dati tecnici).
- * La suma de las corrientes bajo carga de todos los elementos de todos los componentes de regulación conectados simultáneamente (imanes, válvula magnética) no podrá sobrepasar el valor de 4A (véase también el capítulo 2. de datos técnicos).
- * De belastingsstroom van alle tegelijkertijd ingeschakelde bedieningsschakels (magneten, magneetventielen) mag in totaal niet meer dan 4 A bedragen (zie hiervoor hoofdstuk 2. Technische gegevens)

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).

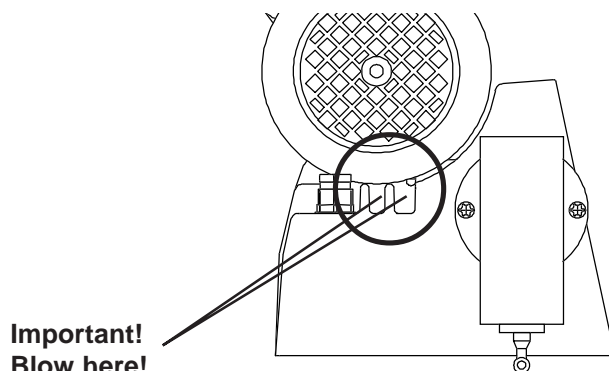


Fig. 13

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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