JAKOBSEN

OPERATION MANUAL

SJ 618 / 824 /1026 /1032 /1424 /1432

AUTOMATIC

HYDRAULISK PLANSLIBEMASKINE
HYDRAULIC SURFACE GRINDING MACHINE
HYDRAULISCHE FLACHENSCHLEIFMASCHINE

JAKOBSEN Planslibemaskiner ApS
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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 be sure not to damage the control panel.

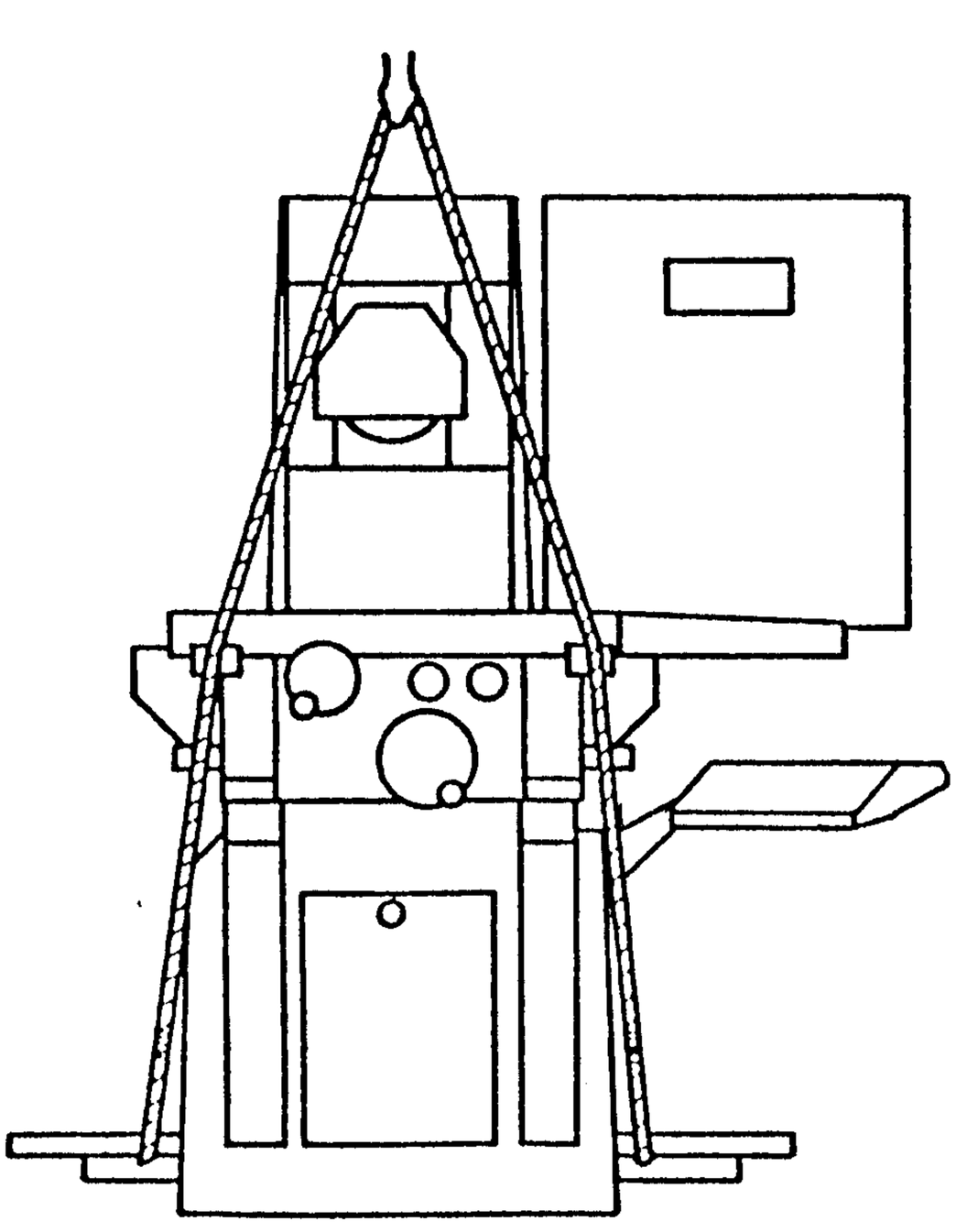
1) Dismantle the endcover of table, coolant tank and other accessories attached to the bottom of the packing.

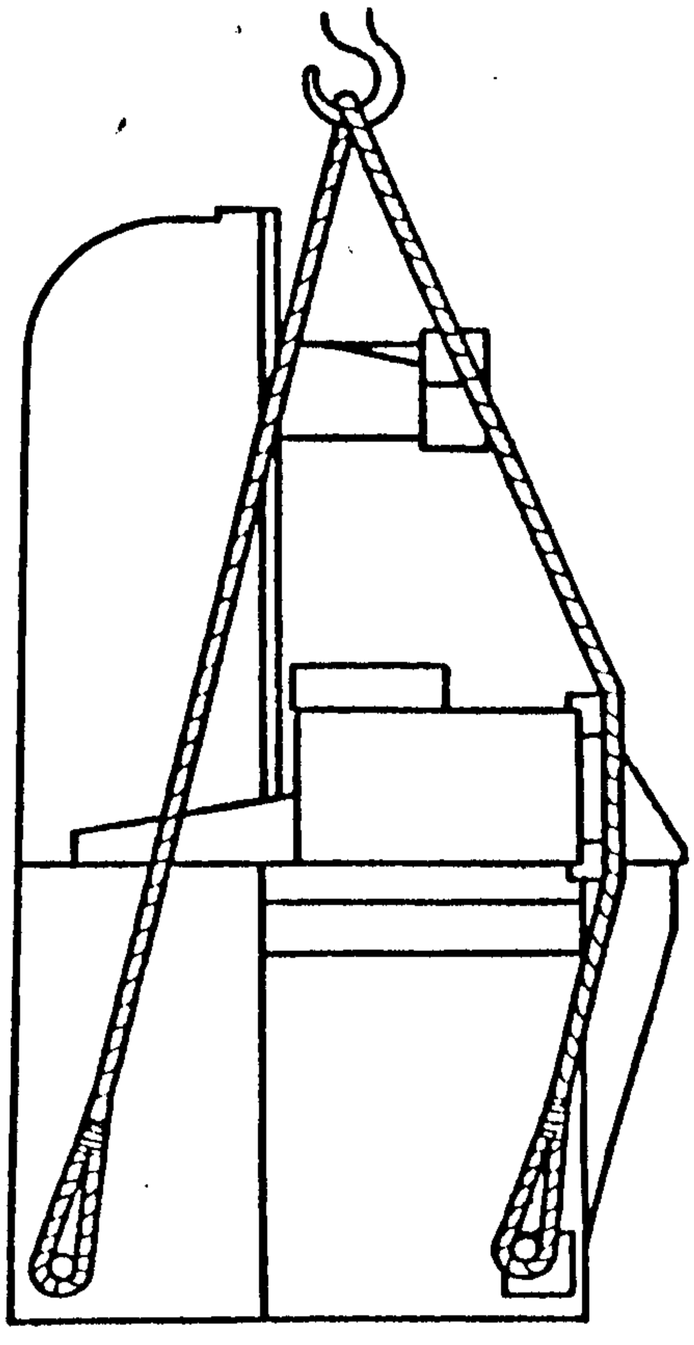
2) Inspect the machine and equipment for broken or damaged parts.

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 1300mm 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 plate for protecting top surface of cross saddle 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 9.

The machine must be aligned by means of the three adjustment screws (L). It is recommended to place steel shims approx. 100x100x20mm 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.

ASSEMBLY

1. Mount the endcover of table with the screws placed at the end of the table.

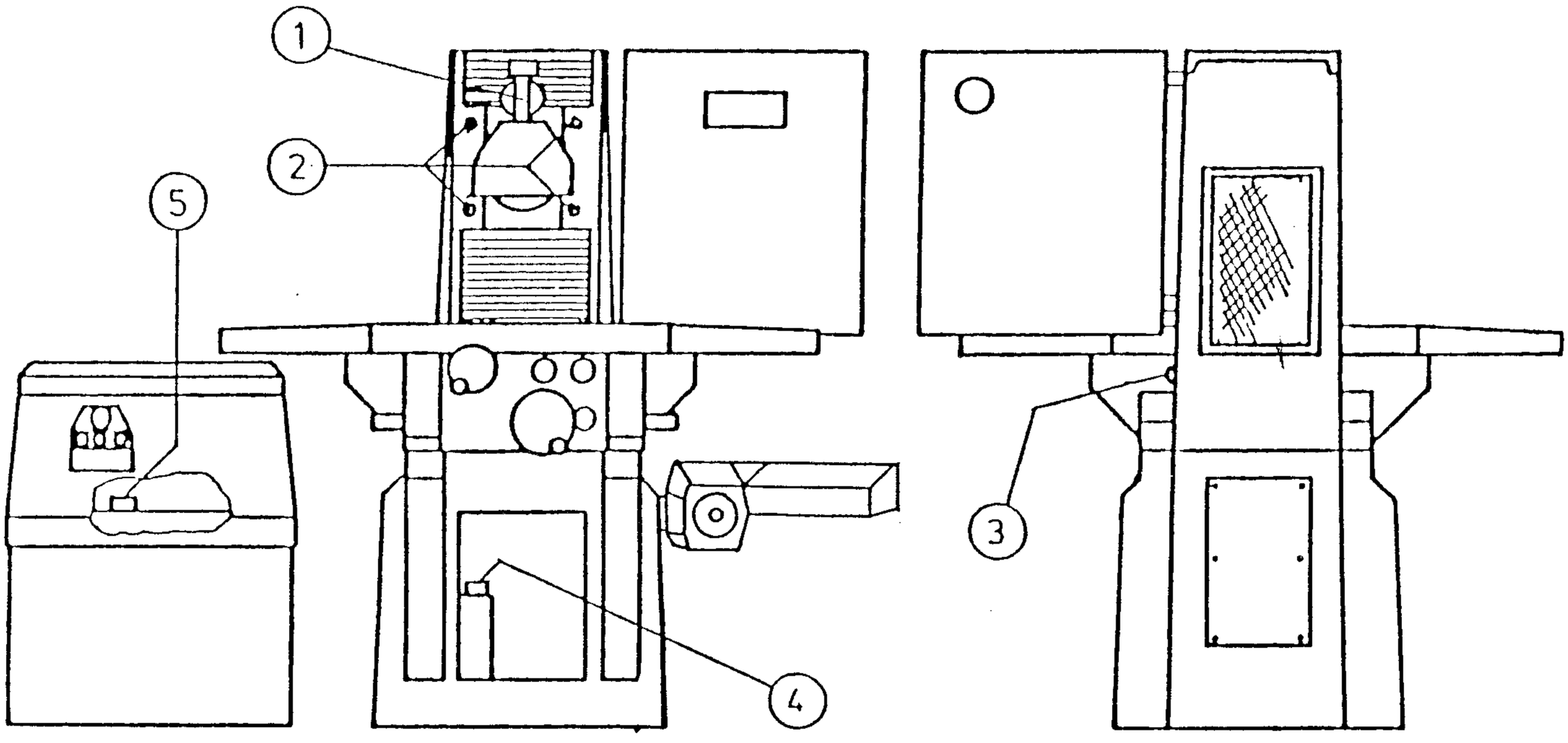
2. Mount the left-hand piston rod of the longitudinal cylinder by inserting the threaded end into the stuffing box. Avoid damaging the gasket in the stuffing box.

3. Place the hydraulic power station as shown on foundation plan page 9.

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. Connect from hydraulic power station all electrical cables according to numbers and the electrical diagram.

6. Mount the el-control box.


1
2
5
4
3

OPERATION OF MACHINE CONTROLS

T. Handwheel for manual crossfeed.

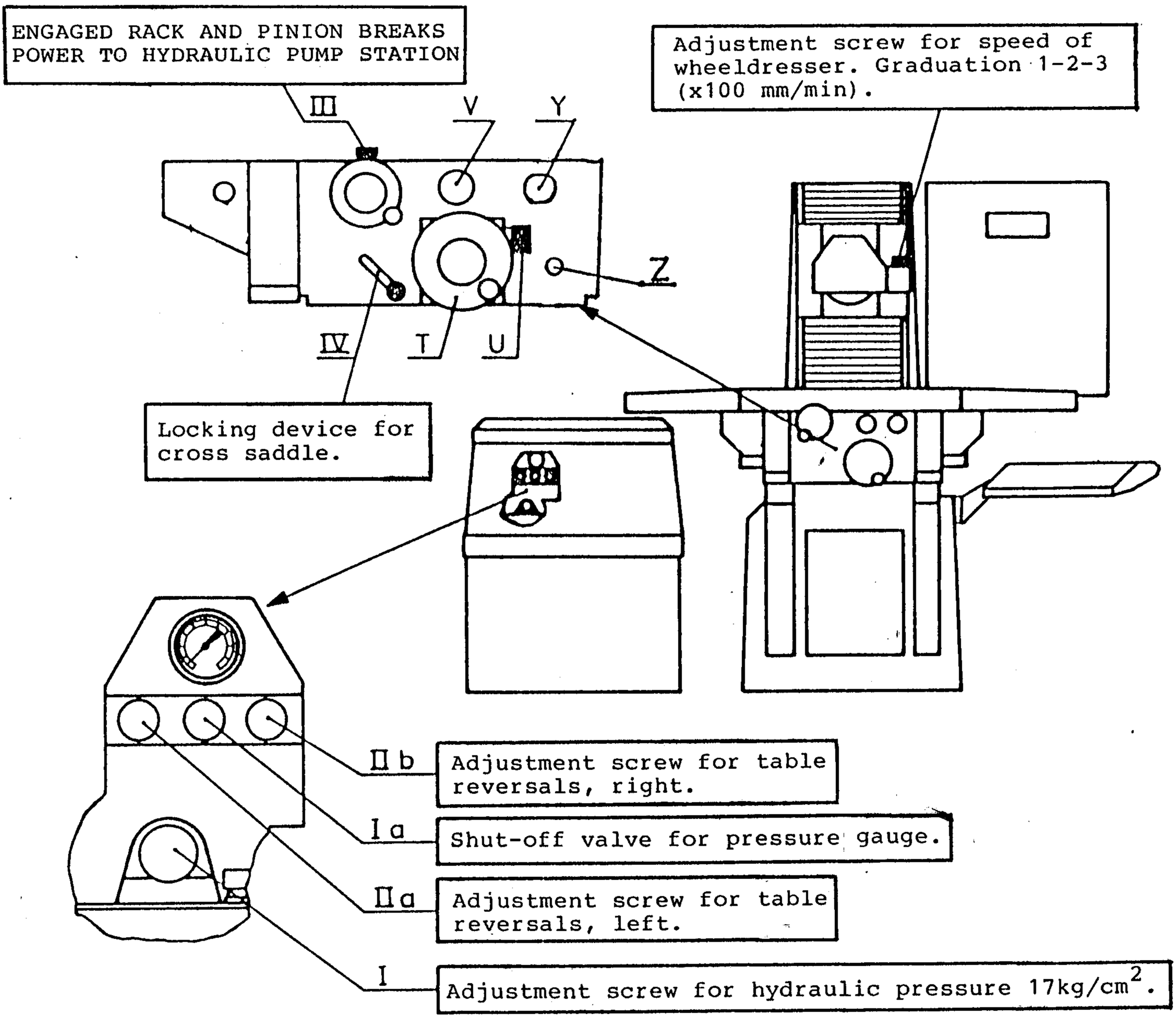
U. Fine adjustment screw for manual crossfeed.

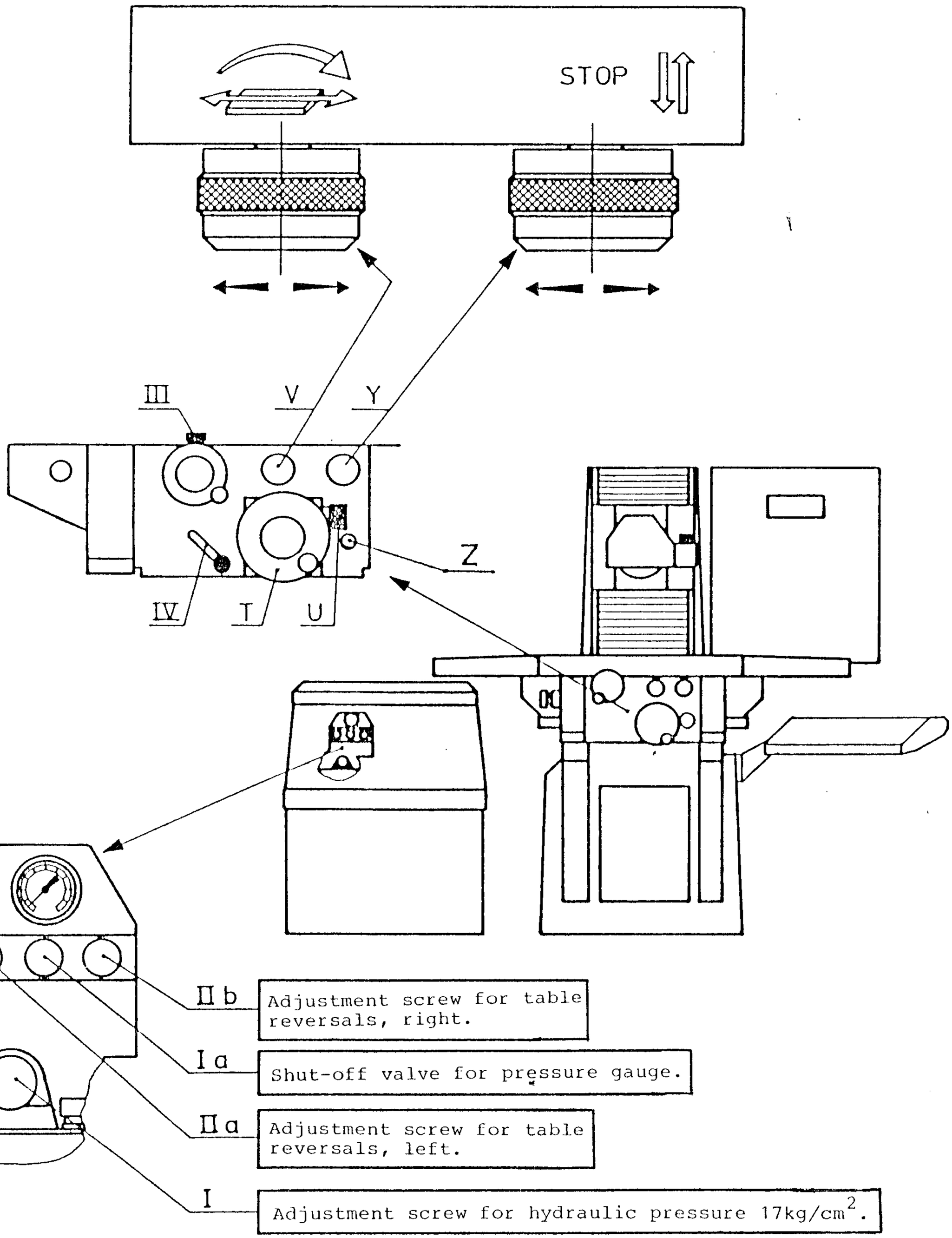
V. Handle for regulation of table speed.

Y. Handle for regulation of continuous crossfeed.

Z. Adjustment-screw for intermittent crossfeed rate.

III. Locking device for engagement of manual table control.





II b	Adjustment screw for table reversals, right.
I a	Shut-off valve for pressure gauge.
II a	Adjustment screw for table reversals, left.
I	Adjustment screw for hydraulic pressure 17kg/cm^2.

DEAIRING OF THE HYDRAULIC SYSTEM

Longitudinal table movement

1. Set handle for regulation of table speed (V) on minimum speed.

2. Activate push button (21) and hereafter green start button (31) on control panel.

3. Place table stop dogs in their extreme position and let table move to end positions.

Cross movement

1. Activate push button (22) and hereafter green start button (31) on control panel.

2. Place saddle stop dogs in their extreme position and let saddle move to end positions.

3. Set handle (Z) on max. crossfeed rate.

4. Adjust handle (V) to a middle speed rate.

After 30 minutes operation the hydraulic system will be completely deaired.

Hydraulic table movement

Set the table stop dogs to give the required traverse length. Set the wanted table speed by handle (V). Activate push button (21) and hereafter start button (31).
The handle for regulation of table speed (V) has two positions:

Red mark: Stop position
Green mark: Maximum table speed

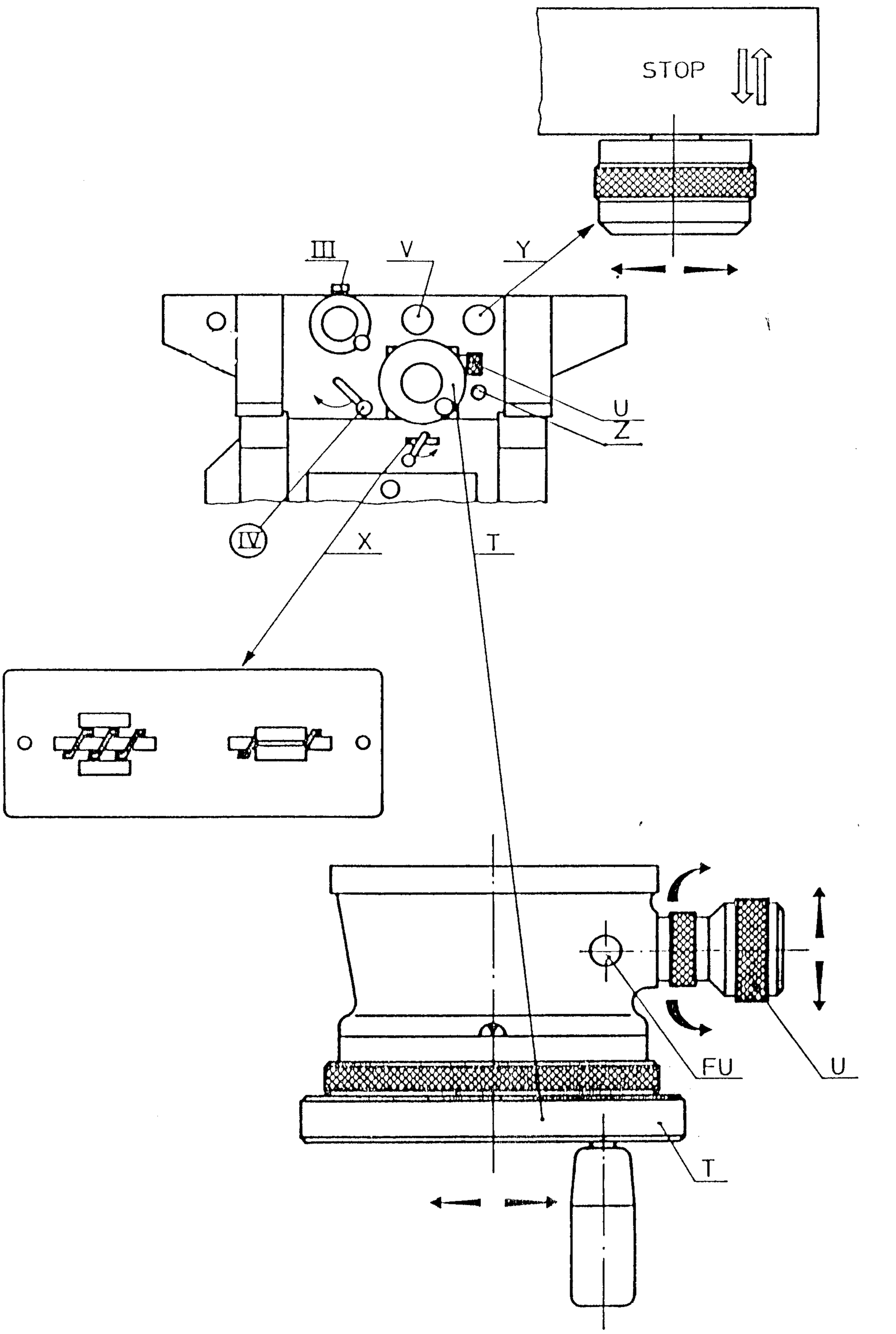
NOTE: When the machine is started up in the morning set handle for regulation of table speed (V) at a low speed rate untill oil has fully circulated. If the machine is cold, maximum table speed may not be obtained until the hydraulic oil has reached operating temperature.

Manual table movement

Engagement of the manual table control is made by lifting up the locking device III page 5; turn the inner handwheel to the right as shown by symbols whereafter the handwheel for manual table control can be operated. Handle (V) in RED mark position.

Adjustment of table overtravel

The overtravel is the distance the table travels at the end of its stroke after the stop dog has activated the proximity switches.


STOP
III
V
Y
U
Z
IV
X
T
FU
U
T

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 FUNCTIONAL DESCRIPTION OF MICROPROCESSOR CONTROL SYSTEM.

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 wheelspindle.
   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.

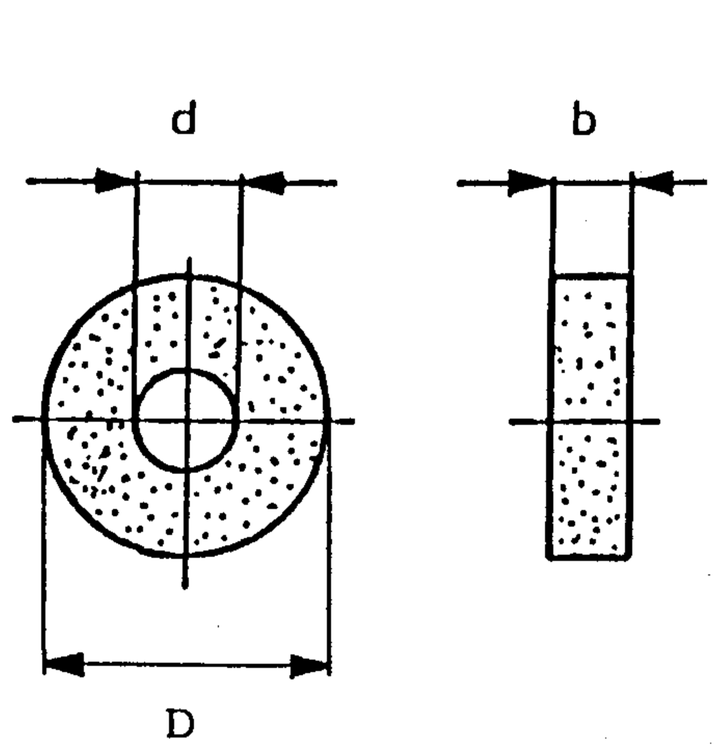
4) Remount assembly on the wheelspindle and redress wheel before starting grinding.

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 sizes are as follows:

TYPE SJ	HZ	D	d	STD. b	EXT. b
618	50	200 (8")	76,2 (3")	25 (1")	40 (1½")
618	60	200 (8")	76,2 (3")	25 (1")	40 (1½")
824	50	225 (9")	76,2 (3")	25 (1")	40 (1½")
824	60	200 (8")	76,2 (3")	25 (1")	40 (1½")
824	60	300 (12")	76,2 (3")	25 (1")	40 (1½")
1026/1032	50/60	350 (14")	127 (5")	40 (1½")	50 (2")
1424/1432	50/60	350 (14")	127 (5")	50 (2")	76 (3")

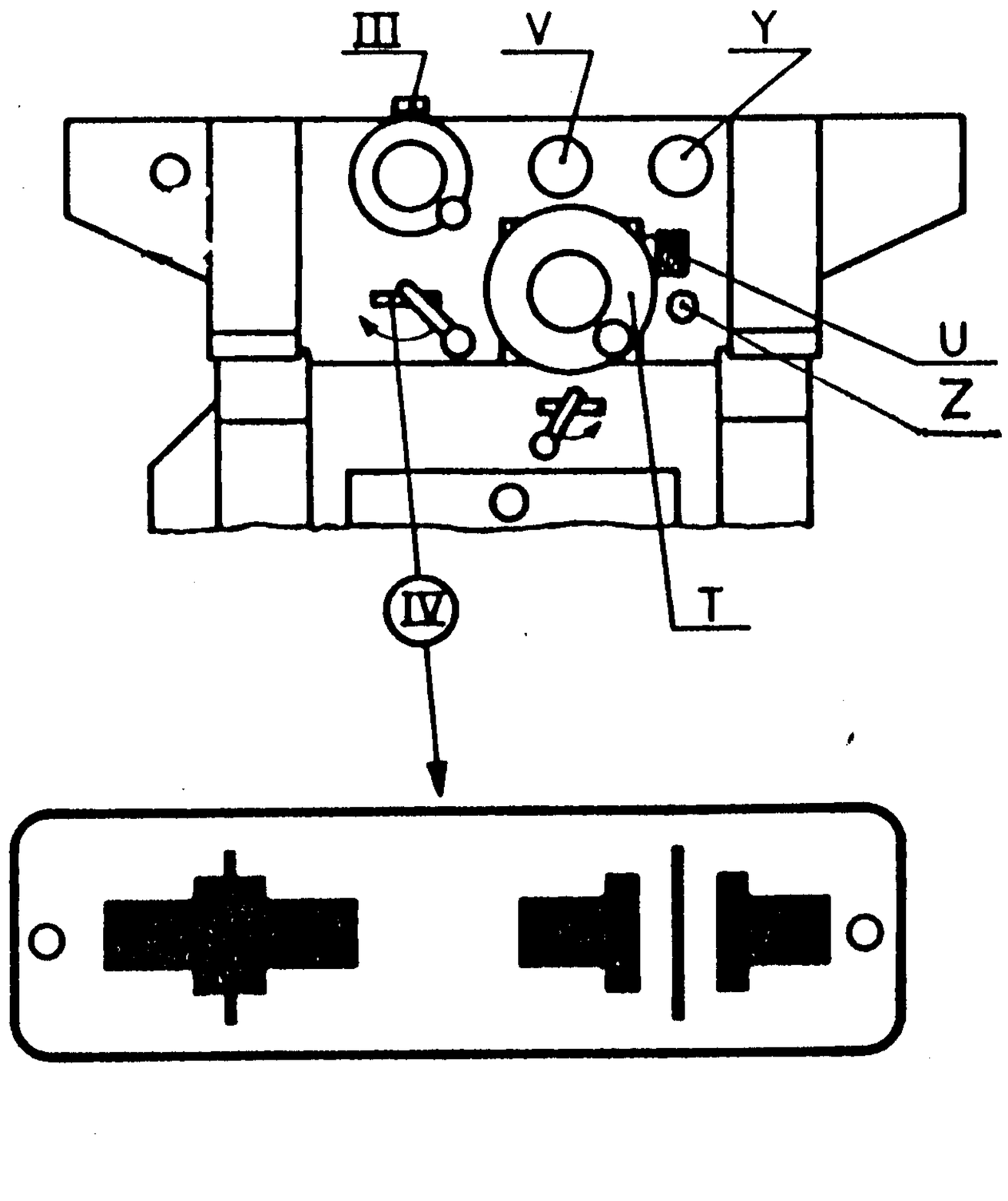


DOUBLE SADDLE LOCKING DEVICE

The locking of the cross saddle is made by turning the lever (IV) to the left - as shown by symbols, when the desired position of the cross saddle has been reached.

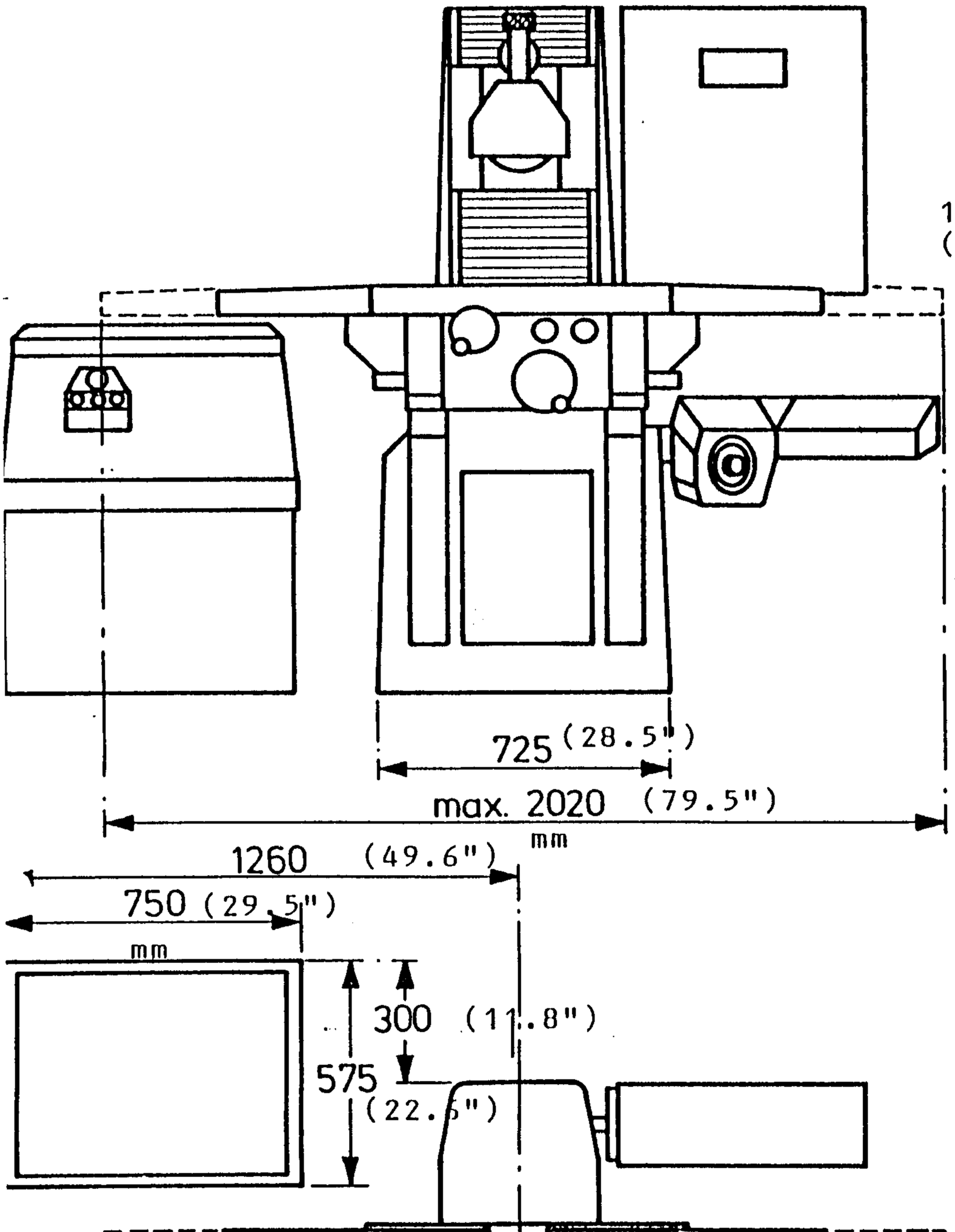
By positioning the cross saddle use the manual cross movement as described on page 6.

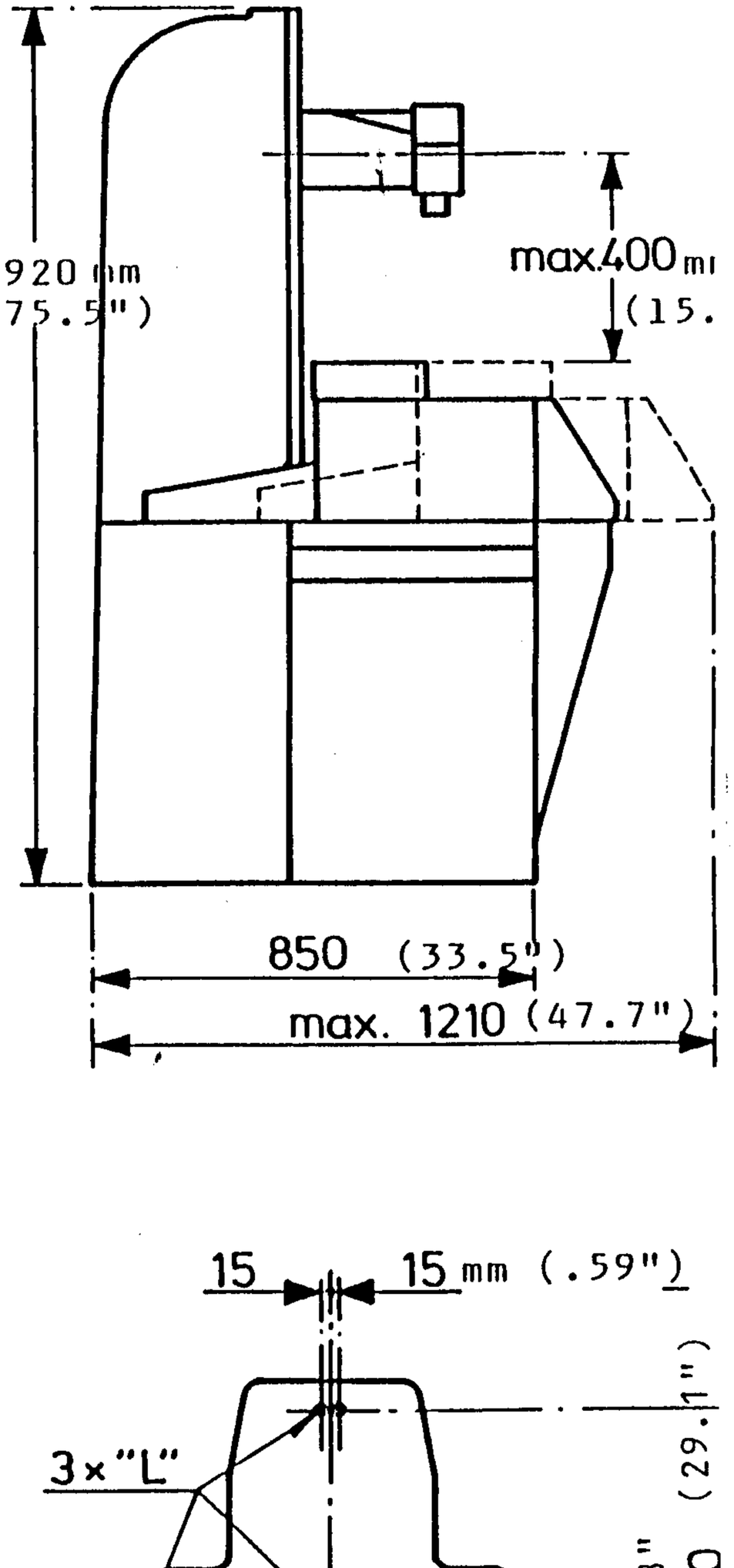
BE SURE THAT THE LOCKING MECHANISM HAS BEEN DISENGAGED BEFORE MOVING THE SADDLE.

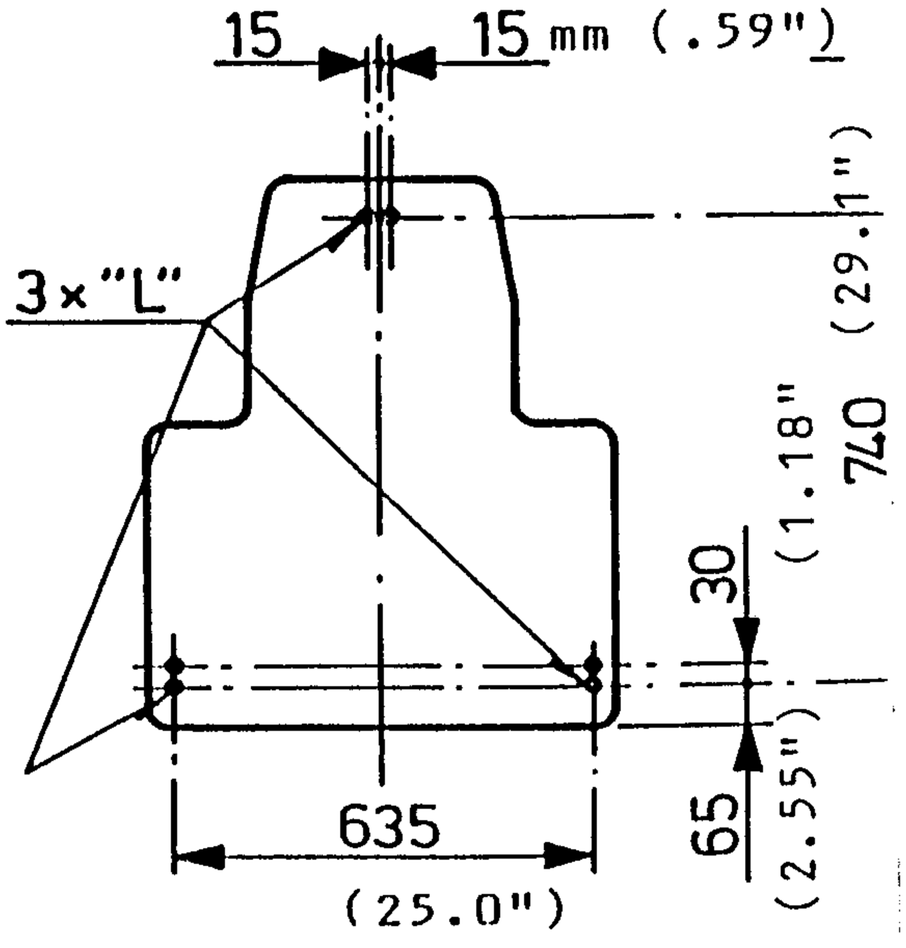


618 AUTOMATIC	FUNDAMENTSPLAN FOUNDATION FUNDAMENT	16

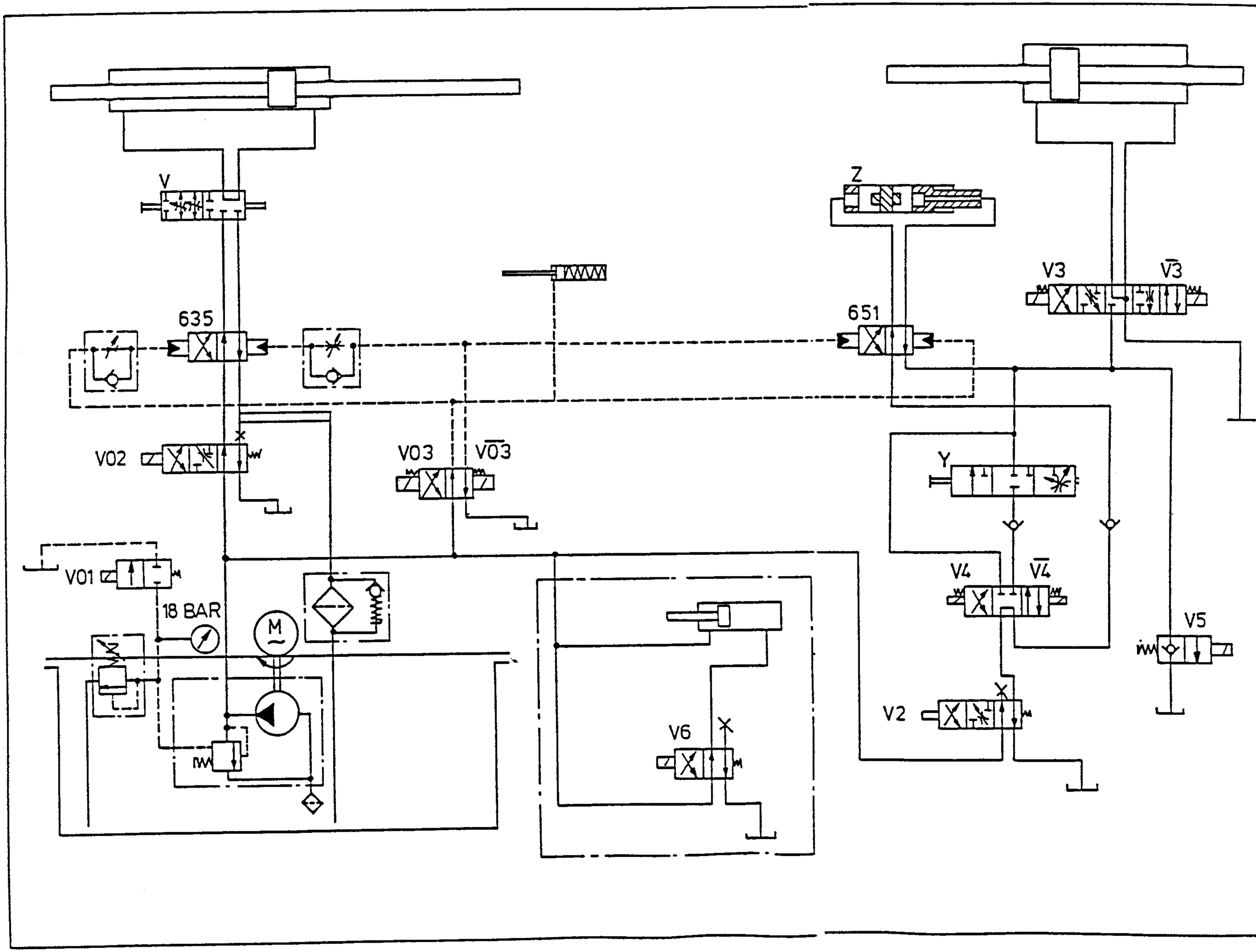
Measurements shown below are in mm (metric) and inch.



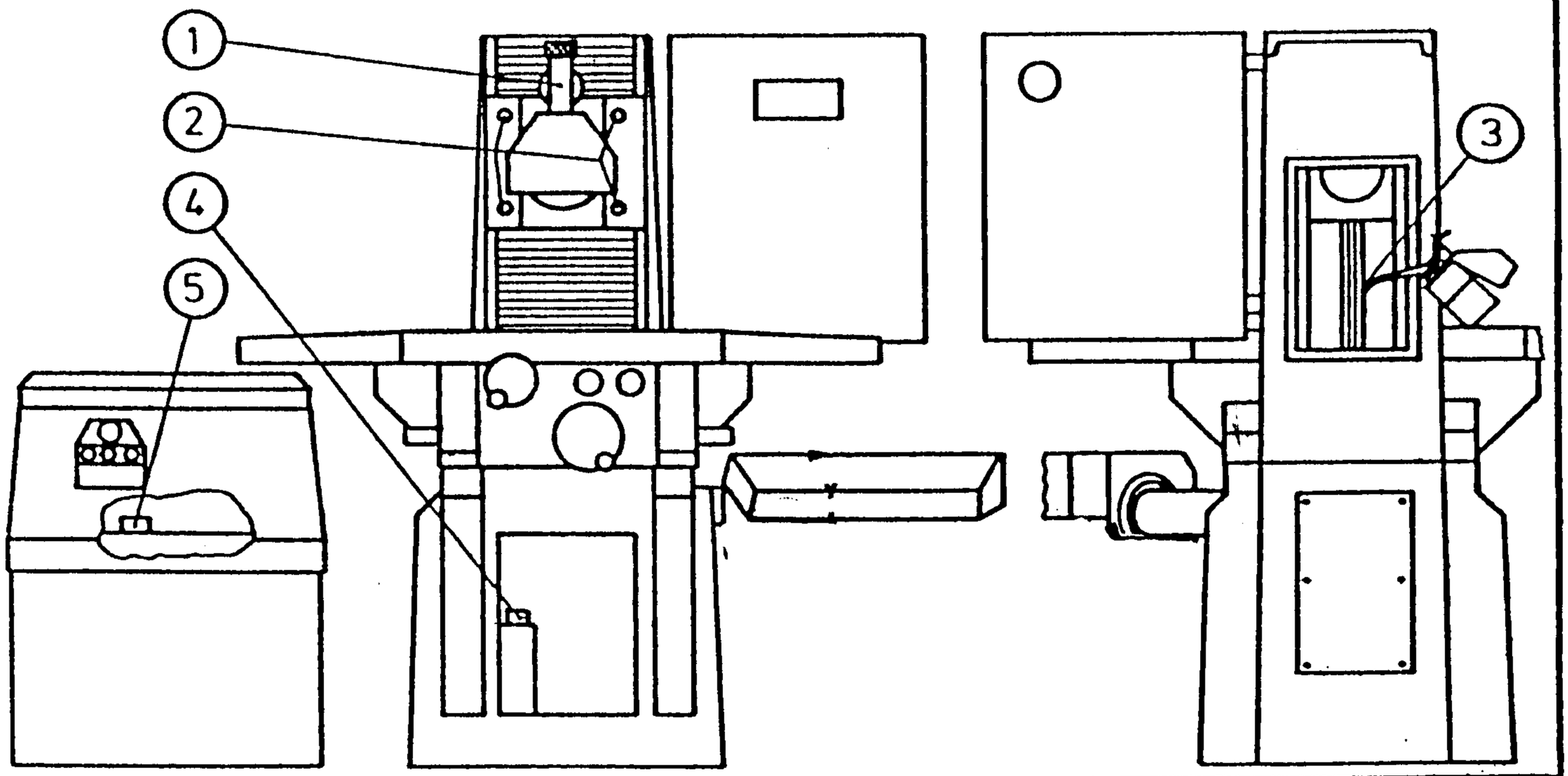




HYDRAULISK SYSTEM
HYDRAULIC SYSTEM
HYDRAULISCHES SYSTEM



SMØRESKEMA
LUBRICATION SYSTEM
SCHMIERTABELLE



			OLIE - OIL - ÖL							
PUS	SMØRESTEDER LUBRICATION POINTS SCHMIERSTELLEN	INTERVAL INTERVAL INTERVALLE	MOBIL	BP	TEXACO	CASTROL	ESSO	GULF	SHEEL	
1	AFRETTER WHEEL DRESSER ABRICHTER	HVER UGE WEEKLY JEDE WOCHE	VACTRA NR2	MACCURAT 68	WAY LUBRIC D	MAGNA BD 62	FEBIS K 68	GULF WAY 52	TONNA 68	
2	SPINDELSLÆDE SPINDELSLIDE SPINDELSCHLITTEN	HVER UGE WEEKLY JEDE WOCHE	VACTRA NR2	MACCURAT 68	WAY LUBRIC D	MAGNA BD 62	FEBIS K 68	GULF WAY 52	TONNA 68	
3	VERTIKALSPINDEL VERTICAL LEADSCREW VERTIKALSPINDEL	HVER UGE WEEKLY JEDE WOCHE	VACTRA NR2	MACCURAT 68	WAY LUBRIC D	MAGNA BD 62	FEBIS K 68	GULF WAY 52	TONNA 68	
4	SMØREOLIEBEHOLDER LUBRICATION OIL TANK SCHMIERÖLBEHÄLTER	UDSKIFT HVER ÅR ONCE A YEAR JÄHRLICH UMWECHL	VACTRA NR2	MACCURAT 68	WAY LUBRIC D	MAGNA BD 62	FEBIS K 68	GULF WAY 52	TONNA 68	CAPACITY 5 LITRES
5	PUMPESTATION HYDRAULIC PUMP UNIT HYDR. PUMPENEINHEIT	UDSKIFT HVER ÅR ONCE A YEAR JÄHRLICH UMWECHL	VACOULINE 1405	HLP-D 32	REGAL OIL A	MAGNA GC 32	NUTO HP 32	HARMONY 47	TONNA 32	CAPACITY 110 LITRES

JAKOBSEN

TEST SHEET for Surface Grinder
Model SJ
Serial No.:

	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

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Warranted

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Tested by

ILLUSTRATION TIL PRØVESKEMA
ILLUSTRATION FOR TEST CHART
ILLUSTRATION FÜR PRÜFKARTE

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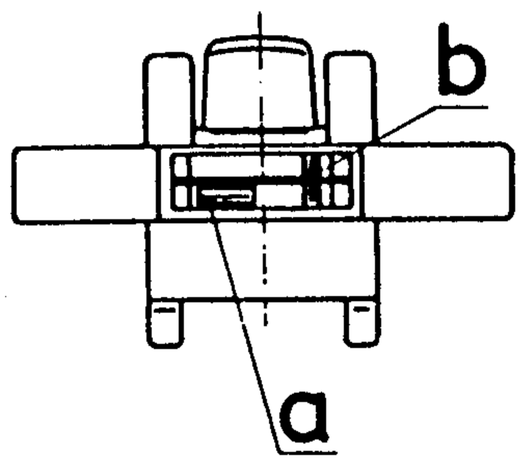

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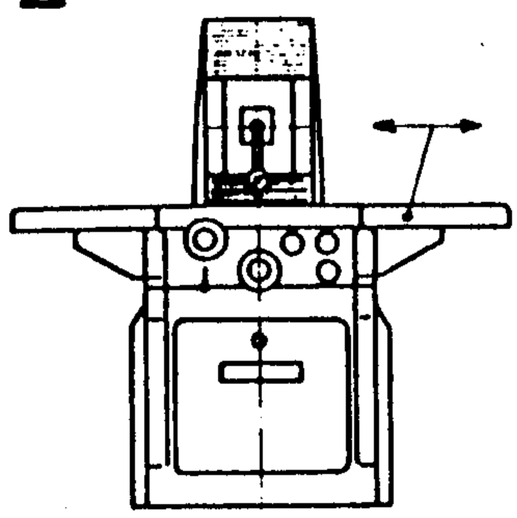

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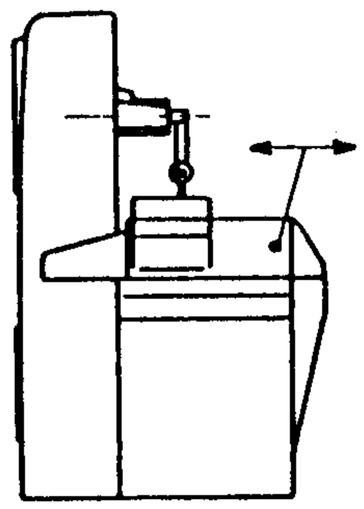

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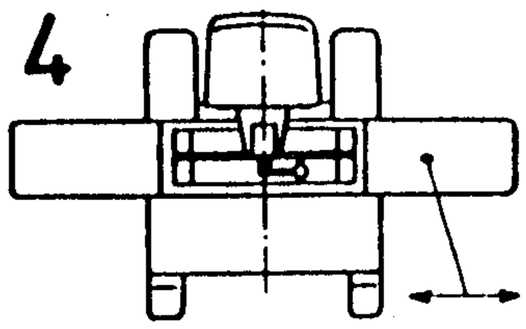

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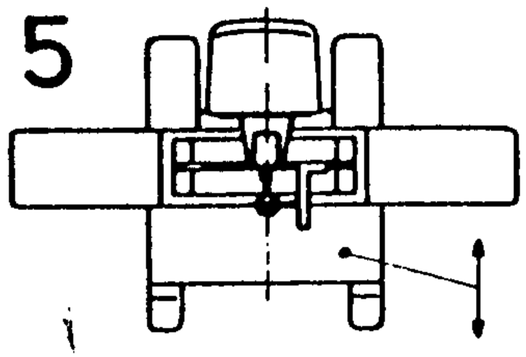

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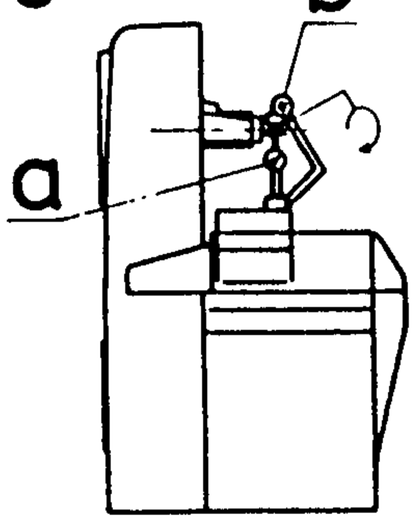

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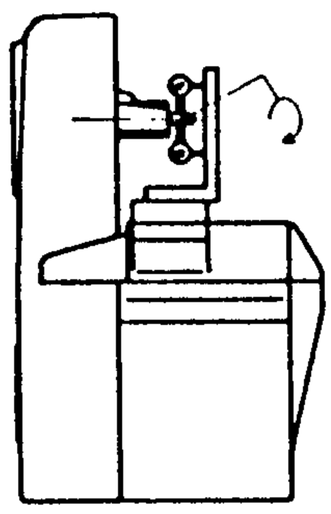

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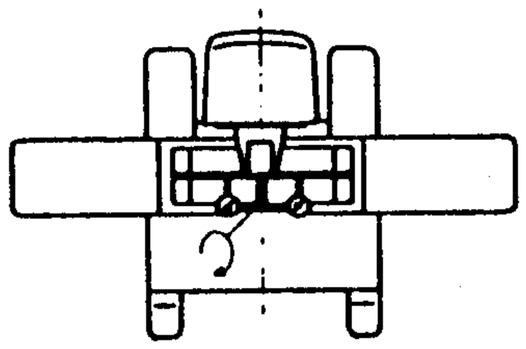

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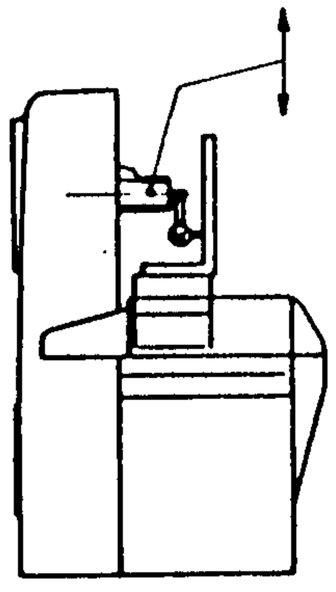

Elektromotorer - Electrical motors - Elektromotoren

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			