

SERVO-TOP

QE5542

CE

QUICK PE40SE

Instruction Manual

Part 3

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The **CE** symbol confirms that the respective drive system meets the requirements for partial machines of the following EU directives:

- EMV Directive 89/336/EEG
- Low Voltage Directive 73/23/EEG

Contents

Page

Part 3

11.	Survey and List of Parameters	11.1 - 11.8
11.1	Explanation of Parameter Survey	
11.2	Explanation of Parameter List	
11.3	Parameter Survey	
11.4	List of Parameters	
12.	Electrical Connections Diagram	12.1 - 12.4
13.	Maintenance and Repair	13.1

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.

Parameter numbers in acute brackets; e.g. <105>, mean the value (content) set for the parameter in question.

Example:

107 Speed for front backtack when <106> = I

I limited by <105>

II limited by <607>

Explanation:

Parameter 107 is valid only the the value (content) of parameter <106> = I.

If parameter 107 is set to I (<107> = I), then the speed for the front backtack is limited by parameter 105, e.g. <105> = 1500. If parameter 107 is set to II (<107> = II), then the speed for the front backtack is limited by the value of parameter 607, e.g. <607> = 4000.

11.3 Parameter survey PE40SE (2A_Q00_6.ENO)

Function	Abbrev'n	Parameter	Input Output	Connection Socket/Contacts
Backtack inversion	RIV	419		
Backtack suppression	RIUNT	419		
Blower	BLA	668		
Bobbin thread monitor	SPFW	141		
Chain close-off	ENTKET	425		
Chaining-off finger	KEFI	215/216/217		
Chainstitch machine	KES	765		
Control	REG	884/885/886 887/889/890 891/894		
Direction finder position	PEIPO	653		
Direction of rotation	DRR	800		
End backtack	ER	110/604		
Feed reverse	TUM	721		
Front backtack	AR	105/106/107		
Hardware test	HWT	797		
Inverse rotation	RDR	618/623/714 801		
Machine class	MAKL	799		
Needle position	NAPO	675/700/701 702/703		
Needle position change-over	NPW	616	E2	X10:2
Needle up without trimming	NHOS	616	E2	X10:2
Photocell	LS	111/112/113 199/615/640 641		
Presser foot	PF	633/651/719 729/730	E4 A4	X5:2 X6:2
Program	PR	114/206/221 851		
Programming level C	EBC	798		
Residual brake	STBR	718		
Safety switch no run	ANLSP	619/665		

Seam end	NE	114/145/206 602		
Soft start	SANL	116/117		
Speed	DRZ	105/106/107 110/117/199 221/605/606 607/608/609 676/850		
Speed decrease	DRZAB	723/851		
Speed increase	DRZAN	722		
Speed limitation	DB	221		
Start	START	113/640/641		
Start delay	STVERZ	729		
Stitch condensation	STVD	570/572		
Stop	STOP	114/665	E6	X8:2
Thread monitor	FW	141/620	E12	X11:3
Thread tension release	FSL	636/749/779	A9	X1:1
Thread trimming	SN	580/601/604 609/619/633 714/717/765	A2	X1:4
Thread wiper	WI	668/715/716	A3	X1:7
Timing output	TA	719/721		

11.4 List of Parameters PE40SE (2A_Q00_6.EN)

No.	Function (Meaning)	Level	Range of Values	Standard Value
105	(AR/DRZ) Speed for front backtack (11000000)	B	100-6400	1200 Kl. 1 - Kl. 2
106	(AR/DRZ) Speed for front backtack I variable (treadle-controlled) II constant (corresponding to <105>)	B		II Kl. 1 - Kl. 2
107	(AR/DRZ) Speed for front backtack when <106> = I I limited by <105> II limited by <607>	B		I Kl. 1 - Kl. 2
110	(ER/DRZ) Speed for end backtack (01100000)	B	100-6400	1200 Kl. 1 - Kl. 2
111	(LS) Photocell compensation stitches (number of stitches from photocell clear to seam end)	A,B	1-255	6 Kl. 1 - Kl. 2
112	(LS) Number of stitches for photocell fade-out on knit fabrics (number of stitches, according to stitch size)	A,B	0-255	0 Kl. 1 - Kl. 2
113	(LS/START) Start with photocell I when photocell is dark only II also when photocell is clear	B		II
114	(PR/STOP/NE) Stop before seam end after stitch count (last seam section) I yes II no	B		II
116	(SANL) Soft start stitches (11100000)	A,B	0-255	0
117	(SANL/DRZ) Speed for soft start stitches (00010000)	B	30-640	400
141	(FW/SPFW) Number of stitches until bobbin thread monitor signal becomes active (signal suppression on bobbin thread monitor)	B	0-255	10
145	(NE) Number of stitches for seam end	A,B	0-255	3 Kl. 1 - Kl. 2
199	(DRZ/LS) Speed for photocell compensation stitches	B	300-6400	1200
206	(NE/PR) Interrupt/discontinue seam sections at speed = constant (<203> = II) I with treadle -2 II with treadle 0	B		II
215	(KEFI) Number of stitches for chaining-off finger	A,B	0-255	5 Kl. 2 - Kl. 1
216	(KEFI) Delay in start-up time (ms) for chaining-off finger	B	0-2550	100 Kl. 2 - Kl. 1
217	(KEFI) Speed release (ms) after chaining-off finger off	B	0-2550	50 Kl. 2 - Kl. 1
221	(PR/DB/DRZ) Speed limitation for sewing programs (or sewing program 1)	B	300-6400	1200

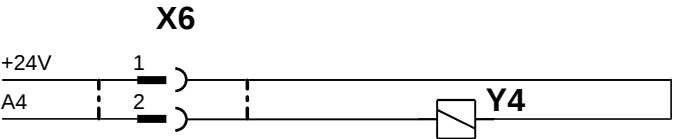
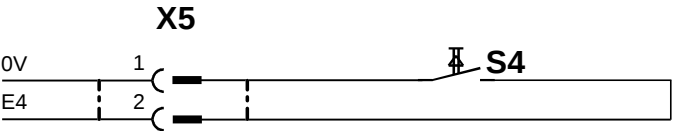
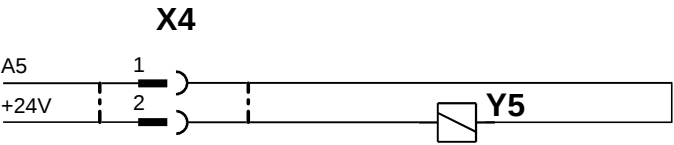
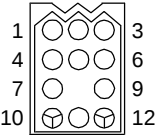
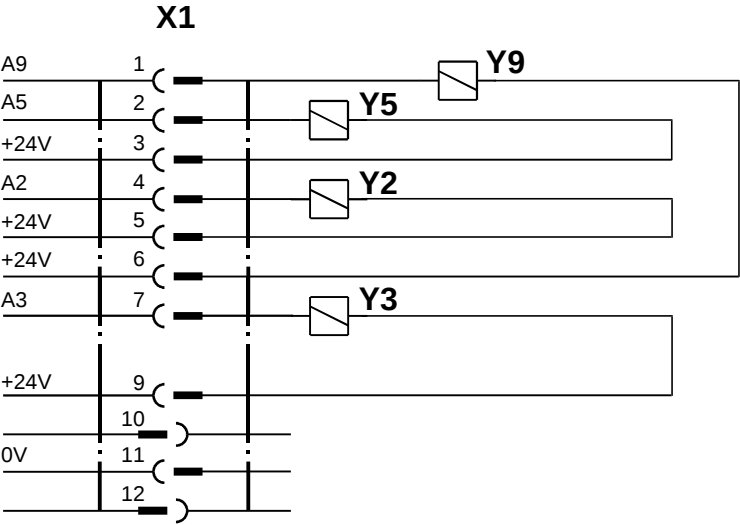
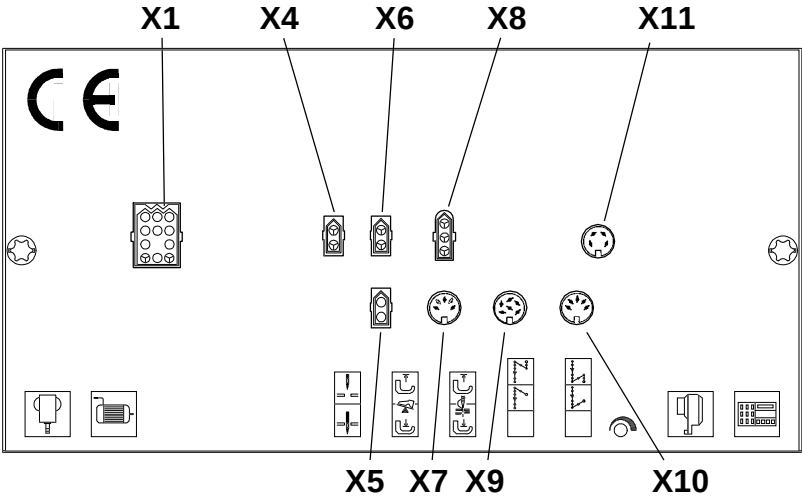
419	(RIV/RIUNT) Function of external key (on operator panel B2) I backtack inversion II backtack suppression (flip-flop function)	B		I Kl. 1 - Kl. 2
425	(ENTKET) Chain close-off at seam end I yes II no	A,B		II
570	(STVD) Number of stitches for stitch condensation at seam start (01000000)		0-9	3
572	(STVD) Number of stitches for stitch condensation at seam end (00100000)		0-9	3
580	(SN) I Upper thread trimmer in position 1 II Upper and lower thread trimmer in position 2	B		II
601	(SN) Trimming I yes II no (00001000)	B		I
602	(NE) Seam end at treadle position I slightly heeled (-1) II fully heeled (-2)	B		II
604	(SN/ER) Trimming after single end backtack I forward II backward	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	30-300	200
615	(LS) End recognition when photocell goes I from light to dark II from dark to light	B		II
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
619	(SN/ANLSP) Control of thread trimming (safety switch no run) I yes II no	B		II

620	(FW) Thread monitor function	B		II
	I yes			
	II no			
623	(RDR) Delay in start-up time (ms) for inverse rotation	B	0-2550	10
633	(SN/PF) Trimming and presser foot	B		II
	I with treadle „-2“ only (<602> = II)			
	II corresponding to <602>			
636	(FSL) Thread tension release	B		I
	I yes			
	II no			
640	(LS/START) Start possible by obscuring the photocell (if existing, note parameter 113!)	B		II
	I yes			
	II no			
641	(LS/START) Delay before start (ms) after photocell (at <640> = I)	B	0-2550	150
651	(PF) Presser foot with automatic descent on machine stop	B		I
	I yes			
	II no			
653	(PEIPO) Direction finder position before sewing	B		II
	I yes			
	II no			
665	(ANLSP/STOP) Run locking/stop	B		I
	I contact closed			
	II contact open			
668	(BLA/WI) Thread wiper/thread clearer	B		I
	I yes			
	II no			
	(10101000)			
675	(NAPO) Automatic needle change-over into position 2 (up) after enabling	B		II Kl. 1 - Kl. 2
	I yes			
	II no			
676	(DRZ) Speed adjustment via potentiometer possible	B		I
	I yes			
	II no			
700	(NAPO) Needle position 0 (reference position of the needle) (01101000)	B	0-239	0
701	(NAPO) Angular adjustment	B		I
	I with handwheel (teach-in)			
	II by keys (+/-)			
702	(NAPO) Needle position 1 (needle down) (11101000)	B	0-239	75
703	(NAPO) Needle position 2 (thread take-up lever up) (00011000)	B	0-239	203
714	(SN/RDR) Duration (ms) for chainstitch trimming or inverse rotation	B	0-2550	100
715	(WI) Duration (ms) of thread wiper	B	0-2550	500

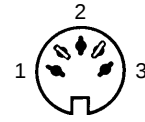
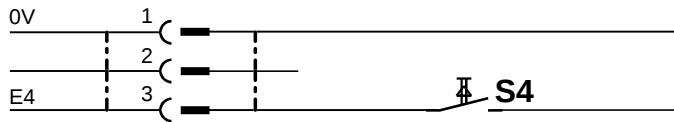
716	(WI) Delay in start-up time (ms) for thread wiper	B	0-2550	20
717	(SN) Delay in start-up time (ms) for trimming method when the machine is not activated by the treadle	B	0-2550	10
718	(STBR) Timing of residual brake (0 = brake off) (00111000)	B	0-100	0
719	(PF/TA) Timing output A4 (0 = 100% switching on)	B	0-100	40
721	(TUM/TA) Timing output A5 (0 = 100% switching on)	B	0-100	40
722	(DRZAN) Acceleration ramp 1 gradual 50 steep	B	1-50	40
723	(DRZAB) Brake ramp 1 gradual 50 steep	B	1-50	31
729	(STVERZ/PF) Start delay after lowering presser foot	B	0-2550	120
730	(PF) Lift delay for presser foot after seam end	B	0-2550	50
749	(FSL) Duration (ms) of thread tension release	B	0-2550	70
765	(SN/KES) Delay in start-up time (ms) for chainstitch trimming	B	0-2550	30
779	(FSL) Delay (ms) until thread tension release on	B	0-2550	40
797	(HWT) Hardware test	B		II
798	(EBC) Programming level C I yes II no	B		II
799	(MAKL) Machine class which has been selected (10111000)	B	1-2	1 Kl. 1 2 Kl. 2
800	(DRR) Direction of motor rotation viewed from belt pulley I left-hand rotation II right-hand rotation (01111000)	B		II
801	(RDR) Reverse rotation angle after seam end	B	5-200	30
850	(DRZ) Maximum motor speed	C	2000-6000	4500
851	(PR/DRZAB) Brake ramp for stitch-count seams I steep II gradual	C		I
884	(REG) Proportional part of the speed control (in general)	B	4-50	12
885	(REG) Integral part of the speed control	C	0-100	30
886	(REG) Proportional part of the order controllers	C	1-50	20
887	(REG) Differential part of the 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)	C	I
	I right-hand rotation		
	II left-hand rotation		
897	(SONST) Commutation transmitter	C	II
	I ABB		
	II QR		
898	(SONST) Number of motor poles	C	II
	I 4 poles		
	II 6 poles		

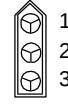
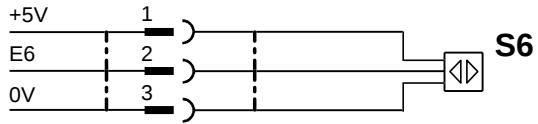
12. Anschlußplan der Steckerplatte PE40SE



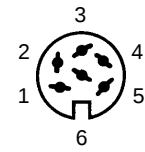
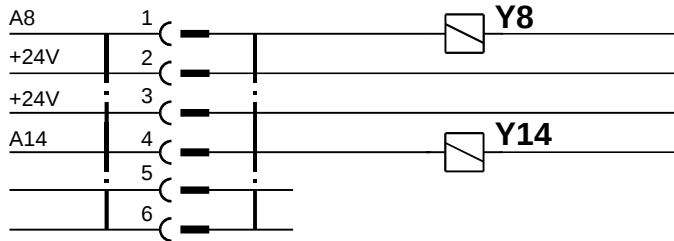
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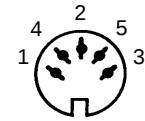
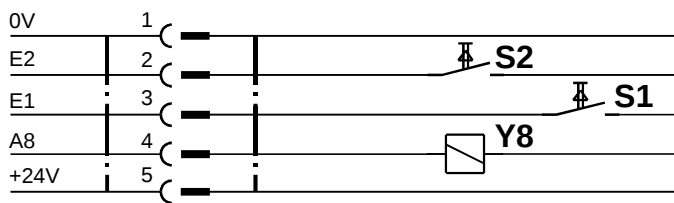
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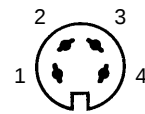
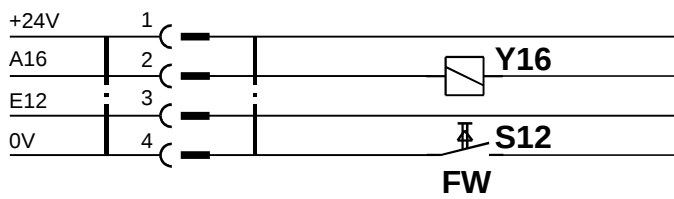
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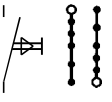
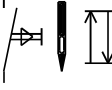
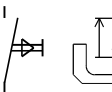
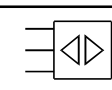
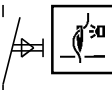
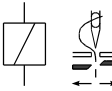
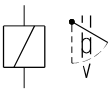
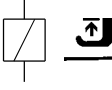
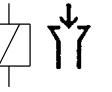
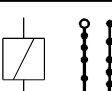
X10



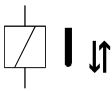
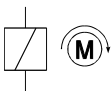
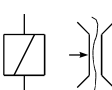
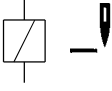
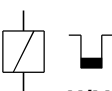
X11



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 	Stichverdichtung / stitch condensation / rétrécissement des points / condensação dos pontos / addensamento punti / condensación de puntadas / steekverdichting
S2  <616> = I	Nadelpositionswechsel / needle position change-over / changement de position d'aiguille / troca 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
S4  <799> = 1	Presserfuß / presser foot / pied presseur / calcador / alzapiedino / prensatelas / drukvoet
S4  <799> = 2	Kettelfinger / chaining-off finger / crochet de remmaillage / dedo remalhador / levetta di rimettaggio / dedo de remaller / klemvinger
S6 	STOP/Anlaufsperr / safety switch not run / verrouillage de remise en marche / bloqueio de arranque / blocco avviamento / bloqueo de repuesta en marcha / startblokkering
S12  FW	Fadenwächter / thread monitor / garde-fil / guarda da linha / controllafilo / guardahilos / draadcontrole
Y2 I max 8 A * 	Fadenschneiden / thread trimmer / coupe-fil / corte de linhas / rasafilo / cortahilos / draadsnijder
Y3 I max 8 A * 	Fadenwischer / thread wiper / écarteur de fil / retira-linhas / scartafilo / retirahilos / draadwischer
Y4 I max 8 A * 	Presserfuß heben / lifting presser foot / relevage du pied presseur / levantar do calcador / sollevamento del alzapiedino / elevación de prensatelas / drukvoet optillen
Y5 I max 8 A * <799> = 3 	Kette saugen / chain vacuum / aspiration de chaînette / aspirar de cadeia / aspirazione catenella / aspiración cadeneta / zuigen van een ketting
Y5 I max 8 A * <799> = 1,2 	Stichverdichtung / stitch condensation / rétrécissement des points / condensação dos pontos / addensamento punti / condensación de puntadas / steekverdichting

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

Y5 I max 8 A * <799> = 2		Kettelfinger / chaining-off finger / crochet de remmaillage / dedo remalhador / levetta di rimettaggio / dedo de remaller / klemvinger
Y8 I max 8 A *		Motor läuft / motor runs / moteur en marche / motor em movimento / motore in moto / motor en marcha / loop van de machine
Y9 I max 8 A *		Fadenspannungslösen / thread tension release / détenteur de fil / soltar tensão da linha / sbloccaggio tendifilo / detensión del hilo / verbreken van de draadspanning
Y14 I max 8 A *		Nadel oben / needle up / aiguille en haut / agulha para cima / ago su / aguja arriba / naald boven
Y16 I max 100 mA		Zählsignal / count signal / signal de comptage / sinal de contagem / segnale conteggio / señal del contador / telsignaal

- * 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).

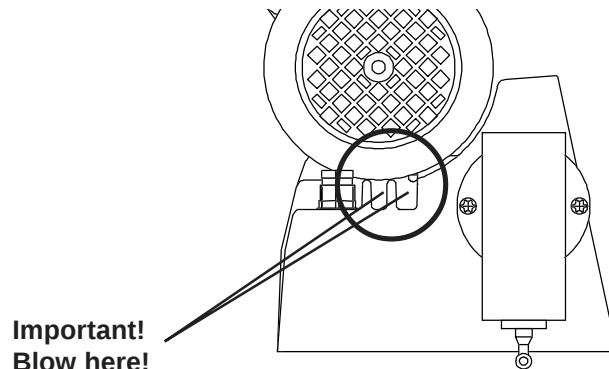


Fig. 13

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.