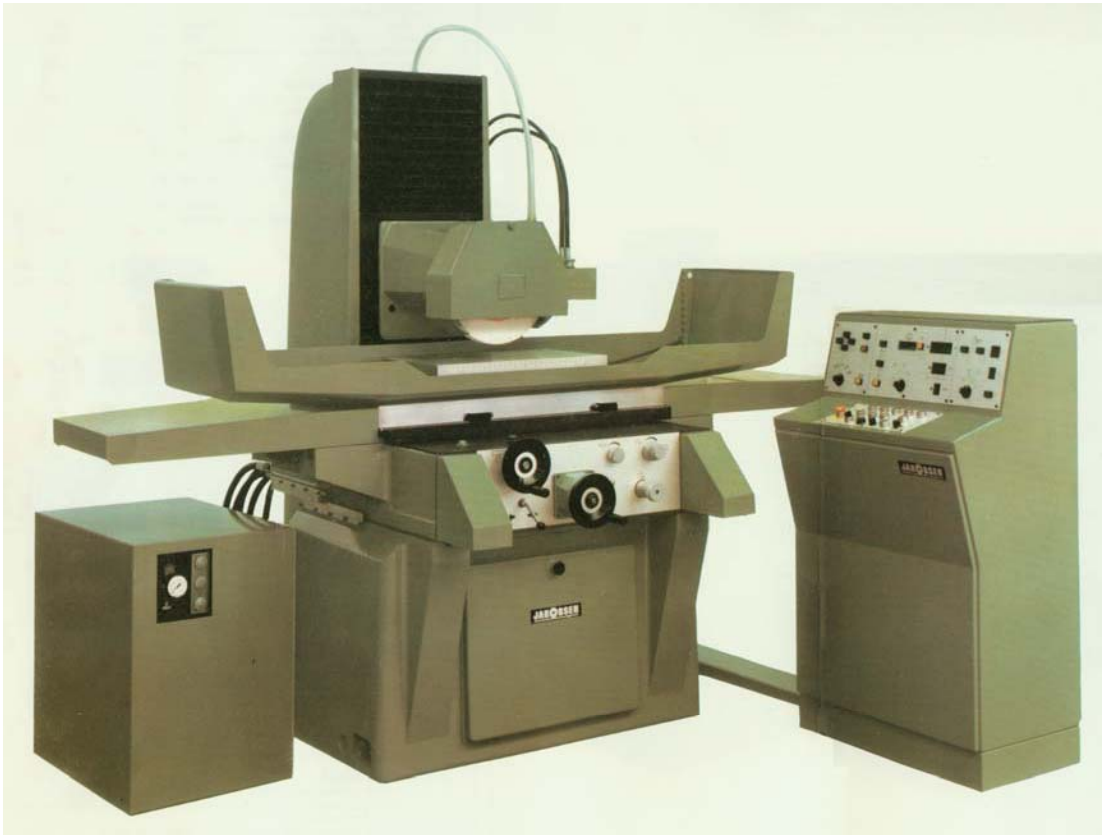
OPERATION MANUAL + DIAGRAM



SJ4020/5020/5025/6025/6030/6040/8030/8040
MODULE MACHINE

Jakobsen Planslibemaskiner ApS
Porschevej 2
DK- 7100 Vejle, Denmark

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www.bastogco.com
Service@jakobsen-dk.dk

CONTENTS

INSTALLATION OF MACHINE

Uncrating

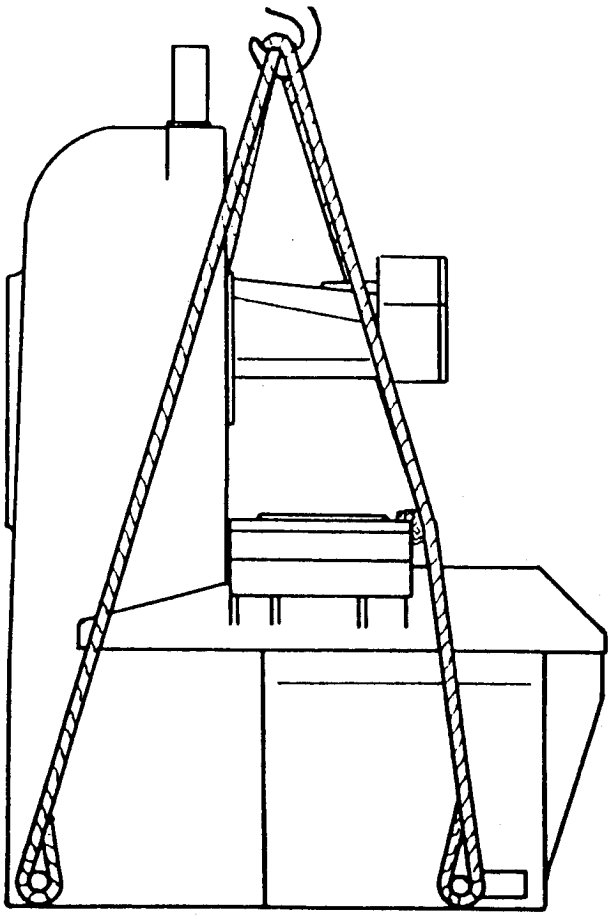
Your JAKOBSEN surface grinding machine has been carefully crated for shipment to insure its accuracy when it reaches your factory. It is important that the packing be removed carefully so as not to damage the machine and bypacked parts.

By opening the packing containing the hydraulic power station and control cabinet be sure not to damage the control panel.

1) Dismantle the endcovers of table, coolant tank, and other accessories attached to the bottom of the packing.
2) Inspect the machine and equipment for broken or damaged parts.
3) Remove the bolts attaching the machine to the bottom of the packing.

LIFTING INSTRUCTION

The machine should be lifted as shown below. Use two iron rods with a diameter of 1 3/4" and a length of 1100 and 1300 mm respectively, and two straps approx 6 meter long.



DEGREASING

Before the machine was packed all unpainted surfaces have been protected against corrosion. This anti-corrosive liquid can be removed with paraffin. It is especially important to clean the free surfaces of the guideways.

The ribbed rubber plates for protecting top surface of cross saddle and top part of control cabinet must not be washed off with paraffin.

After degreasing,lubricating oil must be applied to all machined surfaces.

NONE OF THE MACHINE MOVEMENTS MUST BE ACTIVATED BEFORE DEGREASING AND LUBRICATION OF THE GUIDEWAYS HAVE TAKEN PLACE.

INSTALLATION ON FLOOR

The machine should be placed on a solid non-vibrating floor. No special foundation is required, and any floor can be used provided it is sufficiently strong to carry the weight of the machine without vibrations. See Foundation plan page 13.

The machine must be aligned by means of the three adjustment screws (L). It is recommended to place steel shims approx. 100x100x12 mm provided with a shallow hole in the middle as base for the adjustment screws.

The alignment is carried out by means of a precision machine level which is placed on the table surface. First the machine is aligned in the longitudinal direction of the table, then in transverse direction after which the longitudinal direction is recontrolled.

IT IS A CONDITION FOR THE WORKING ACCURACY OF THE MACHINE THAT IT IS ALIGNED EXCLUSIVELY BY MEANS OF THE THREE ADJUSTMENT SCREWS (L).

ASSEMBLY

1) Mount the endcovers of table with the screws placed at the ends of the table.

2) Mount the left-hand piston rod of the longitudinal cylinder by inserting the threaded end into the stuffing box. Avoid damaging the gasket in the stuffing box.

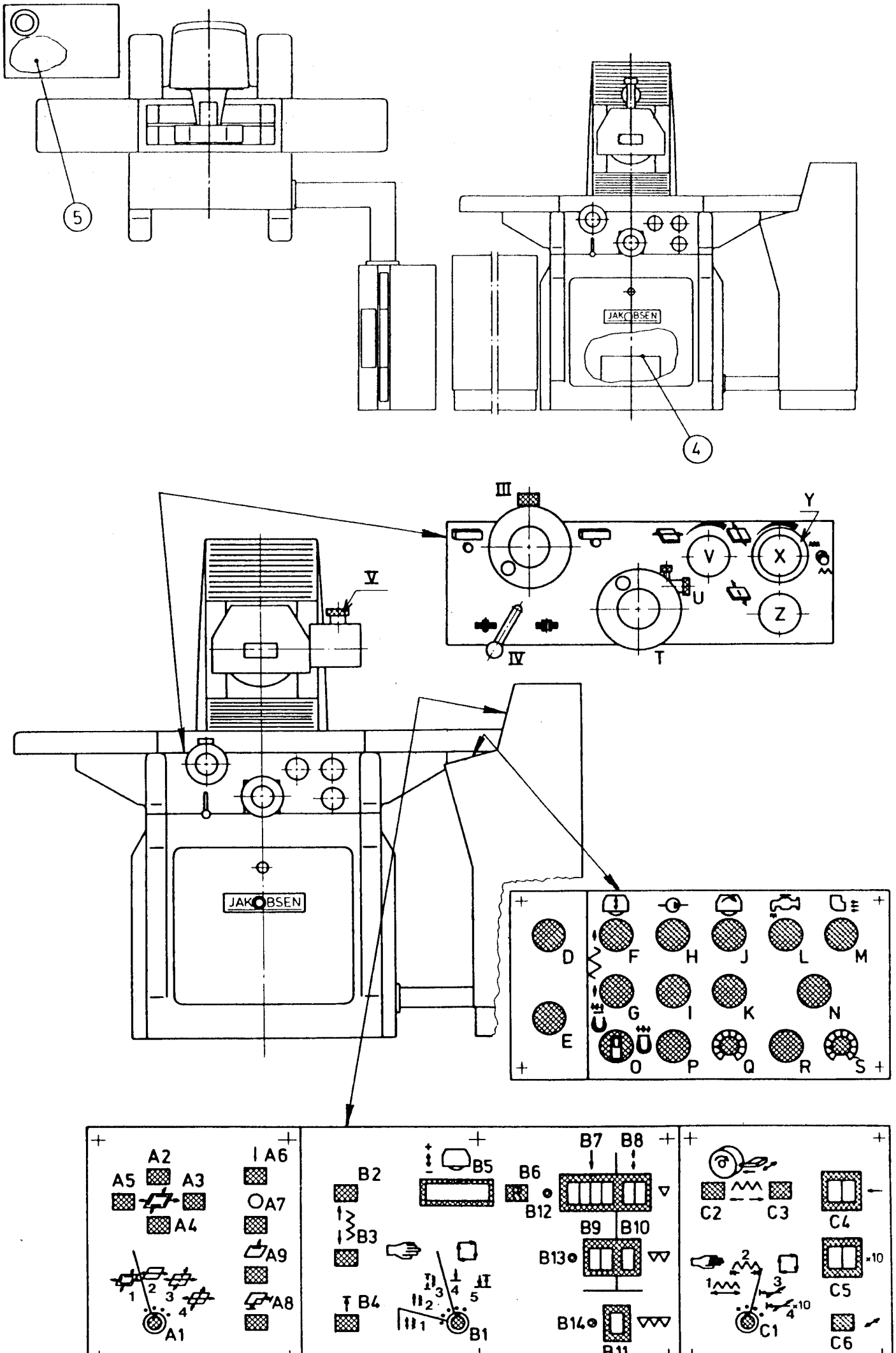
3) Place the hydraulic power station and control cabinet as shown on foundation plan page 13.

4) Mount all hydraulic hoses between the hydraulic power station and the machine in symmetrical order. Remove all seal plugs, from hoses before mounting.

5) Mount cable-channel on the machine. Adjust the placing of the control cabinet in proportion to the cable-channel and fix the channel to the control cabinet by means of the attached screws.

6) Connect all electrical cables according to numbers and the electrical diagram.

7) Mount security rail between machine and control cabinet.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OIL FILLING

Remove the front cover of the machine and fill up with lubricating oil till the middle of the oil-level glass. The container holds approximately 5 liter. Pos.4.

Remove the upper cover of the hydraulic power station and fill up with approx 110 liter hydraulic oil. Pos.5.

As lubricating oil we recommend MOBIL OIL VACTRA No. 2 or as stated in the lubrication chart page 12.

As hydraulic oil we recommend MOBIL OIL VACOULINE 1405, but other products may be used as well, see lubrication chart page 12.

LUBRICATION

The table- and saddle guideways are lubricated automatically by means of a lubricating pump which is driven by impulses from the hydraulic system. The function is controlled through the control glass on the upper side of the cross saddle and an impuls will show by each turn of the table at one side.

All moving parts which are not lubricated in accordance with the lubrication chart, page 12, are running in sealed pre-lubricated bearings. Lubricate only when parts are dismantled for inspection.

ELECTRICAL CONNECTIONS

Before the machine is connected to the main supply it is necessary to insure that it corresponds to the voltage of the motors as stated at the connecting point at the bottom of the control cabinet.

The Main switch is placed at the back of the control cabinet.

Control the direction of rotation by means of the up- and down switch for rapid vertical feed (push buttons F and G with selector switch B.1 in pos. 1).

Note: El-chuck must be switched on before up- and down switch for rapid vertical feed can be operated (O).

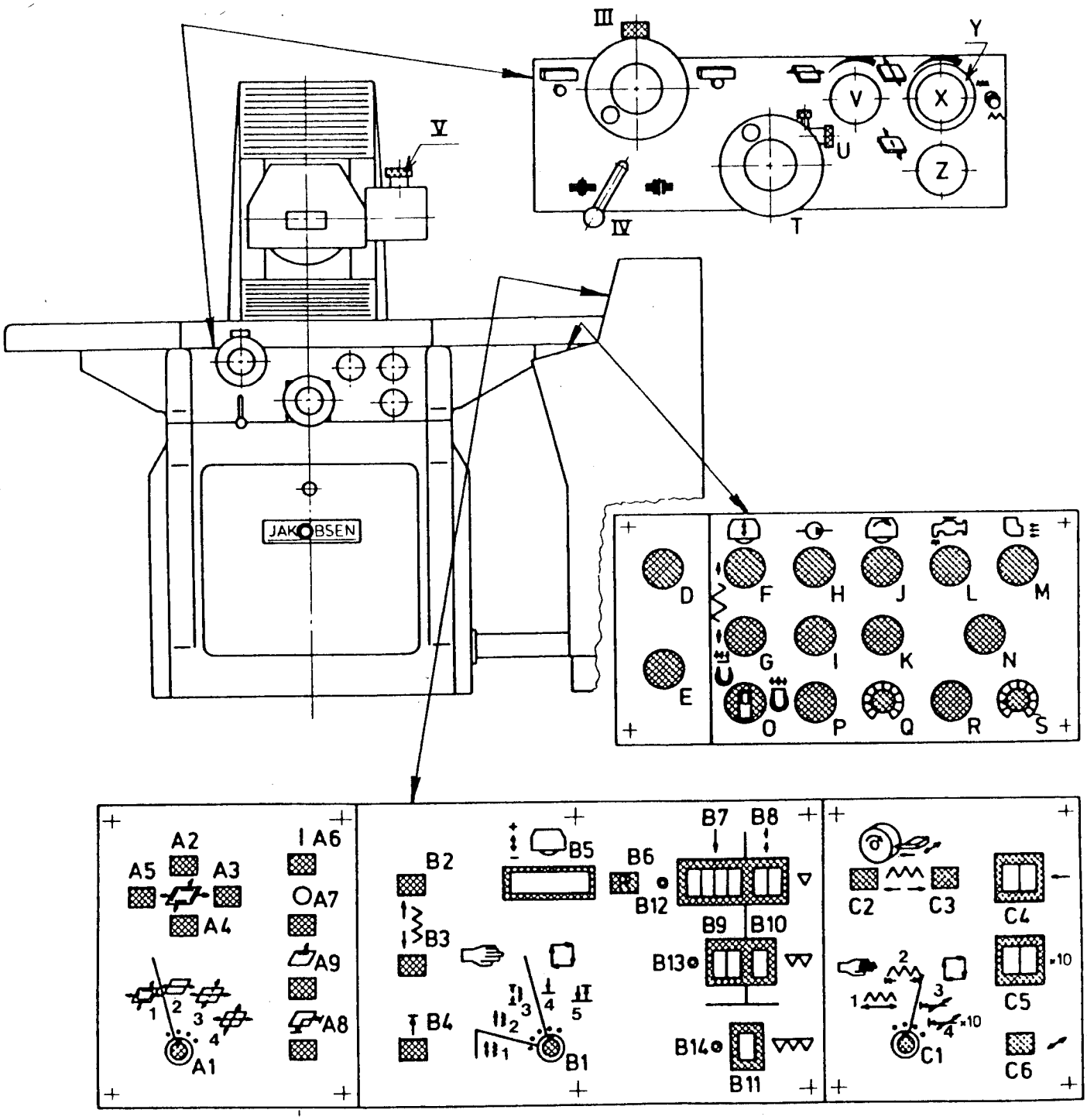
In case the symbols do not correspond to the movements, two phases of the mains connection must be interchanged, and all motors will automatically have the correct direction of rotation.

NEVER USE THE GRINDING WHEEL MOTOR TO CONTROL THE DIRECTION OF ROTATION

DEAIRING OF THE HYDRAULIC SYSTEM

Longitudinal table movement:

1. Set handle for regulation of table speed (V) on minimum speed.
2. Turn selector switch (A1) to pos. 1.
3. Activate push buttons (A5) and (A3) so that table travels to its extreme positions 5 times (if table does not move then open a little more for speed valve (V).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C6

Cross movement:

1. Set handle for regulation of rapid cross feed (X) at maximum speed.
2. Activate push buttons (A2) and (A4) so that the saddle travels to its extreme positions 5 times.
3. Now turn selector switch (A1) to position 3.
4. Set adjustment screw for cross feed rate at maximum.
5. Adjust longitudinal speed valve (V) at a middle speed rate.
6. Start table- and saddle movements by activating push button (A6) (same movements can be stopped by activating push button (A7)
7. After 5-10 minutes operation the hydraulic system will be completely deaired.

BALANCING OF GRINDING WHEEL

The grinding wheel is mounted on the hub and dressed until it is round. Eventually the faces are dressed until they are running.

ALWAYS USE SHARP DIAMONDS FOR EFFICIENT DRESSING.

Instruction in use of the hydraulic dresser, see page 7.

Balancing of grinding wheel

Balancing of hub and grinding wheel takes place by means of a balancing arbor and a balancing stand, while all balancing weights are removed from the hub. When the heaviest place has been found, place one of the weights 180° from this point, and by placing and moving the other weights symmetrically in relation to the first one, the unit is balanced as carefully as possible.

For dressing and balancing of the grinding wheel the following procedure is suggested:

1. Mount the grinding wheel on the hub and place the whole unit on the wheel spindle. Attention: the nut which holds the hub to the wheelspindle has left-hand thread.

2. Dress the grinding wheel.

3. Remove the wheel assembly from the wheelspindle and balance the wheel as described above.

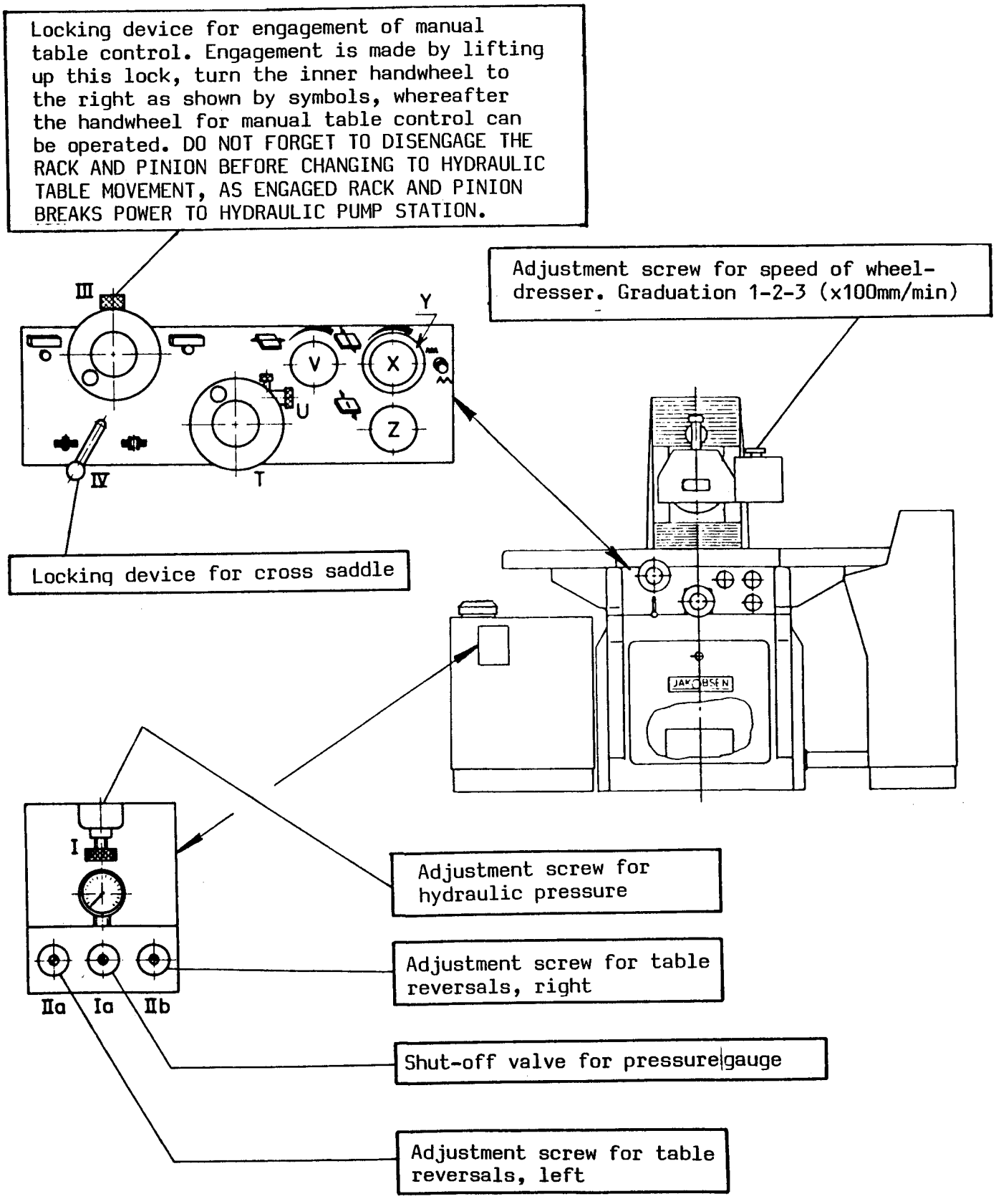
4. Remount assembly on the wheel spindle and redress wheel before starting grinding.

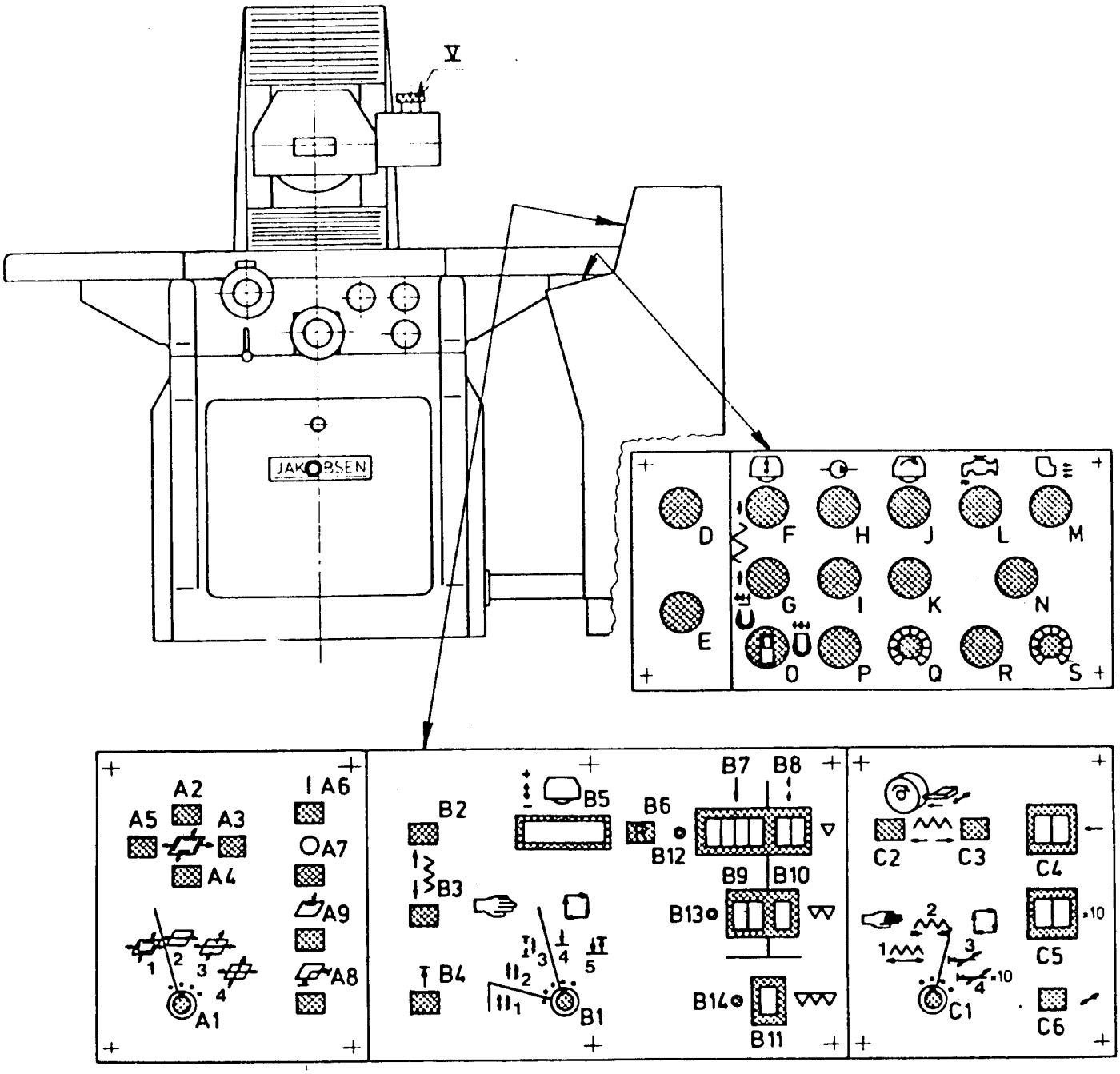
NOTE

THE DRESSER WILL BREAK POWER TO HYDRAULIC PUMP MOTOR IF DRESSER NOT LOCKED FIRMLY IN DRESSING POSITION OR PLACED IN REAR POSITION AGAINST STOP.

OPERATION OF CONTROLS

T. Handwheel for manual cross feed
U. Fine adjustment screw for manual cross feed
V. Handle for regulation of table speed
X. Handle for regulation of rapid cross feed
Y. Handle for regulation of continuous cross feed (only in Module II & III)
Z. Adjustment-screw for intermittent cross feed





CONTROL PANEL, LOWER

D. Indicator lamp
E. Emergency stop
F. Rapid vertical feed,up (selector switch B.1 in pos.1
G. Rapid vertical feed,down (selector switch B.1 in pos.1
H. Start of hydraulic power station
} function only when el-chuck is switched o
I. Stop of hydraulic power station
J. Start of grinding wheel
K. Stop of grinding wheel
L. Start of coolant
M. Start of dust exhauster
N. Stop of coolant/dust exhauster
O. Switch for el-chuck (see symbols)
P. Indicator lamp for el-chuck
Q. Potentiometer for holding power adjustment of el-chuck
R. Start of frequency converter for infinite variation of wheel speed
S. Potentiometer for adjustment of wheel spindle speed

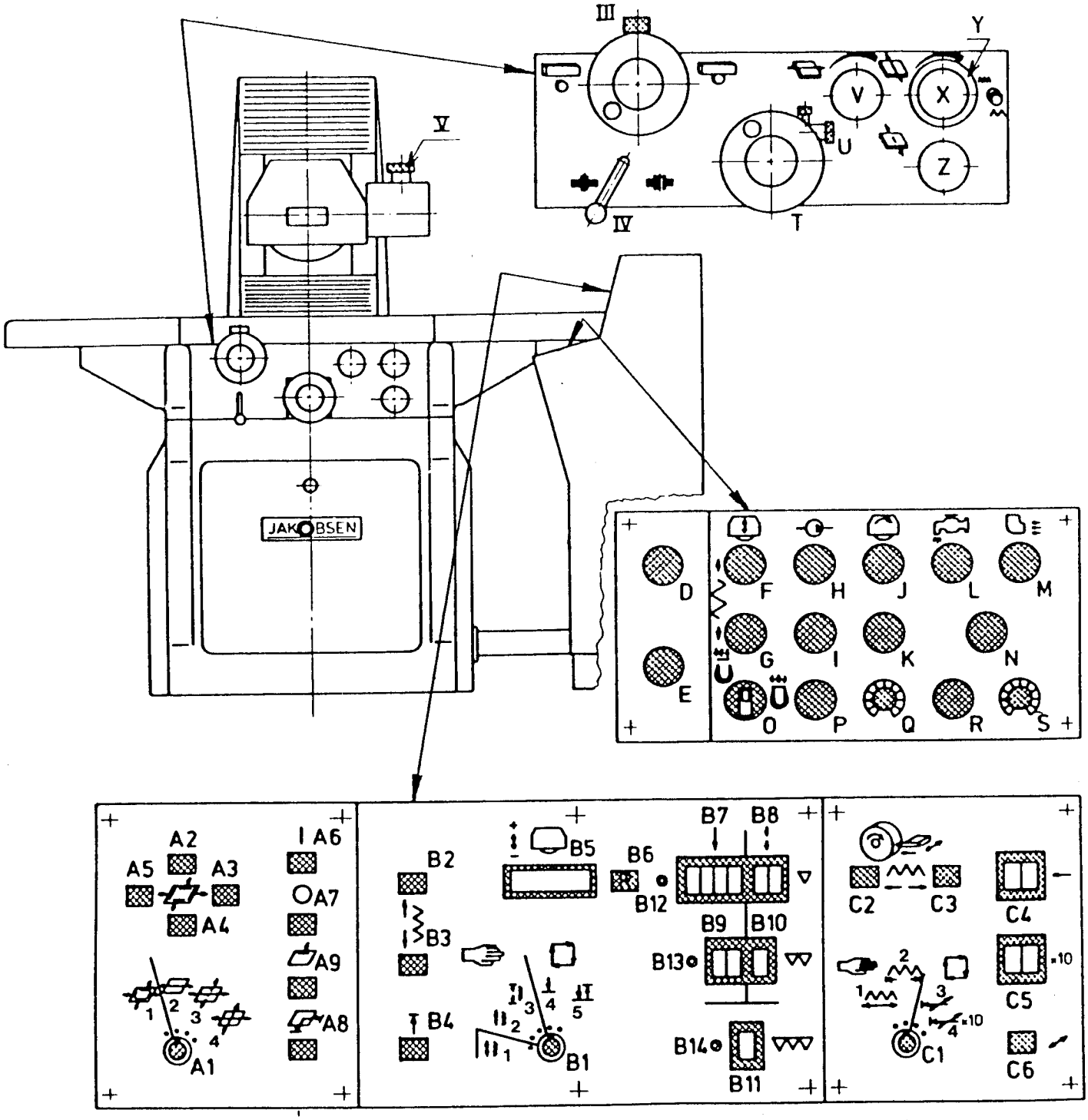

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TABLE- AND SADDLE MOVEMENT

The required table and saddle traverse is set by the selector switch (A1):

Pos. 1: Manual operated table and saddle movement. By activating one of the pushbuttons (A2), (A3), (A4), or (A5) the table/saddle will move in the direction illustrated by symbols. The table and saddle will move with the speed rate set on the handles (V) and (X).

Pos. 2, 3 and 4: Automatic table and saddle movement. The movement is started by the pushbutton (A6) and is stopped by the pushbutton (A7).

- Pos.2: Plunge grinding operation (only longitudinal table movement)
- Pos.3: Surface grinding with intermittent cross feed (in module II and III the crossfeed will always be continuous in the fine grinding area).
- Pos.4: Surface grinding with continuous crossfeed (only in module II and III)

Pushbutton (A8) is provided for automatic positioning of table and saddle in their extreme parking position (only in module II and III).

MANUAL CROSS MOVEMENT

Pushbutton (A9) is used when changing from hydraulic to manual cross-feed. By activating this push button the cross saddle will move to its inside position towards the column and the manual crossfeed can now be operated by means of the handwheel (T). When changing from manual to hydraulic cross feed do not forget to move saddle by hand to its extreme inside position before deactivating pushbutton (A9). The cross movement can now be operated hydraulically.

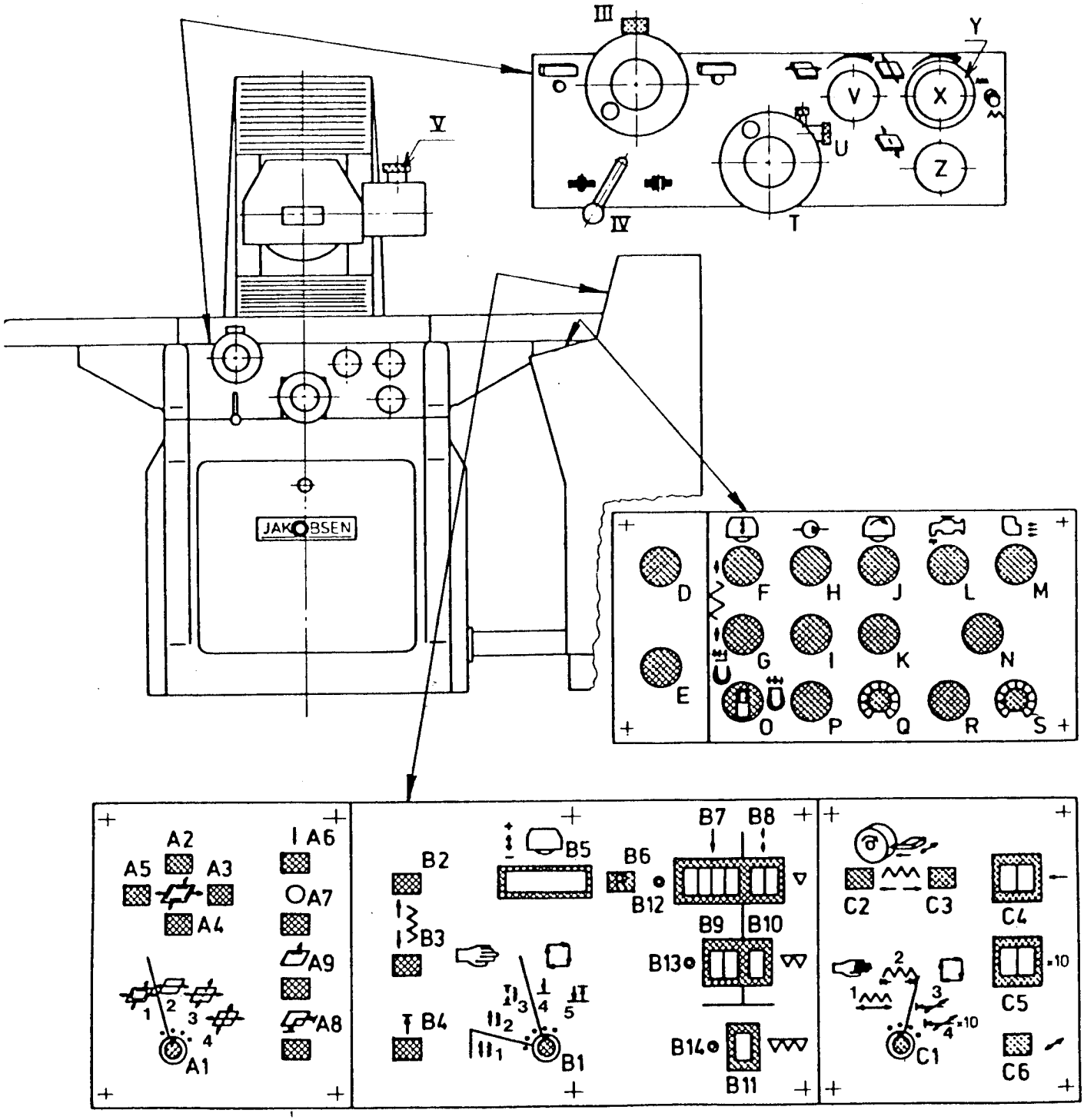
VERTICAL MOVEMENT

The vertical movement is set by the selector switch (B1):

Pos. 1: Power rapid vertical feed without digital readout. (Pushbuttons on lower control panel)

Pos. 2: Reduced rapid vertical feed, operated by the pushbuttons (B2) and (B3) and with digital readout (B5).

Pos. 3: Vertical feed in steps as preset on the switch (B8). The display will show the movement of the wheelhead. (UP - positiv, DOWN negative).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Pos. 4: Automatic downfeed to preselected stop position. Downfeed at every table or saddle reversal. Table and saddle will automatically move to their extreme parking position after completion of the grinding cycle.

Pos. 5: Automatic downfeed to preselected stop position as described under pos. 4 but with automatic retrack of wheel to starting position after completion of grinding cycle.

THE VALUES OF ALL FEED RATES SET BY THE SWITCHES (B7), (B8), (B9), (B10), and (C4) ARE IN um - 0,001MM ON METRIC MACHINES AND IN .0001" ON MACHINES IN INCH EXECUTION.

The display (B5) shows the movement of the wheelhead with a resolution of 0,001 mm (.0001"). Zero adjustment takes place with the Reset-button (B6) situated to the right of the display.

In the automatic downfeed area the machine will go through the following sequence (program):

Module I: A. Downfeed (B8) at every saddle reversal for surface grinding and at every table reversal for plunge grinding untill the total feed amount preset on switch (B7) has been reached.

B. Stop of table to the right.

Module II and III : A. Rough feed rate (B8). Total feed amount for roughing (B7). Control light for rough grinding (B12).

B. Fine feed rate (B10). Total feed amount for finishing (B9). Control light for fine grinding (B13).

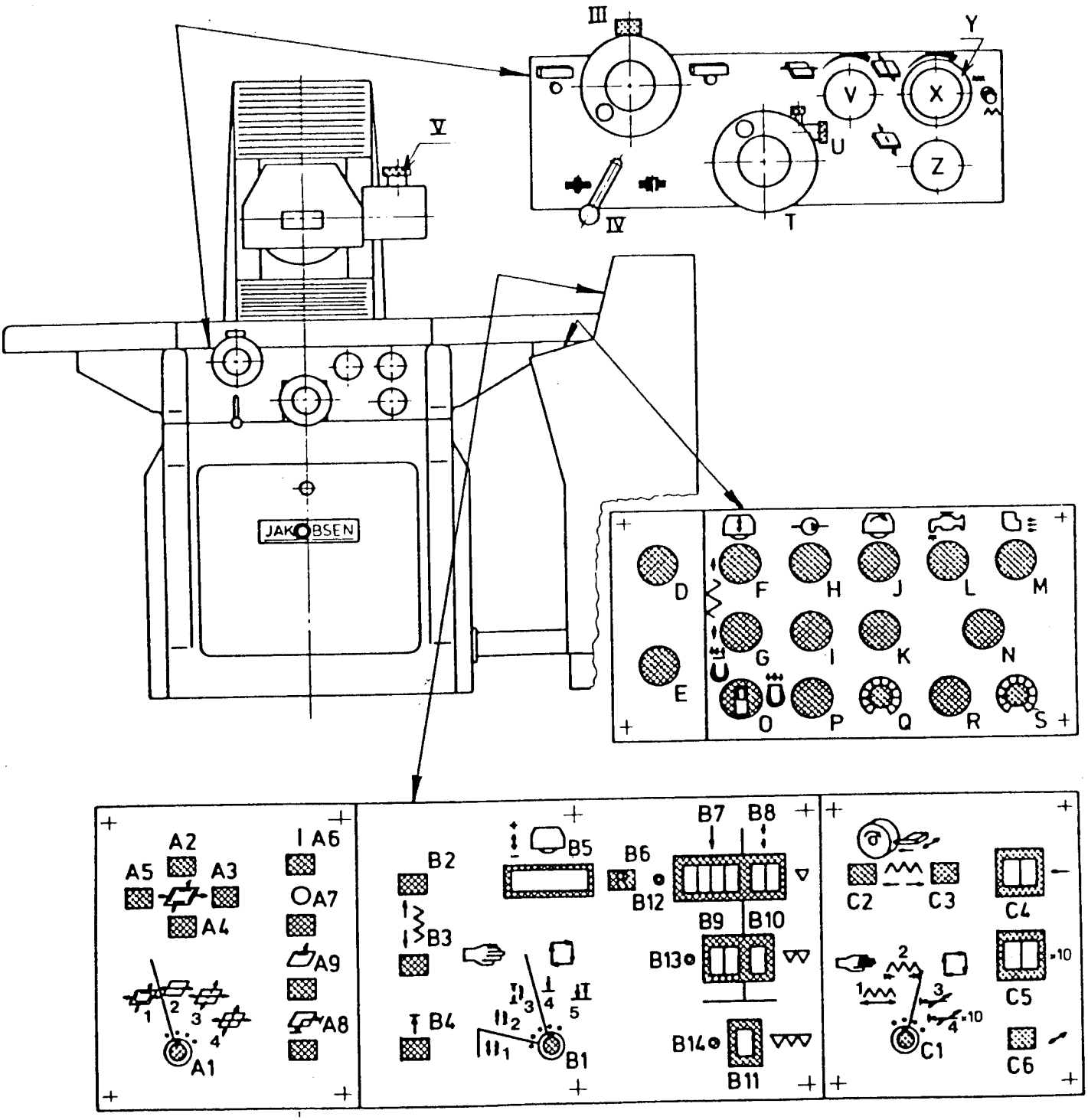
C. Spark-out. The number of overruns in cross direction is set by the switch (B11). Control light for spark-out (B14).

D. With selector switch (B1) in position 5 the wheelhead will retrack to start position.

If the operator stops the table movement when the machine is carrying out a grinding cycle then the wheelhead can be retracked to starting position by pressing the pushbutton (B4).

To start the programme (cycle) again - press the pushbutton (A6).

If the programme (grinding cycle) is set with automatic wheel dressing a dressing operation will take place before the grinding continues.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DRESSING OF GRINDING WHEEL

The hydraulic movement of the dressing diamond across the wheel takes place by activating push button (C6).

The dresser slide will move as long as (C6) lights up.
The dresser changes automatically the movement back and forward when activating push button (C6). The speed by which the diamond is fed across the wheel is adjusted on handle V page 6.

The function of the wheel dresser is set by the selector switch (C1) as follows:

MANUAL CONTINUOUS FEED
POS. 1:

By activating the push buttons (C2) and (C3) the diamond will move with a continuous speed af approx. 10 mm/min. towards or away from the wheel as long as the said buttons being activated.

MANUAL FEED IN STEPS
POS. 2:

By activating the push buttons (C2) and (C3) the diamond will move into or away from the wheel with the step-in feed rate set on the switch (C4).

AUTOMATIC DRESSING
POS. 3:

A wheel dressing operation will auto-matically take place before rough grinding and between rough and fine grinding. The required diamond feed rate is set on switch (C4).

AUTOMATIC DRESSING WITH SUPPLEMENTARY DRESSING OPERATIONS
POS. 4:

The vertical movement required between every supplementary dressing operation can be set on switch (C5) as a multi-plum of 10 um (.001") for instant:

(C5)	on 1 = 10 um	(.001")
(C5)	on 2 = 20 um	(.002")
(C5)	on 3 = 30 um	(.003")

On machines equipped with module I and II the push button (C6) is used to establish hydraulic pressure to the wheel dresser.

AUTOMATIC GRINDING SEQUENCE (MODULE III)

The grinding sequence (programme) includes the following steps:

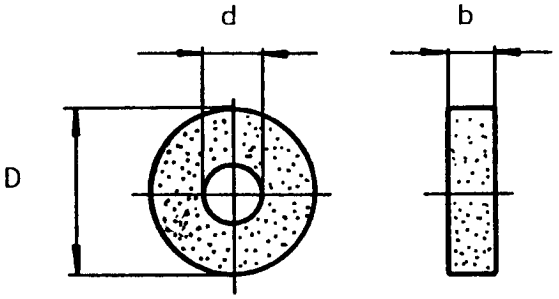
Roughing sequence:
1. Dressing of wheel
2. Rough grinding with possibility of adding extra dressing operations during cycle.

Finishing sequence:
3. Dressing of wheel
4. Fine grinding
5. Spark out
6. Automatic parking of table and saddle in their extreme parking position and retrack of wheel-head to start position.

GRINDING WHEELS

The machine is supplied with a general purpose wheel suitable for most materials. It will however be recommendable to contact a wheel manufacturer to get advice in selecting the right type of wheel for any particular job.

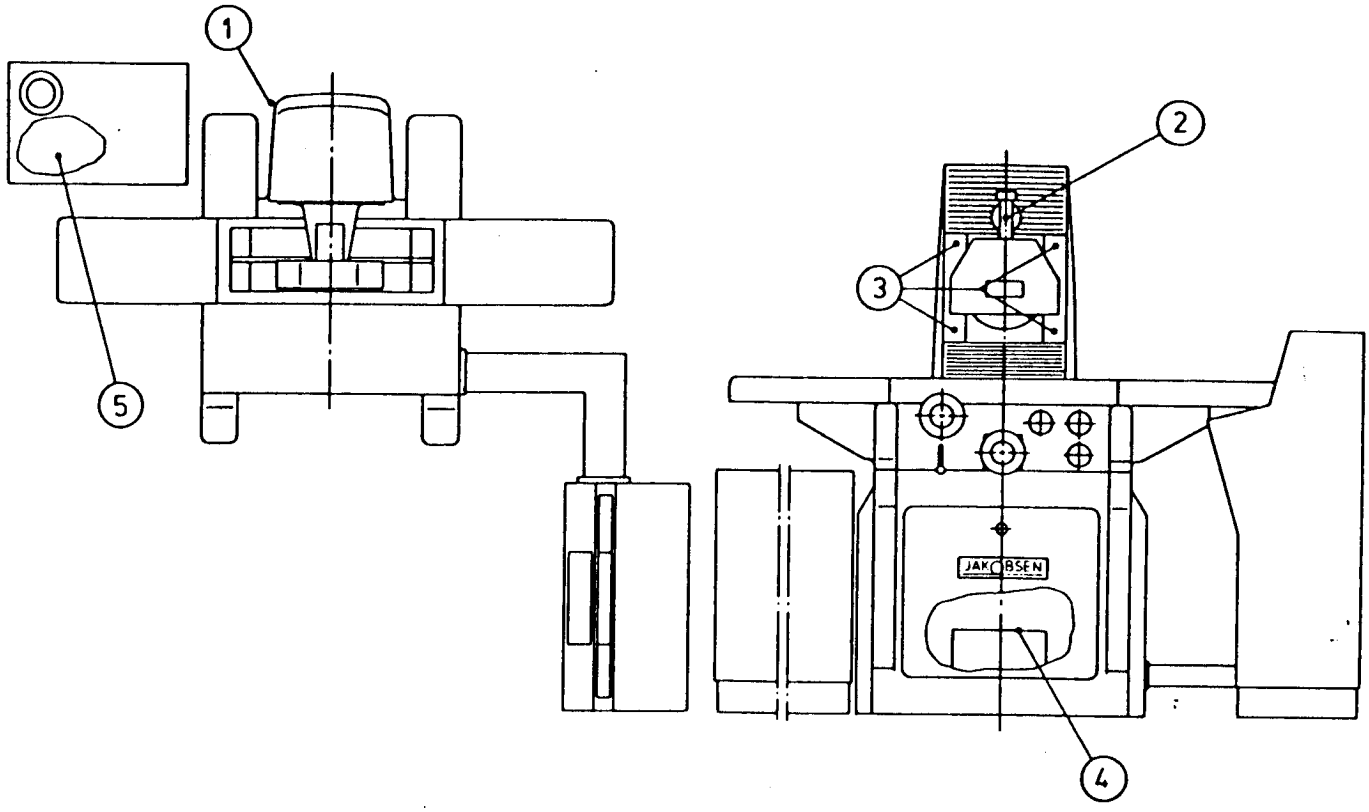
The wheel size for each model is as follows:



TYPE SJ	Hz.	D.	d.	STANDARD b.	EXTRA b.
5025	50 Hz	200 mm.	76,2 mm.	25 mm.	40 mm.
6025	50 Hz	200 mm.	76,2 mm.	25 mm.	40 mm.
6030	50 Hz.	350 mm.	127 mm.	40 mm.	50 mm.
8030	50 Hz.	350 mm.	127 mm.	40 mm.	50 mm.
6040	50 Hz.	350 mm.	127 mm.	50 mm.	76,2mm.
8040	50 Hz.	350 mm.	127 mm.	50 mm.	76,2mm.

5025	60 Hz.	8"	3"	1"	1½"
6025	60 Hz.	8"	3"	1"	1½"
6030	60 Hz.	14"	5"	1½"	2"
8030	60 Hz.	14"	5"	1½"	2"
6040	60 Hz.	14"	5"	2"	3"
8040	60 Hz.	14"	5"	2"	3"

5025/6025 6030/8030 6040/8040	SMØRESKEMA LUBRICATION SYSTEM SCHMIERTABELLE	12



POS.	SMØRESTEDER LUBRICATION POINTS SCHMIERSTELLEN	INTERVAL INTERVAL INTERVALLE
1.	VERTIKALSPINDEL VERTICAL LEADSCREW VERTIKAL SPINDEL	HVER UGE WEEKLY JEDE WOCHE
2.	AFRETTER WHEEL DRESSER ABRICHTER	HVER UGE WEEKLY JEDE WOCHE
3.	SPINDELSLÆDE SPINDLESLIDE SPINDELSCHLITTEN	HVER UGE WEEKLY JEDE WOCHE
4.	SMØREOLIEBEHOLDER LUBRICATION OIL TANK SCHMIERÖLBEHÄLTER	UDSKIFT HVERT ÅR ONCE A YEAR JÄHRLICH UMWECHL
5.	PUMPESTATION HYDRAULIC PUMP UNIT HYDR. PUMPENEINHEIT	UDSKIFT HVER ÅR ONCE A YEAR JÄHRLICH UMWECHL

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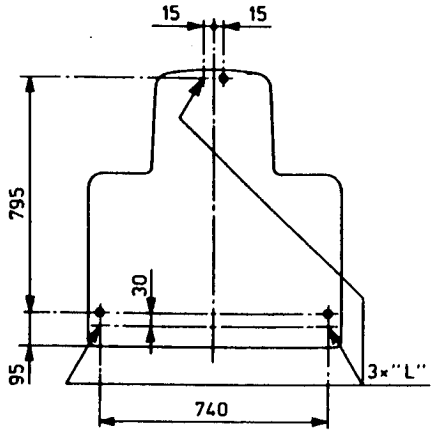
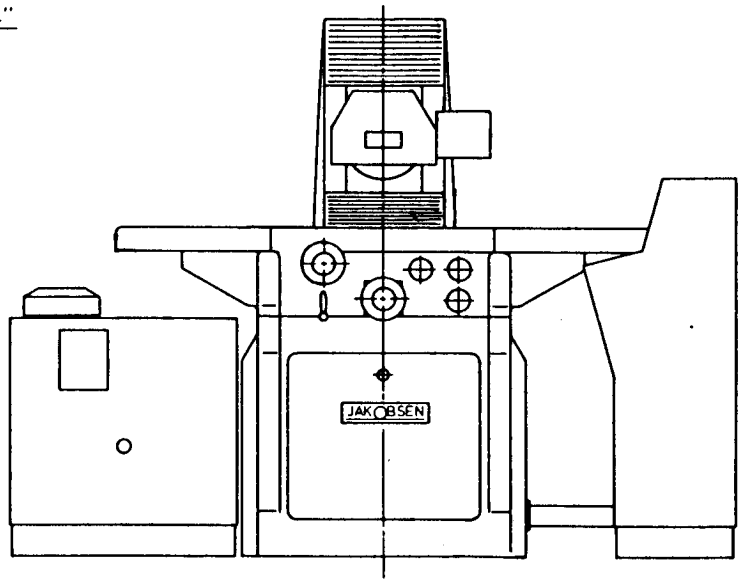
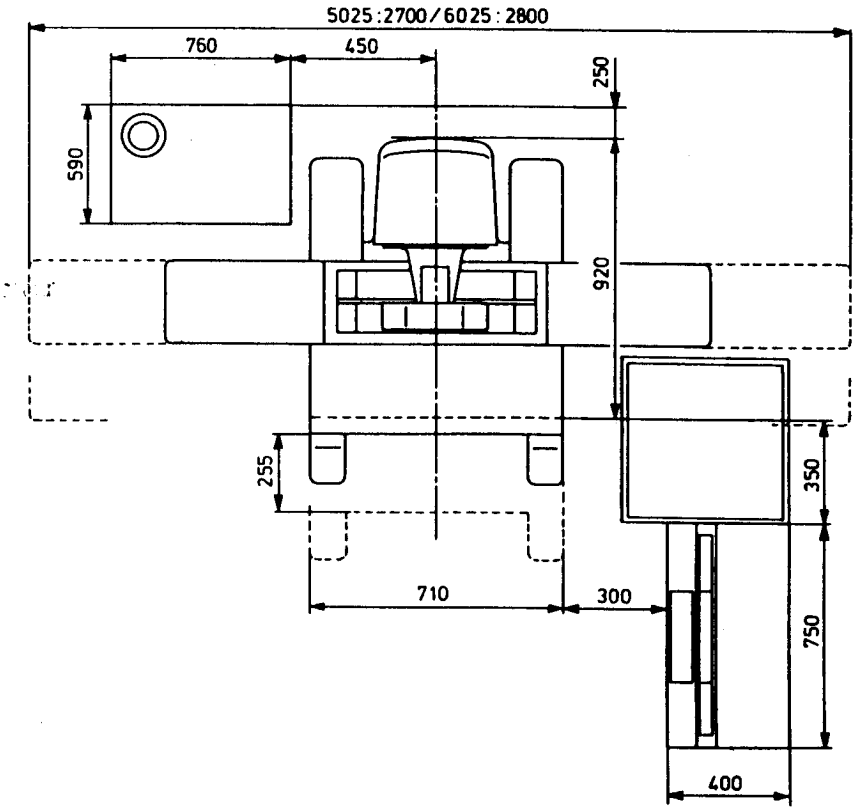
MOBIL	SHELL	ESSO	Q 8	TEXACO	CASTROL	BP	
VACTRA NR. 2	TONNA T. 68	FEBIS K. 68	WAGNER Q8 68	WAY LUBRIC 68	MAGNA 68 BDX	MACCURAT 68	CAPACITY 5 LITR.
VACOULINE 1405	Hydrol DO 32	NUTO T.32	HAYDN Q8 46	REGAL R&O 32	MAGNA GC 32	HLP-D 32	CAPACITY 110 LITR.

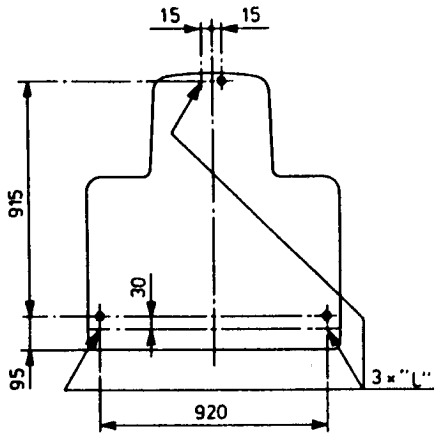
5025/6025	FUNDAMENTSPLAN FOUNDATION FUNDAMENT	13 A

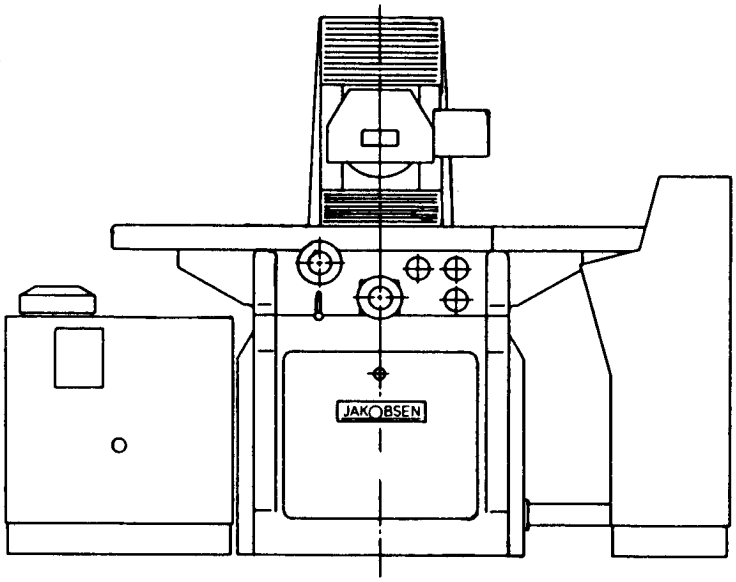


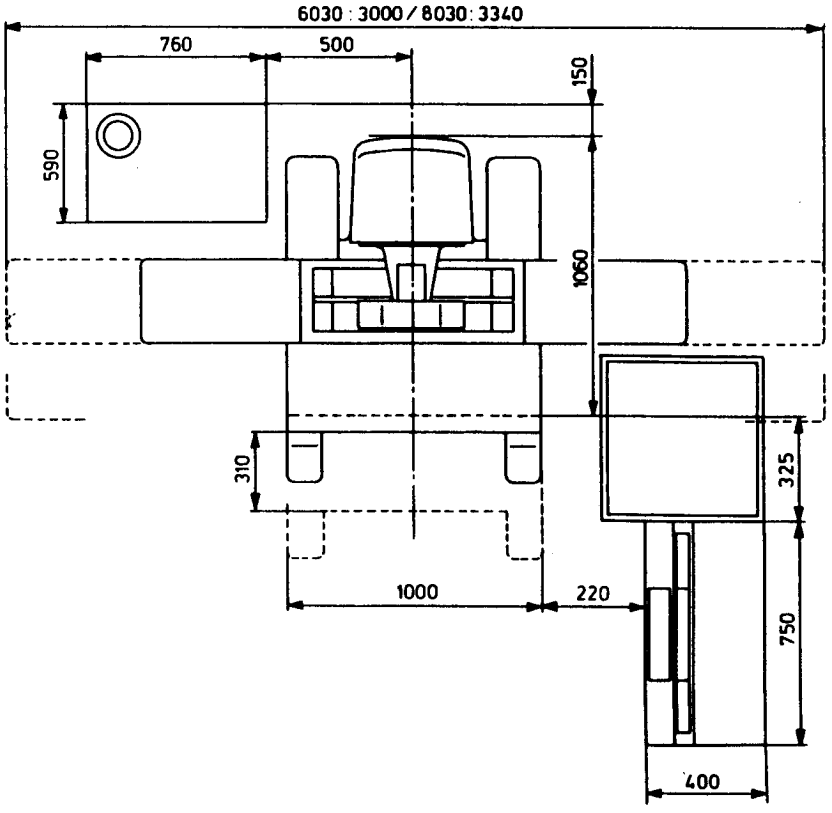




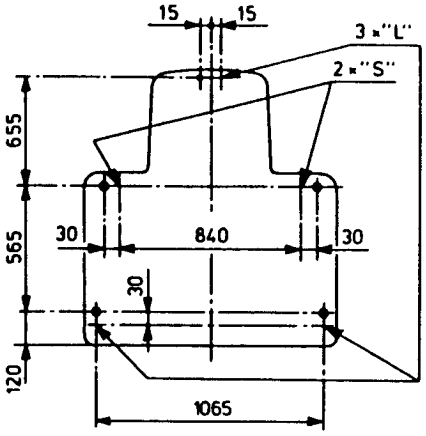
6030/8030	FUNDAMENTSPLAN FOUNDATION FUNDAMENT	13 B

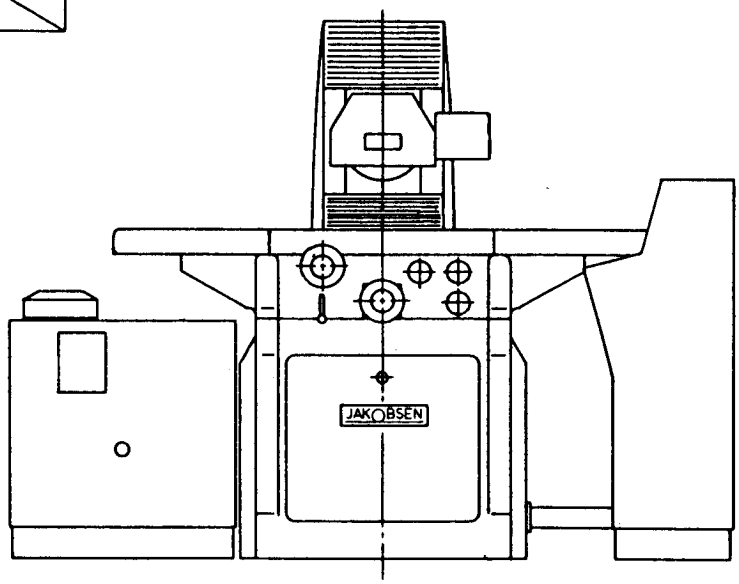


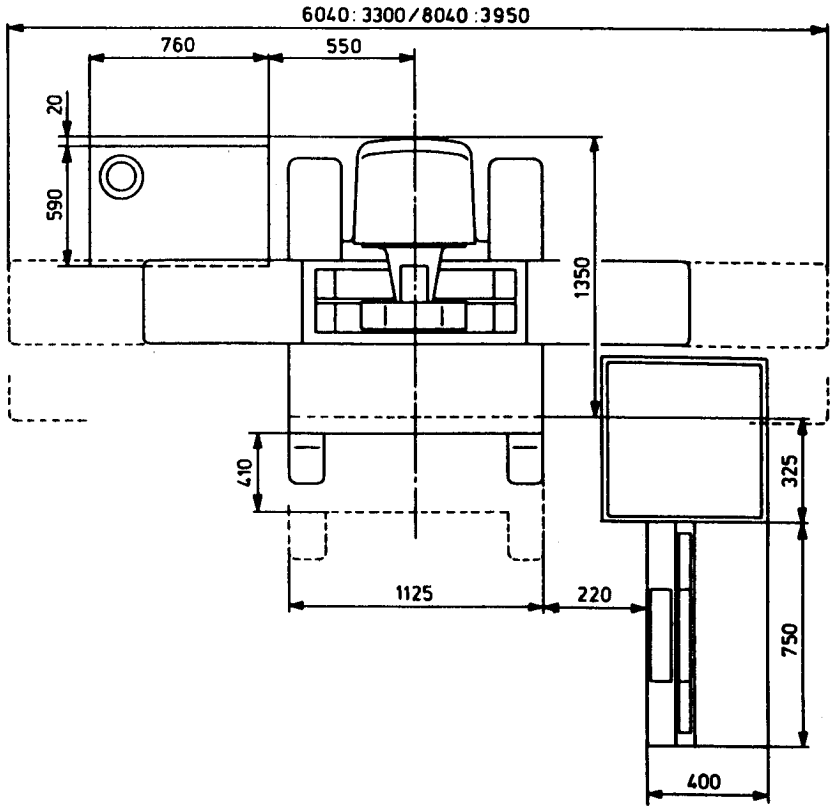




6040/8040	FUNDAMENTSPLAN FOUNDATION FUNDAMENT	13 C







SOLENOID VALVES

VO 1: Relief valve.

VO 2: Stop valve, longitudinal movement.

VO 3: Pilot valve, longitudinal movement, right.

$\overline{\text{VO 3}}$: Pilot valve, longitudinal movement, left.

VO 4: Stop valve, cross movement.

VO 5: Valve for intermittent cross movement.

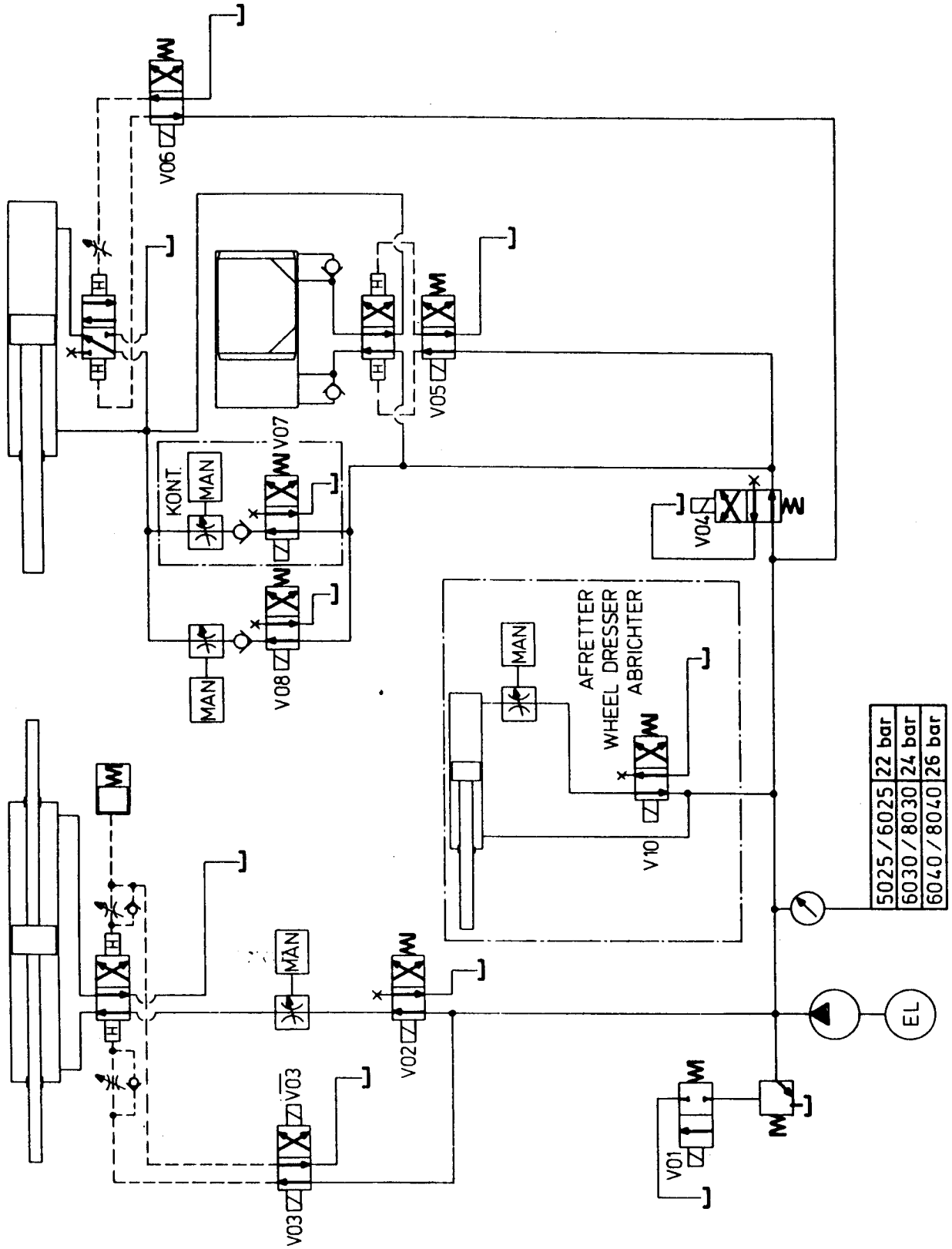
VO 6: Directional valve, cross movement. Saddle moves towards operator when valve being activated.

VO 7: Pilot valve, continuous cross movement.

VO 8: Pilot valve, manual cross movement.

V 10: Pilot valve, wheel dresser movement.

5025/6025 6030/8030 6040/8040	HYDRAULISK SYSTEM HYDRAULIC SYSTEM HYDRAULISCHES SYSTEM	15



VENTILFUNKTIONER
VALVE FUNKTIONS
VENTILFUNKTIONEN

5025 /6025
6030/8030
6040/8040

			V.01	V.02	V.03	V.03	V.04	V.05	V.06	V.07	V.08	V.10
INGEN BEVÆGELSE - NO MOVEMENT - KEINE BEWEGUNG			X	○	—	—	○	—	—	—	—	
MANUEL BEVÆGELSE MANUAL MOVEMENT MANUELLE BEWEGUNG	LÆNGDEBEVÆGELSE LONGITUDINAL MOVEMENT LÄNGSBEWEGUNG	HØJRE RIGHT RECHTS	○	X	X	○	—	—	—	—	—	—
		VENSTRE LEFT LINKS	○	X	○	X	—	—	—	—	—	—
	TVÆRBEVÆGELSE CROSS MOVEMENT QUERBEWEGUNG	IND IN NACH HINTEN	○	—	—	—	X	—	○	—	X	—
		UD OUT NACH VORNE	○	—	—	—	X	—	X	—	X	—
HÅNDHJUL,TVÆRBEVÆGELSE - HAND WHEEL,CROSS MOVEMENT - HANDRAD,QUERBEWEGUNG			○	—	—	—	X	—	○	—	X	—
AUTOMATISK BEVÆGELSE AUTOMATIC MOVEMENT AUTOMATISCHE BEWEGUNG	LÆNGDEBEVÆGELSE LONGITUDINAL MOVEMENT LÄNGSBEWEGUNG		○	X	L	L	—	—	—	—	—	—
	TVÆRBEVÆGELSE CROSS MOVEMENT QUERBEWEGUNG	STEP STEP SCHRITT					X	L	T	○	○	—
		KONTINUERLIG CONTINUOUS KONTINUIERLICHER					X	—	T	X	○	—
AFRETTERBEVÆGELSE - WHEEL DRESSER MOVEMENT - ABRICHTERBEWEGUNG			○	—	—	—	—	—	—	—	—	A

○	VENTIL IKKE AKTIVERET VALVE NOT ACTIVATED VENTIL UNBETÄTIGT
X	VENTIL AKTIVERET VALVE ACTIVATED VENTIL BETÄTIGT
—	INGEN INDFLYDELSE PÅ BEVÆGELSEN NO INFLUENCE ON THE MOVEMENT KEINE WIRKUNG AUF DIE BEWEGUNG
L	SKIFTER VED HVER BORDVENDING CHANGES AT EACH TABLE REVERSAL WECHSELT BEI JEDER TISCHUMSTEUERUNG
T	SKIFTER VED HVER TVÆRSLÆDEVENDING CHANGES AT EACH SADDLE REVERSAL WECHSELT BEI JEDER QUERUMSTEUERUNG
A	SKIFTER VED START AF AFRETTERBEVÆGELSE CHANGES AT START OF WHEEL DRESSER MOVEMENT WECHSELT BEIM START DER ABRICHTBEWEGUNG

V.01	AFLASTNINGSVENTIL RELIEF VALVE ENTLASTUNGSVENTIL
V.02	STOPVENTIL, LÆNGDEBEVÆGELSE STOP VALVE, LONGITUDINAL MOVEMENT ABSPERRVENTIL, LÄNGSBEWEGUNG
V.03	STYREVENTIL, LÆNGDEBEVÆGELSE - HØJRE PILOT VALVE, LONGITUDINAL MOVEMENT - RIGHT STEUERVENTIL, LÄNGSBEWEGUNG - RECHTS
V.03	STYREVENTIL, LÆNGDEBEVÆGELSE - VENSTRE PILOT VALVE, LONGITUDINAL MOVEMENT - LEFT STEUERVENTIL, LÄNGSBEWEGUNG - LINKS
V.04	STOPVENTIL, TVÆRBEVÆGELSE STOP VALVE, CROSS MOVEMENT ABSPERRVENTIL, QUERBEWEGUNG
V.05	IMPULSVENTIL, STEPVIS TVÆRBEVÆGELSE VALVE FOR INTERMITTENT CROSS MOVEMENT VENTIL FÜR SCHRITTWEISE QUERBEWEGUNG
V.06	RETNINGSVENTIL, TVÆRBEVÆGELSE DIRECTIONAL VALVE, CROSS MOVEMENT RICHTUNGSVENTIL, QUERBEWEGUNG
V.07	STYREVENTIL, KONTINUERLIG TVÆRBEVÆGELSE PILOT VALVE, CONTINUOUS CROSS MOVEMENT STEUERVENTIL, KONTINUIERLICHER QUERBEWEGUNG
V.08	STYREVENTIL, MANUEL TVÆRBEVÆGELSE PILOT VALVE, MANUAL CROSS MOVEMENT STEUERVENTIL, MANUELLE QUERBEWEGUNG
V.10	STYREVENTIL, AFRETTERBEVÆGELSE PILOT VALVE, WHEEL DRESSER MOVEMENT STEUERVENTIL, ABRICHTBEWEGUNG

PRINTED CIRCUIT BOARDS

Board 1: Manual and automatic movement of table and saddle. Stand-by for grinding the last downfeed stroke. Control of table stop at right-hand side.

Board 2: Display control

Board 3: Manual and automatic downfeed movement.

Board 4A: Vertical stepping motor translator.

Board 4B: Diamond infeed stepping motor translator. Modul III only.

Board 5: Sequence control. Sparking-out counter. Return to zero control. Compensation gates.

Board 6: Light control B12, B13 and B14. Continuous crossfeed control. Positioning of table and saddle in extreme parking position.

} Modul II & III only

Board 7: Manual and automatic dresser infeed movement.

Board 8: Hydraulic " over the wheel" dresser movement. Control of the dressing in the roughing area. Start and stop of table and saddle.

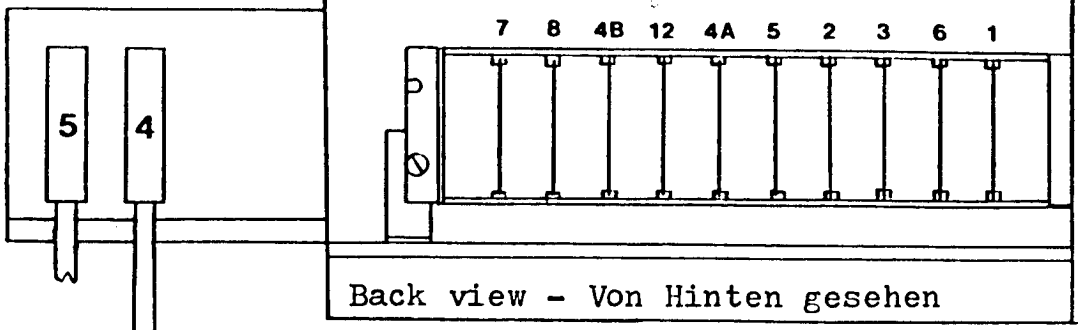
} Modul III only

Board 9: (interface board)
Driver transistors for the magnetic valves.
Timedelay for stopvalves V02 and V04.
Inhibit function of hydraulic movement by handwheel operation. Relays for vertical rapid feed and protection of stepping motor driver. Handwheel movement in cross-feed.

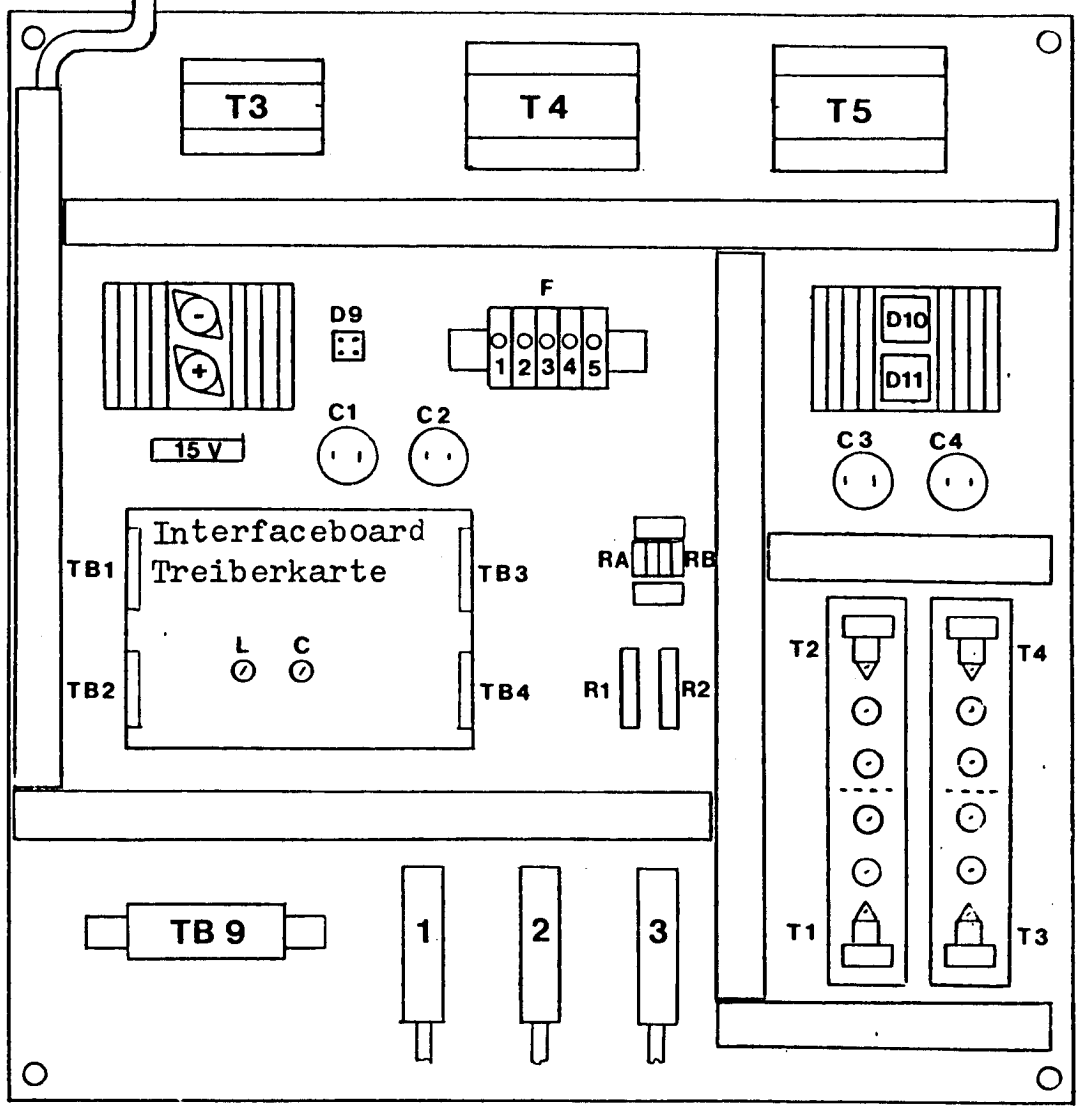
Board 10 & 11: Plugs for thumblewheel switches.

Board 12: Metric-inch converter. (Countries with inch system only).

Print kort
Printed circuit boards
Einsteck Karten



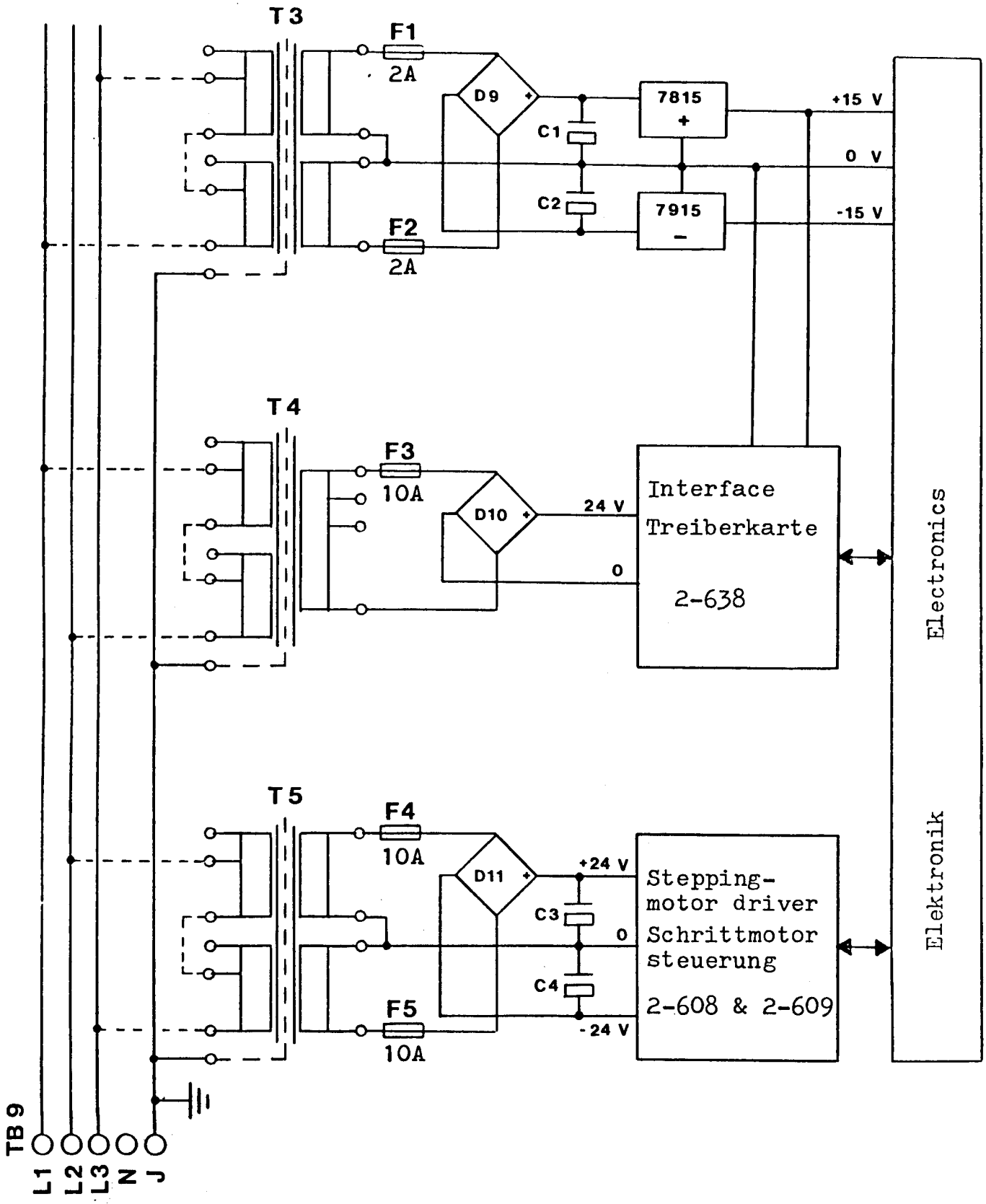
Back view - Von Hinten gesehen



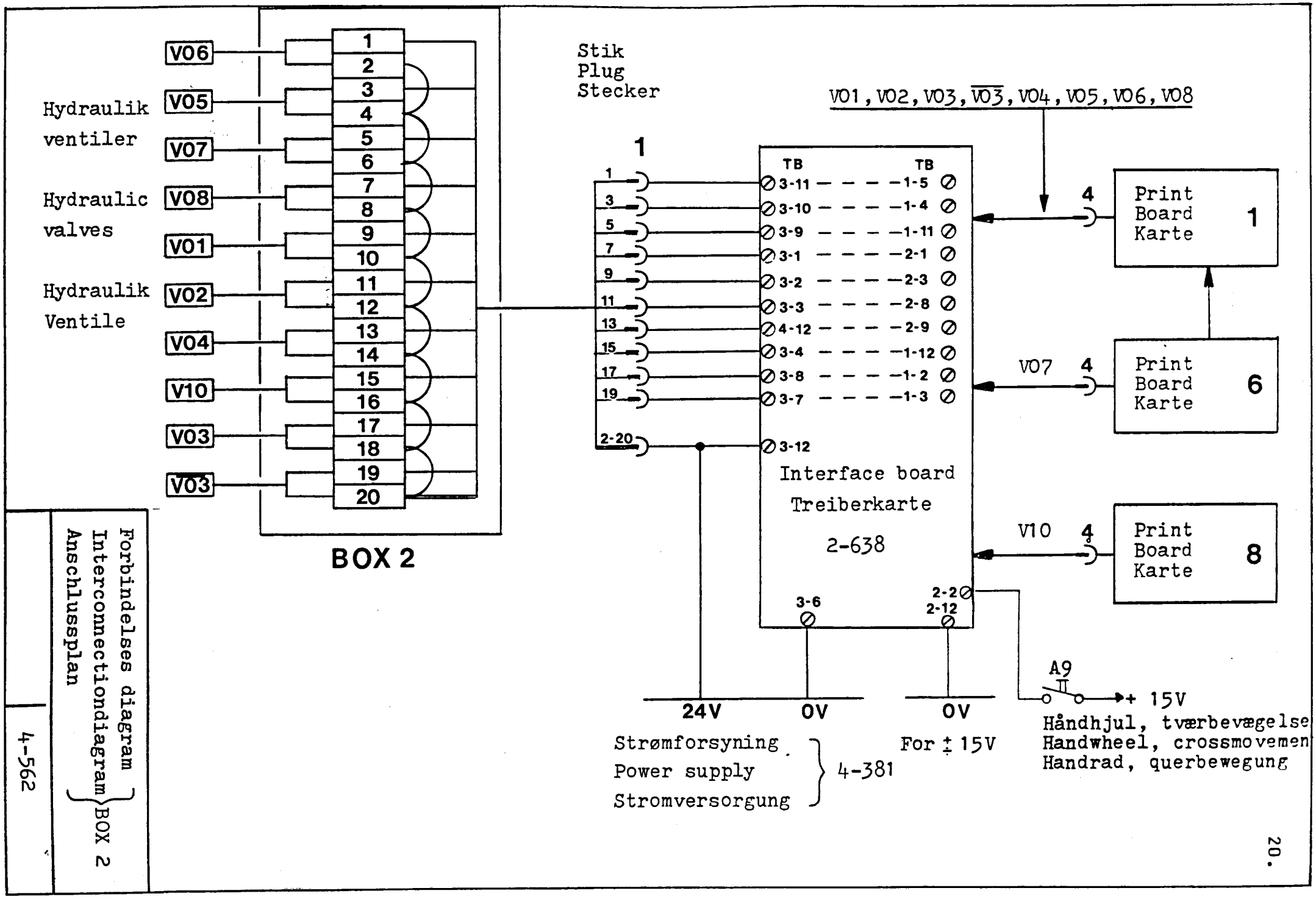
Tidsforsinkelse
Time delay
Zeit verzögerung

L: V02
C: V04

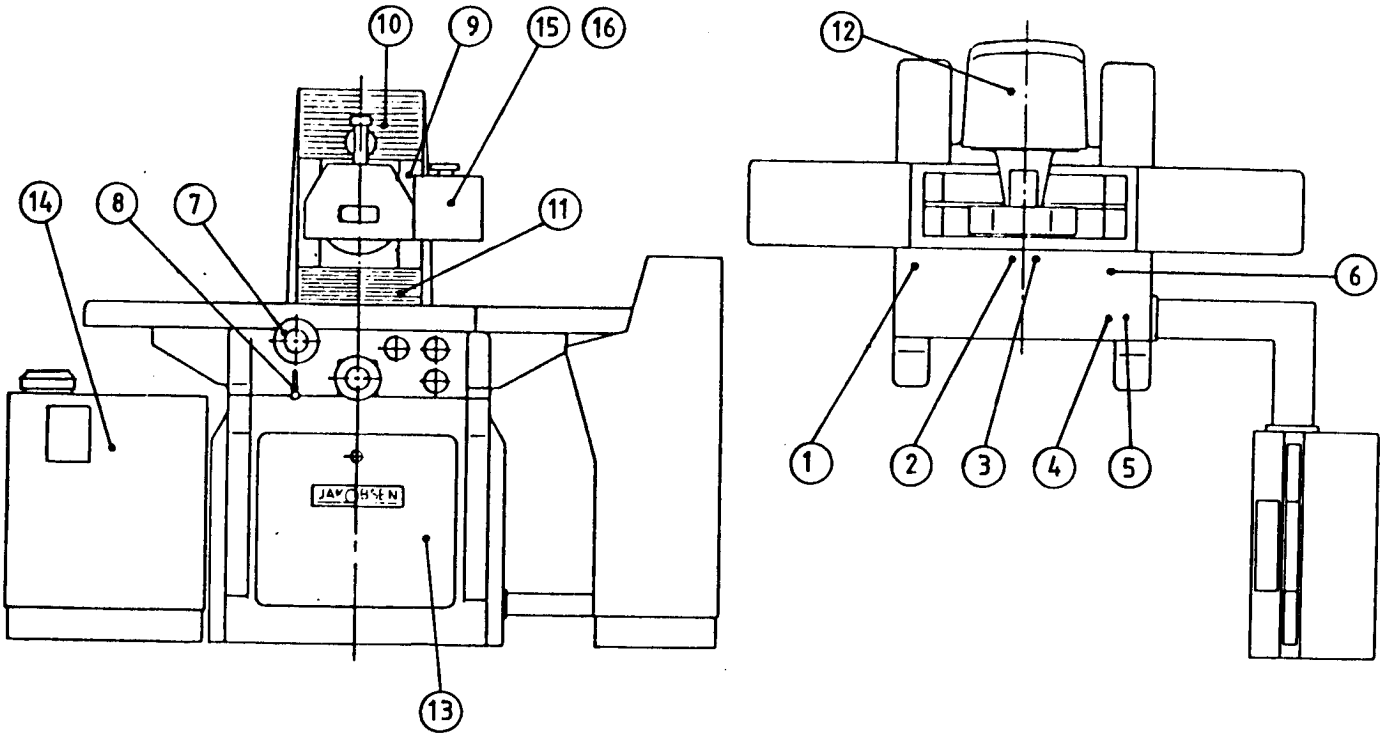
Komponent placering Location diagram Montierungsplan	
Front view	4- 386



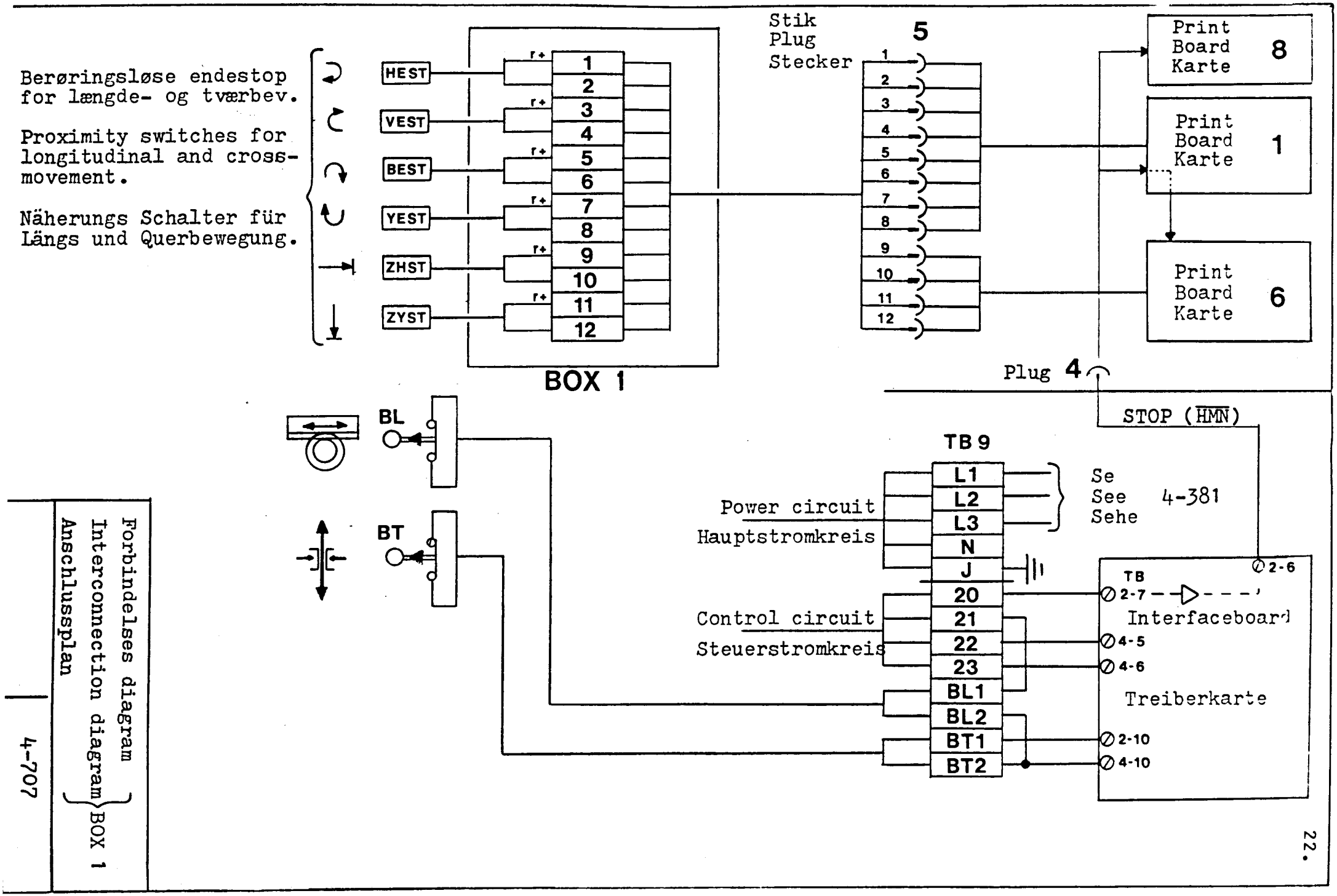
Strømforsyning til elektronik
Power supply for electronics
Stromversorgung für elektronik

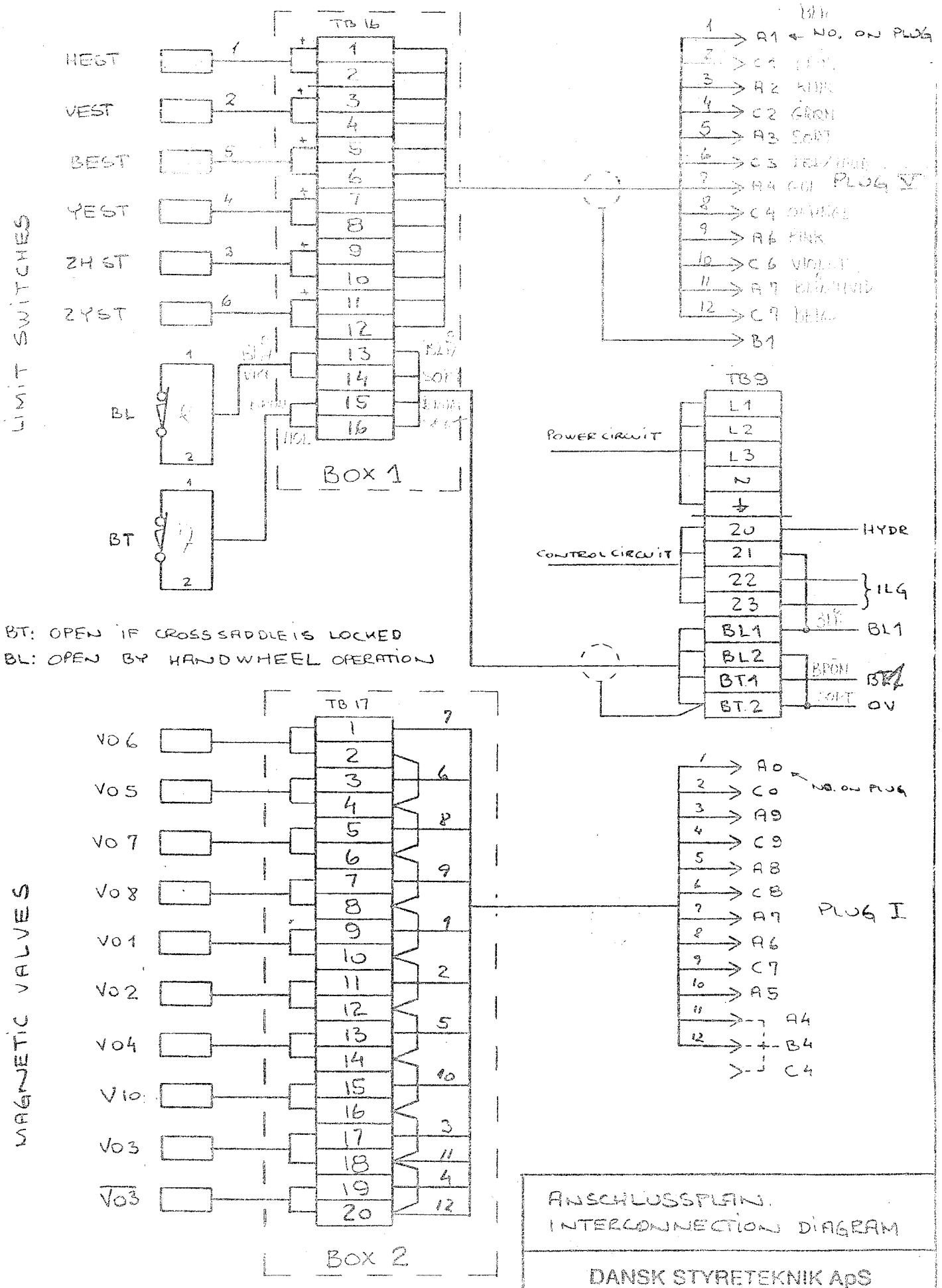

V06
V05
V07
V08
V01
V02
V04
V10
V03
V03
Hydraulik ventiler
Hydraulic valves
Hydraulik Ventile
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
BOX 2
Stik
Plug
Stecker
V01, V02, V03, V03, V04, V05, V06, V08
1
1
3
5
7
9
11
13
15
17
19
2-20
TB
TB
3-11 — — — 1-5
3-10 — — — 1-4
3-9 — — — 1-11
3-1 — — — 2-1
3-2 — — — 2-3
3-3 — — — 2-8
4-12 — — — 2-9
3-4 — — — 1-12
3-8 — — — 1-2
3-7 — — — 1-3
3-12
Interface board
Treiberkarte
2-638
3-6
2-2
2-12
4
Print Board Karte 1
V07
4
Print Board Karte 6
V10
4
Print Board Karte 8
A9
+ 15V
Håndhjul, tværbevægelse
Handwheel, crossmovemen
Handrad, querbewegung
24V
0V
0V
For ± 15V
Strømforsyning
Power supply
Stromversorgung
4-381
Forbindelses diagram
Interconnectiondiagram
Anschlussplan
BOX 2
4-562
20.

LOCATION OF SWITCHES



Pos.	S	Operation	Type
1	ZHST	Proximity switch, extreme right-hand parking.	Turck BI 2-G14-YO
2	HEST	Proximity switch, table is right.	- -
3	VEST	Proximity switch, table is left.	- -
4	BEST	Proximity switch, crossfeed is back.	- -
5	YEST	Proximity switch, crossfeed is forward.	- -
6	ZYST	Proximity switch, extreme parking position forward	- -
7	BL	Limit switch, open by handwheel.	Burgess V 13 L
8	BT	Limit switch, open if cross saddle is locked.	- -
9	Q 1	Limit switch, dresser not in position	- -
10	Q 2	Limit switch, vertical, opens when up.	- -
11	Q 3	Limit switch, vertical, opens when down.	- -
12	BOX 3	Terminal box, in column.	
13	BOX 1	Terminal box, in machinebase.	
14	BOX 2	Terminal box, hydraulic station.	
15	TEST	Dresser position in.	Turck B12-G14-YO
16	FEST	Dresser position out.	- -

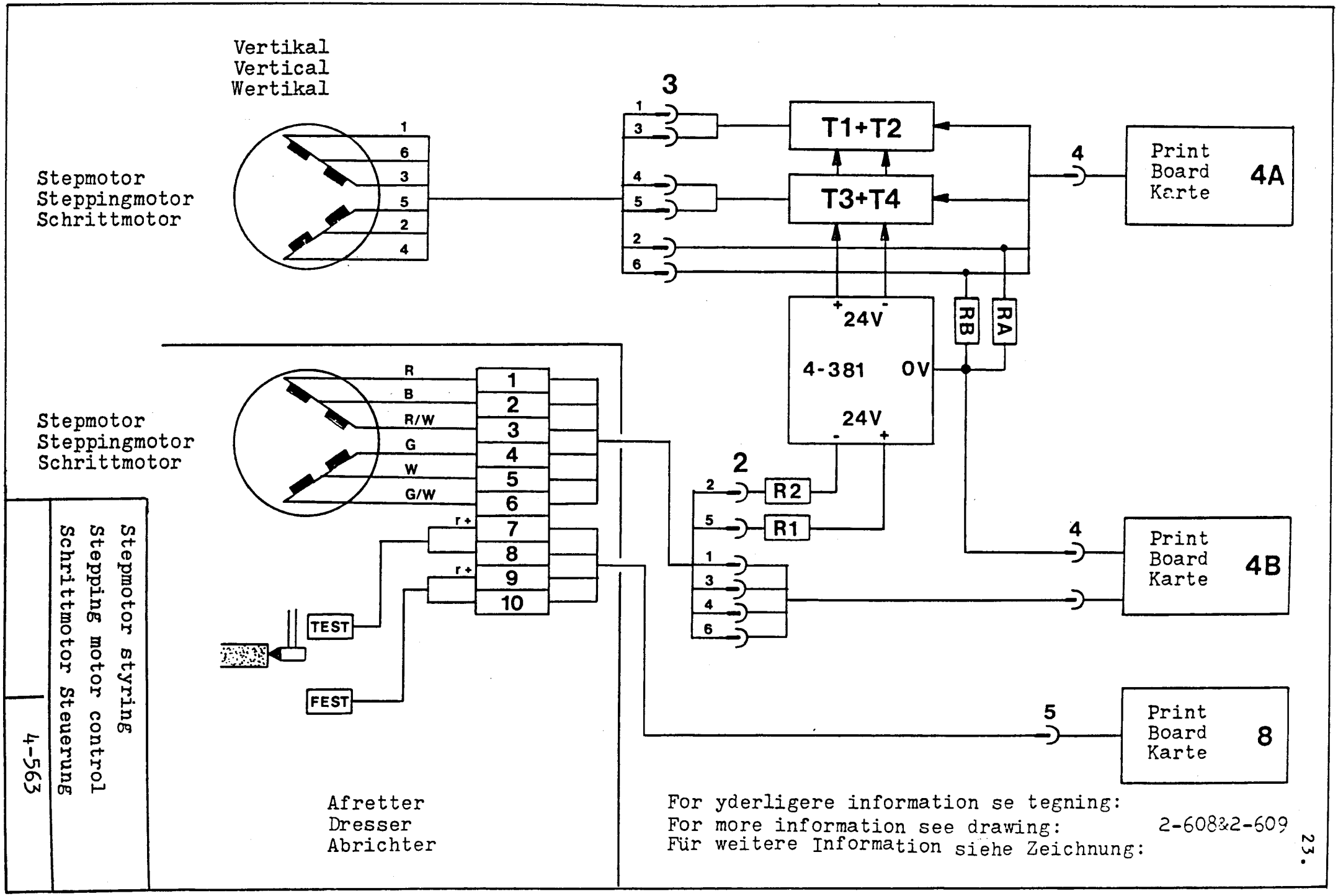

Berøringsløse endestop for længde- og tværbev.
Proximity switches for longitudinal and cross-movement.
Näherungs Schalter für Längs und Querbewegung.
HEST
VEST
BEST
YEST
ZHST
ZYST
r+
1
2
3
4
5
6
7
8
9
10
11
12
BOX 1
Stik
Plug
Stecker
5
Print Board Karte 8
Print Board Karte 1
Print Board Karte 6
Plug 4
STOP (HMN)
BL
BT
TB 9
L1
L2
L3
N
J
20
21
22
23
BL1
BL2
BT1
BT2
Power circuit
Hauptstromkreis
Control circuit
Steuerstromkreis
Se
See 4-381
Sehe
TB
2-6
2-7
Interfaceboard
4-5
4-6
Treiberkarte
2-10
4-10
Forbindelses diagram
Interconnection diagram
Anschlussplan
BOX 1
4-707
22.



ANSCHLUSSPLAN.
INTERCONNECTION DIAGRAM

DANSK STYRETEKNIK ApS
AMAGER LANDEVEJ 246
2770 KASTRUP . TLF. (01) 52 18 08

HYDR. & LIMIT | 4-382


Vertikal
Vertical
Wertikal
Stepmotor
Steppingmotor
Schrittmotor
1
6
3
5
2
4
3
1
3
4
5
2
6
T1+T2
T3+T4
4
Print
Board
Karte
4A
+
24V
-
4-381
0V
24V
RB
RA
Stepmotor
Steppingmotor
Schrittmotor
R
B
R/W
G
W
G/W
1
2
3
4
5
6
r+
7
8
r+
9
10
TEST
FEST
2
2
R2
5
R1
1
3
4
6
4
Print
Board
Karte
4B
5
Print
Board
Karte
8
Stepmotor styring
Stepping motor control
Schrittmotor Steuerung
4-563
Afretter
Dresser
Abrichter
For yderligere information se tegning:
For more information see drawing: 2-608&2-609
Für weitere Information siehe Zeichnung:
23.

TROUBLE SHOOTING

Machine not grinding parts flat.

1. Excessive heat expands work. Adjust coolant application, downfeed excessive, table speed to slow, wheel dressed too smooth, diamondtip too flat.
2. Chuck may not be flat.

Chatter (vibration) marks on work.

1. "Outside" vibrations from other machinery.
2. Grinding wheel not trued.
3. Grinding wheel not balanced.
4. Glazed wheel has "stick-slip" on work. Dress wheel. Diamondtip flat?
5. Coolant not turned off by stopped wheel creating out of balance condition.
6. Wheel too hard.

Discoloured spots on work from overheating.

1. Table speed too slow.
2. Not enough coolant or coolant not applied properly.
3. Wheel too hard.
4. Wheel dressed too fine. Diamondtip?
5. Downfeed excessive.

Crossfeed lines on work.

Dresser not lined up.

Grain marks on work.

1. Wheel too soft.
2. Coolant not filtered properly.

Accuracy not repeating by automatic downfeed and compensation for wheel dressing.

1. Wear of wheel excessive in accordance to diamond infeed.
2. Machine not allowed 30 min. warm up period.
3. Sparking out operation not sufficient to release outbending forces.

AC-motors will not start.

1. Check overload relays on magnetic starters. Press reset buttons.
2. Check main fuses and control circuit fuse.
3. Check line for incoming power.
4. Check that side-mounted wheel dresser is in its proper position.
5. Check that magnetic chuck is turned on.

Table and (or) saddle will not move. (Push button)

1. Check that hydraulic pump is running.
2. Check the hydraulic pressure.
3. Check that handles are turned to hydraulic movement position.
4. Check that saddle is not locked.
5. Check +24 volt power supply for magnetic valves.
6. Check voltages on magnetic valves.
7. Check input and output signals on interface board.
8. Check board 1 or 6.

No vertical downfeed or no steady movement. (Manual).

1. Check $\pm$24 volt power supply for stepping motors.
2. Check - 15 volt power supply.
3. Check power transistors and diodes on heatsinks.
4. Check that the protection relay on interface board is not energized.
5. Check board 4A or 3. (12 by metric-inch convertion).

No diamond infeed or no steady movement. (Manual)

1. Check that gear wheels are not loose.
2. Is vertical downfeed ok ?
3. Check board 4B or 7. (12 by metric-inch convertion).

No movement of hydraulic "over the wheel" dresser. (Manual)

1. Check that longitudinal movement is not turned to handwheel operation.
2. Check voltage on magnetic valves.
3. Check signals to and from interface board.
4. Check board 8.

No automatic table movement.

1. Check manual movement.
2. Check position of stopdogs.
3. Waiting for dressing?
4. Check board 1 and 8.

No automatic downfeed.

1. Check manual movement.
2. Check circuit boards in accordance with the list "Functions contained on the printed circuit boards"?

No light on the display

1. Check + 15 volt power supply.
2. Check board 2.

5025/6025 6030/8030 6040/8040	TEST SHEET for Surface Grinder Model SJ Serial No.:	27

	Test	Tolerance permitted	Tolerance measured
1 a	Bed level – longitudinal direction	0,02 mm in 1000 mm	
1 b	Bed level – transverse direction	0,02 mm in 1000 mm	
2	Surface of table parallel to the longitudinal travel	0,015 mm in 1000 mm	
3	Surface of table parallel to the transversal travel	0,01 mm in table width	
4	T-grooves of table parallel to the longitudinal travel	0,015 mm in 1000 mm	
5	T-grooves of table at right angles to the transversal travel	0,03 mm in 300 mm	
6 a	Runout of spindle, radial	0,01 mm	
6 b	Runout of spindle, axial	0,01 mm	
7	Grinding spindle parallel to table. Measured at 180° swivelling Arm 100 mm = 4"	0,02 mm in 300 mm	
8	Grinding spindle at right angles to the T-grooves of table. Measured at 180° swivelling Arm 200 mm = 8"	0,02 mm in 300 mm	
9	Vertical movement of wheelhead at right angles to the transversal direction of table	0,02 mm in 100 mm	

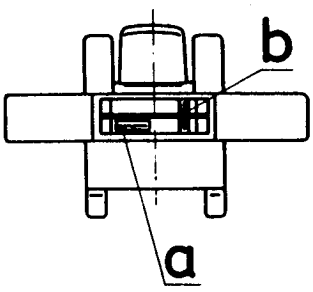
Kastrup, ... 19

..... Warranted

..... Tested by

5025 /6025 6030/8030 6040/8040	ILLUSTRATION TIL PRØVESKEMA ILLUSTRATION FOR TEST CHART ILLUSTRATION FÜR PRÜFKARTE	28

1



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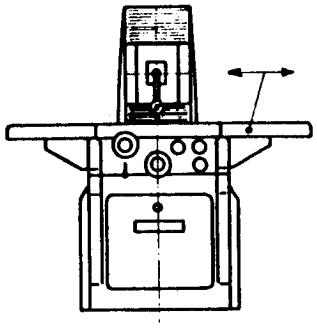

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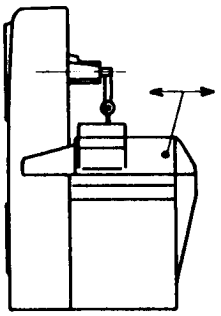

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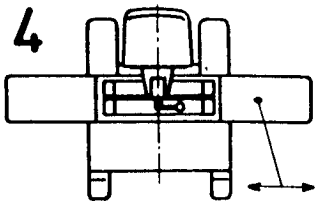

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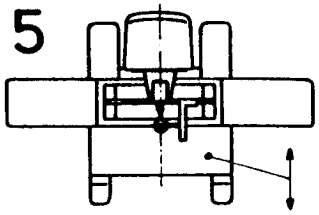

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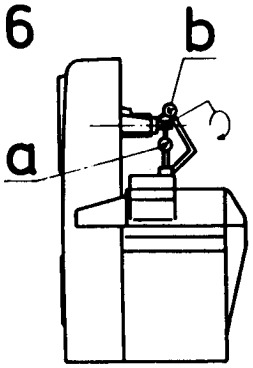

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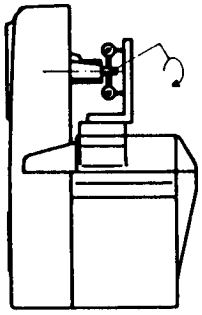

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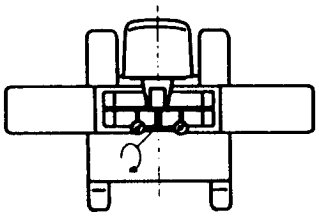

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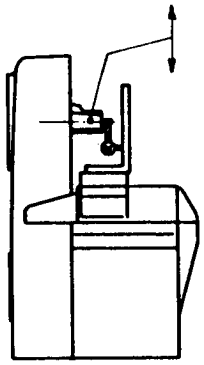

Elektromotorer - Electrical motors - Elektromotoren

Spænding Voltage Spannung	V
Frekvens Frequency Frequenz	Hz

	HK-HP-PS	omdr/min - RPM umdr/min	Serie nr. - Serial no. Serien nr.
Spindelmotor Spindlemotor Spindelmotor			
Pumpemotor Pumpmotor Pumpenmotor			
Vertikalmotor Verticalmotor Vertikalmotor			