

ARTISAN

Hydraulic Swing Arm

Die Cutting Press

“Clicker”

TAIWEI MODEL

A-TW-520 C

F-45

Made in China

CONTENTS

Guarantee conditions	Page 1
General information	Page 1
Identification of the machine	Page 2
Distance to be left free	Page 2
General safety regulations	Page 3
Transport and handling	Page 4–5
Preliminary control checks	Page 6
Machine start-up and stop	Page 6
Adjustment setting controls	Page 7
Cutting force adjustment	Page 8
Die cutting instructions	Page 8
Clicking press maintenance	Page 9–10
Troubleshooting–identification instructions	Page 11–12
Machine parts subject to wear	Page 13
Spare parts	Page 13
Optional accessories	Page 13
Technical information	Page 14
Machine measurements	Page 15
Hydraulic oil layout	Page 16
Hydraulic oil distribution	Page 17
Machine base	Page 18
Swing beam group	Page 19
Piston–cylinder group	Page 20
Electrical layout	Page 21

MACHINE GUARANTEE.

The Company undertakes to supply machinery which is free of any faulty parts which can compromise the performance and use for which the machine was designed.

It will not be held responsible for any faulty electrical or electronic parts, or for any parts which deteriorate due to normal wear and machine use such as gaskets and seals, fuses, microswitches, etc.

The Vendor will not be held responsible for any damage caused by use not included in the instructions in this manual, or caused by negligence or incorrect use. The company will also not be held responsible for any unauthorised modifications or changes made to the machine by the purchaser, who then becomes responsible for the machine.

The machine is delivered to the customer already tested.

This machine is covered by a six month guarantee. All parts replaced during the guarantee period are **covered by the guarantee** until the expiry of the machine guarantee. To benefit from the guarantee conditions, the purchaser must inform the manufacturer of any faulty parts or construction in writing, within 10 days of the discovery and accurate testing of the machine. He must also agree to reasonable control checks by the vendor, and return the faulty parts which are the source of complaint, to the manufacturer, if requested.

After receiving the complaint from the purchaser, the vendor will, at his own expense, provide for one of the following:

- a)replace the faulty part
- b)have the replacement made by a third party

Where the fault is the responsibility of the vendor, any damages paid to cover expenses cannot exceed the sum equivalent to items a and b, described above.

The replacement will be delivered ex works from the manufacturer's plant. If any intervention by a technician is necessary, all costs will be invoiced.

The machine measurements and technical data included in this manual are not binding, and can be updated at any time without prior notice from the manufacturer.

GENERAL INFORMATION.

Before using the machine, please take care to read all the instructions included in this manual, as well as the information included on the plate attached to the machine. This instruction manual has been drawn up for the customer's information, and is considered as part of the machine, in the same manner as any mechanical, pneumatic or electrical part. Therefore, for obvious reasons, please keep the manual near the machine, on hand for easy reference at all times.

Before any work or maintenance operations, the machine **must be disconnected** from the main electricity line. The Constructor will not be held responsible if these rules and precautions are not followed scrupulously.

The machine is equipped with all the protection guards necessary for safeguarding the operator while working on the machine; the protection systems must never be removed except for maintenance operations. Before beginning any type of work on the machine the operator must wear all the necessary types of protective clothing suitable for the job in hand.

MACHINE IDENTIFICATION.

The plate attached to the machine provides the following information:

- machine range
- machine model
- serial number
- voltage motor pump
- voltage connection motor pump



It is strictly forbidden to remove change or alter the information provided on the identification plate. If the seal should be accidentally damaged, the customer must inform the manufacturer immediately.

When the machine is delivered, please control that all parts correspond with the customer's order, and that no machine parts have been damaged during transport. If the machine has suffered any damage, please contact the manufacturer or the transport company immediately.

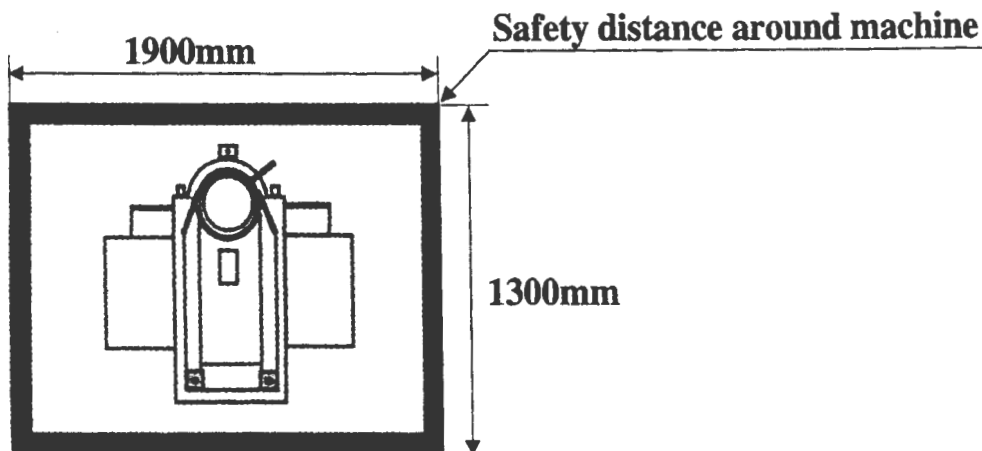
When requesting information or service assistance, always quote the serial n° and the year of construction of the machine.

Before connecting the machine to the current, check that the main line voltage is the same as that shown on the machine plate. If it should be necessary to change the voltage of the carriage and pump motors, the voltage must also be changed at the transformer so that all electrical equipment on the machine is connected to the correct voltage.

SAFETY DISTANCE AROUND MACHINE.

No other personnel must approach or remain near the press while it is running. To ensure that personnel is aware of the safety distance to be respected around the machine, mark out the distance to be observed using brightly coloured paint or adhesive tape on the flooring around the machine (orange or yellow) .

The operator is responsible for his machine within this boundary line. The sketch below includes the distance to be left free around the machine.



GENERAL SAFETY REGULATIONS.

Before starting up the machine, or carrying out any maintenance operations, it is essential that the chapters relative to each operation be read carefully; in particular, please read transport and handling instructions, connection to main electrical supply, and use and maintenance instructions with care.

In order to safeguard the operators working on the machine from any injury, please ensure that personnel obey all the safety instructions provided below with the utmost care:

- No other personnel must approach or remain near the press while it is running.
- When the press is running, never place the hands between the cutting plate and the mobile arm (for example: in order to change die position) . This must also be observed while the machine is being switched off, since the oil pressure which supports the mobile arm will be released and the press head will descend.
- Never wear clothing or jewellery which can provoke a risk of injury when working on the machine (e.g.: wide or flapping clothing, scarves, ties, or wide cuffed sleeves) .
- Never place any tools or other objects not directly used for the work in hand on the cutting plate or the mobile arm. Vessels containing liquid or beverages can spill into the electrical box causing severe electrical shock.
- All interventions for adjustment settings and maintenance must be carried out by qualified personnel and only after the machine has been disconnected from the main line current.
- Never remove the labels attached to the machine and always respect the warnings printed on these labels. If they are damaged in any way, the labels must be replaced for safety reasons.
- Never change or modify any of the protective covers or shields on the machine (protective panels, end-of-stroke blocks, pressure switches, etc.) nor any of the safety devices provided to protect the operator from injury. It is severely forbidden to tamper with the electrical installation or modify it in any way without the permission of the manufacturer. If these instructions are not followed as described, the machine is no longer covered by the guarantee. All results from lack of respect of these regulations and standards (machine damage, injury to personnel, etc.) will be the total responsibility of the customer.
- To clean the machine, never use strong water jets, solvents, gasoline, or any type of corrosive substance. Use only soft cloths soaked in detergent liquid, and when cleaning the electrical command panel, use a brush to remove the dust from the less accessible areas.
- When carrying out machine maintenance, warn all personnel not to use the machine. While maintenance operations are underway, and whenever the press is being used, the operator must always remain near the machine.
- When any machine components need replacing, request original spare parts from the manufacturer or from the authorised sales agent.

This press has been designed and built for die cutting flexible and semi-rigid materials. *Never attempt to cut other types of material on this machine such as: metal, wood, hard plastics, bakelite, or any materials containing toxic waste or dust such as asbestos.* Take care to check that the interior of the material to be cut does not contain metal meshing or similar, which will not only damage the dies, but also cause violent splinter flying.

This press has not been designed for cutting materials for foodstuffs or medical use, or for other uses not specified in this manual.

TRANSPORT AND HANDLING.

All the transit and installation area, plus the transport vehicle area must be carefully inspected before handling to ensure they are well clear of all objects and personnel. All obstacles must be removed before handling.

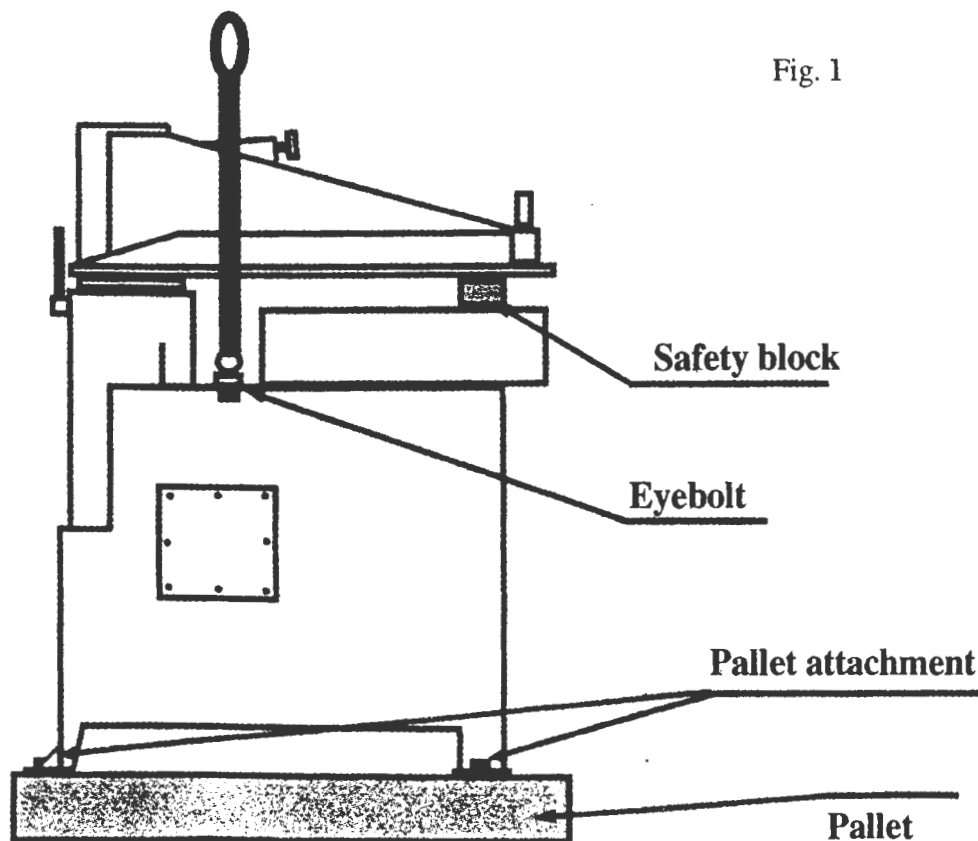
According to the transport request made by the customer, the machine is delivered on a pallet and covered with protective plastic film, or in an open or closed wooden case or crate. The plastic film will only protect the machine from damp and dust during transport; it cannot protect the machine against banging during handling operations. The press is bolted to the pallet or to the crate base in three points.

The machine can be safely handled and moved on the ground using a fork lift adequate for the machine weight (refer to the technical information paragraph) .

Clicking press on pallet

If the press to be raised is attached only to a pallet, the hoisting chains or cables must be attached to the eyebolts (Fig.1) **Never raise the machine by passing ropes or slinging straps around the mobile arm** as this will damage the internal components, as well as leading to arm rotation, causing load oscillation which cannot be controlled and which provokes a serious danger for machine and personnel. Proceed slowly when beginning the initial raising operation to maintain the press in equilibrium without banging or swaying. Make sure that all personnel not directly involved in the manoeuvres are kept well clear of the area.

Never remove the safety block until the machine has been safely placed in its final position. This block stops the mobile arm from rotating during handling operations.



TRANSPORT AND HANDLING.

(CONTINUED FROM PREVIOUS PAGE)

Press in wooden case or crate.

Whether the press is packed in an open or closed crate or packing case, it must be raised using chains or cables which are adequate for the combined weights of machine and case (See paragraph TECHNICAL INFORMATION) .

The chains or cables must be passed under the packing crate in the points shown by the arrows in the drawing (Fig.2) . To place the press in position, proceed as follows:

- 1) Remove the packing crate and the plastic protective film.
- 2) Remove the three bolts which attach the press feet to the pallet (Fig. 1) .
- 3) Raise the press by hooking up to the eyebolts (Fig 1) , remove the pallet and place the press on a fork lift to transport it to its final position.

Before placing the press in position, check that the floor is level, and clean of all oil or viscous liquids. The machine does not need bolting to the floor; where necessary, it is sufficient to insert rubber squares between the feet and the flooring. The squares must have the correct degree of elasticity: if they are too soft the weight of the machine will flatten them and they will lose their absorbing effect; if they are too hard, the machine will slip

- 4) Now the press can be placed in position.

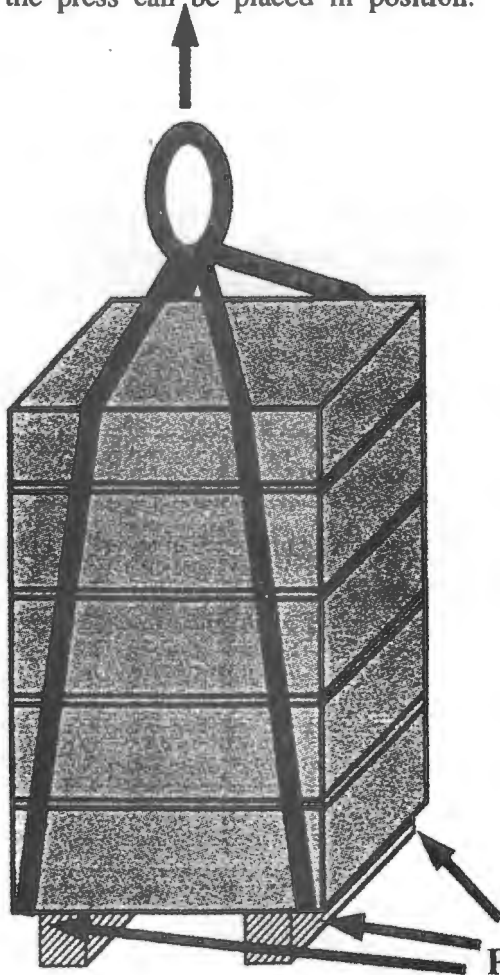


Fig. 2

POINT FOR PASSING CHAINS/CABLES

PRELIMINARY CONTROL CHECKS

In order to check on any damage the machine may have suffered during transport, control the condition of the press commands (at least from the outside) and check for any oil leakage.

Before connecting the machine to the main line, check that the voltage is the same as that of the machine printed on the plate attached to the electrical box. If the voltage or frequency is different from that of the main line, ask advice from the manufacturer or the sales agent.

ATTENTION! According to the agreement made with the customer, the press can be delivered with or without the hydraulic oil load. Never start the machine until the oil level has been carefully checked to be sure it is correct for machine function.

The oil tank is filled through the opening on the left hand side of the press (Fig. 1) after removal of the protection shield. Pour the hydraulic oil into the tank till it reaches a level of about 3 centimetres under the lip of the opening.

(See paragraph TECHNICAL INFORMATION for the type of oil to be used.) **Do not open the right hand side cap as this will empty the oil in the tank.**

MACHINE STOP AND START UP.

To start up the machine, turn the ignition switch 1 to position "I" (Fig. 2) . If the mobile arm rises, the rotation direction is correct, if the arm does not rise, the electrical phase wires must be inverted. **The motor should turn in an anticlockwise direction.**

To stop the machine turn the switch 1 to "0" position. The motor takes about 1 minute to stop completely. After this time, the arm will start to descend slowly.

During the descent of the mobile arm, keep hands well clear of the machine to avoid crushing between the arm and the cutting plate.

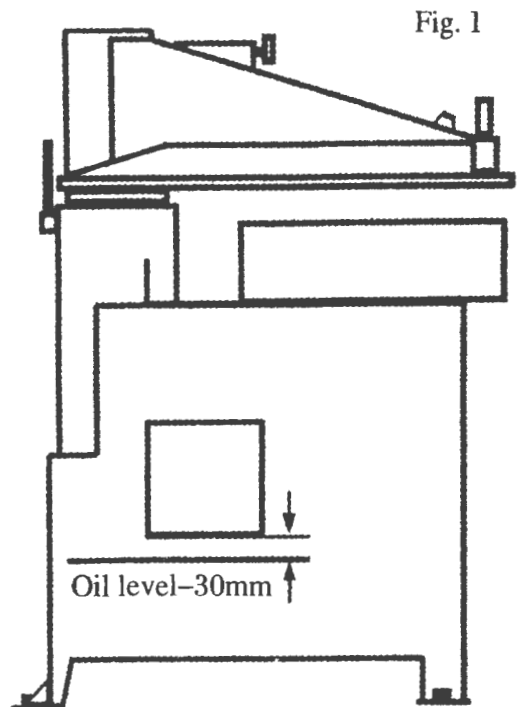


Fig. 1

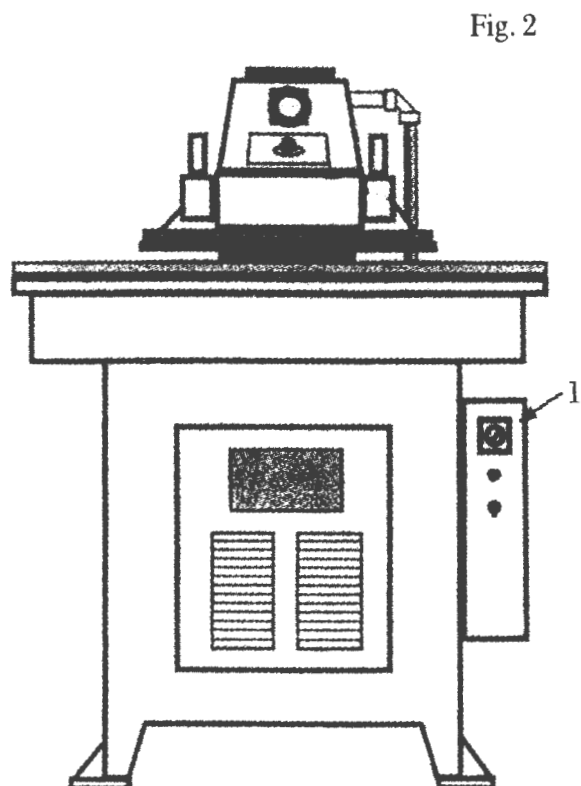


Fig. 2

ADJUSTMENT SETTING CONTROLS.

- 1) Start up switch.
- 2) Signal led: machine ON.
- 3) Right hand push button.
- 4) Left hand push button.*
- 5) Handwheel for setting height.
- 6) Pressure steering.*
- 7) Cutting method switch

*Optional: programmable push button panel.

When the switch (1) , is turned to "1" position, the motor will start up and the signal led (2) will light up. When motor rotation has reached its maximum rate, the mobile arm will rise to the height previously set using the handwheel (5) :

CLOCKWISE DIRECTION: The arm will be lowered

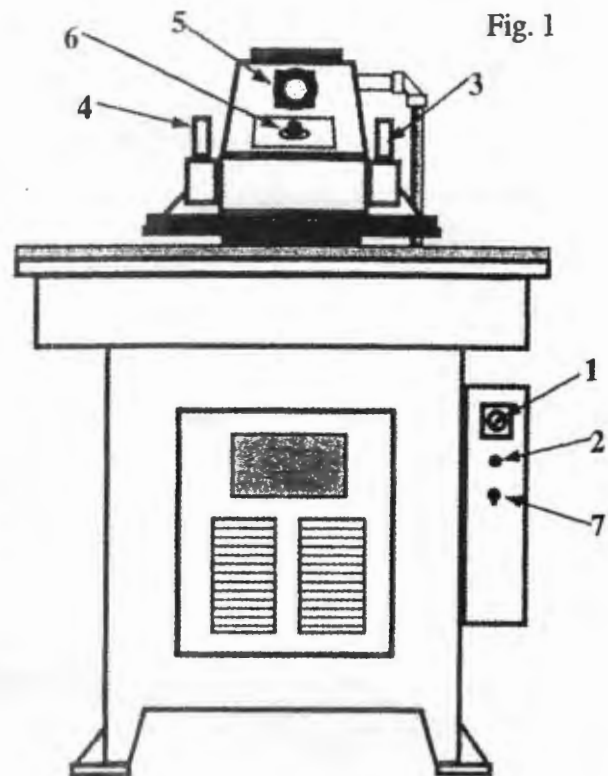
ANTICLOCKWISE DIRECTION: The arm will be raised.

- Do not force handwheel rotation at the end of either setting to avoid damaging the mechanism. **When the arm is being lowered, keep hands well clear of the machine to avoid crushing between the arm and the cutting plate.**

When the arm is raised in work position, it can be rotated both to the left and right, using the two knobs which contain the two push-buttons that control the die cutting action. This is a two-handed control system; both buttons must be pressed at the same time to lower the mobile arm . If the buttons are pressed with a difference of more than three tenths of a second, the lowering action is deactivated. **It is impossible to activate the press using a single button.**

The release of one or both buttons will provoke the arrest of the descent action and the return of the arm to its work position, otherwise the arm down stroke will finish at the dies.

When the work cycle on the press is completed, turn the switch (1) back to "0" position, and do not leave the machine unattended until the arm has returned to its rest position.



CUTTING FORCE ADJUSTMENT.

According to the agreement made with the customer, the press can be equipped with a standard press button panel with a single cutting force setting, or with an optional panel that can be programmed for three settings.

Single setting control panel

Turn the index of knob 3 (Fig.1) in a clockwise direction to obtain a gradual increase in cutting stroke force. The cutting force used must be in proportion with the size of the die and the type of material to be cut.

Programmable panel

The programmable control button panel (optional, Fig.2) permits three different cutting force settings, adjustable using the regulators R1, R2, and R3, and able to be recalled using the corresponding button P1, P2, or P3. This device is located on the left hand handle in place of the single press-button.

Cutting method switch.

Switch n° 7 is used to select the cutting method for use on the machine:

- ▼ **Pressure gauge cut;** the pressure is activated as soon as the beam comes into contact with the cutting die.
- ⚡ **Timer cut;** the pressure is automatically set on maximum value by the electronic card; the beam descent time is set by adjusting the potentiometer pressure. When this period is completed the beam returns to its original positions.

DIE CUTTING INSTRUCTIONS.

single setting control panel

- 1) Turn the main switch (1) to start up the press; the arm will rise.
- 2) Select the cutting method (pressostate or timer) .
- 3) Move the arm to one side to leave the cutting plate free, spread the material to be cut, and place the dies on top of the material.
- 4) Turn the arm so that it covers the whole die; turn the handwheel (2) in a clockwise direction to bring the arm down to 8 mm from the die.
- 5) Set the cutting pressure or cutting time using command(3) , according to the type of cutting die or material to be cut.
- 6) Press buttons P1 and P2 at the same time to command cutting action.
- 7) After the cutting action, the arm will rise; move the arm to one side in order to remove the cut material.

Programmable panel

The cutting action is the same as the single setting function except that button P1 must be pressed at the same time as one of the three buttons P2, P3, and P4 according to the respective values programmed on the potentiometers R2, R3, and R4.

In both cases, make sure that the arm stroke hits the centre of the die during the cutting action to prevent all danger of the die spitting out and causing serious injury.

Fig. 1

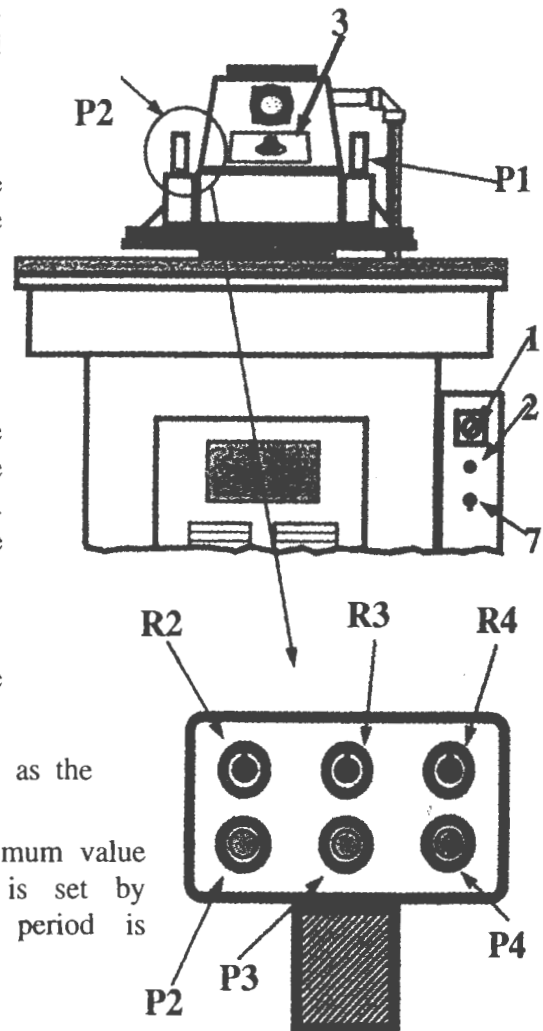
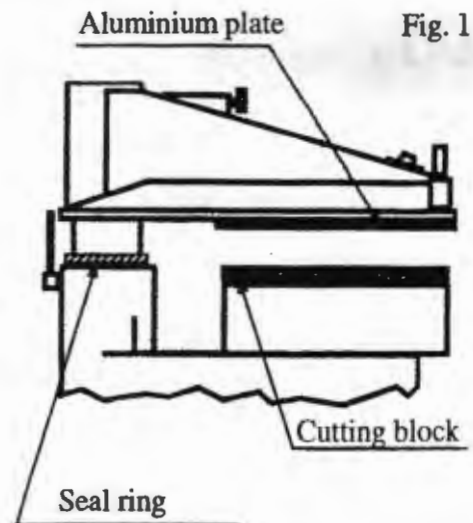


Fig. 2

CLICKING PRESS MAINTENANCE INSTRUCTIONS.

In order to preserve the working life and efficiency of the machine, certain regular maintenance operations must be carried out as follows:

- The cutting block (Fig. 1) must be turned upside down every six working days to provide uniform wear. When a hollow of approximately 2 mm is formed, the block must be planed flat.
- The aluminium plate (Fig. 1) attached to the arm must be rotated 180° at least every two months of machine work life, to make wear as uniform as possible and to maintain the plate reasonably flat.
- During die cutting operations, dust is formed by the cut material. This dust deposits on the seal ring (Fig. 1) of the column. With time, this dust forms a sponge effect, absorbing the oil on the column, depositing a coat of oil on the seal ring similar to an oil leak. The area around the ring must be cleaned once a month.
- Dust left on the hand has a tendency to accumulate in the cutting action control buttons (Fig. 2). In spite of their self-cleaning action, these buttons can block if left for long periods, with the danger of blocking the machine action. To clean the inside of the button, press a piece of adhesive tape onto the button, pull the command rod upwards so that the dust can be cleaned (better still if a strong air blast with compressed air is used).
- Dust and small cut material waste penetrate in the air vents to the motor and under the base of the press at floor level (Fig. 2) where they deposit blocking the motor cooling air circulation, risking electrical motor overheating and burning. At least every six months clean inside the motor area carefully, after removing the front protection shield.



CLICKING PRESS MAINTENANCE INSTRUCTIONS.

(CONTINUED FROM PREVIOUS PAGE)

Replacement of hydraulic oil

After approximately five year's work the oil and oil filter under the pump must be replaced. To carry out this operation, remove the shield on the left side of the machine base (Fig. 3) and siphon out all the oil using a small pump, such as the mechanical pumps used for application on portable hand drills. At this point, the right hand shield can be removed for better access to the oil tank. Clean thoroughly to remove all deposit from the bottom of the tank.

The filter can be removed by gripping it with the right hand and pushing it towards the bottom of the oil tank, pressing down on the spring which maintains it inserted inside the pump suction opening.

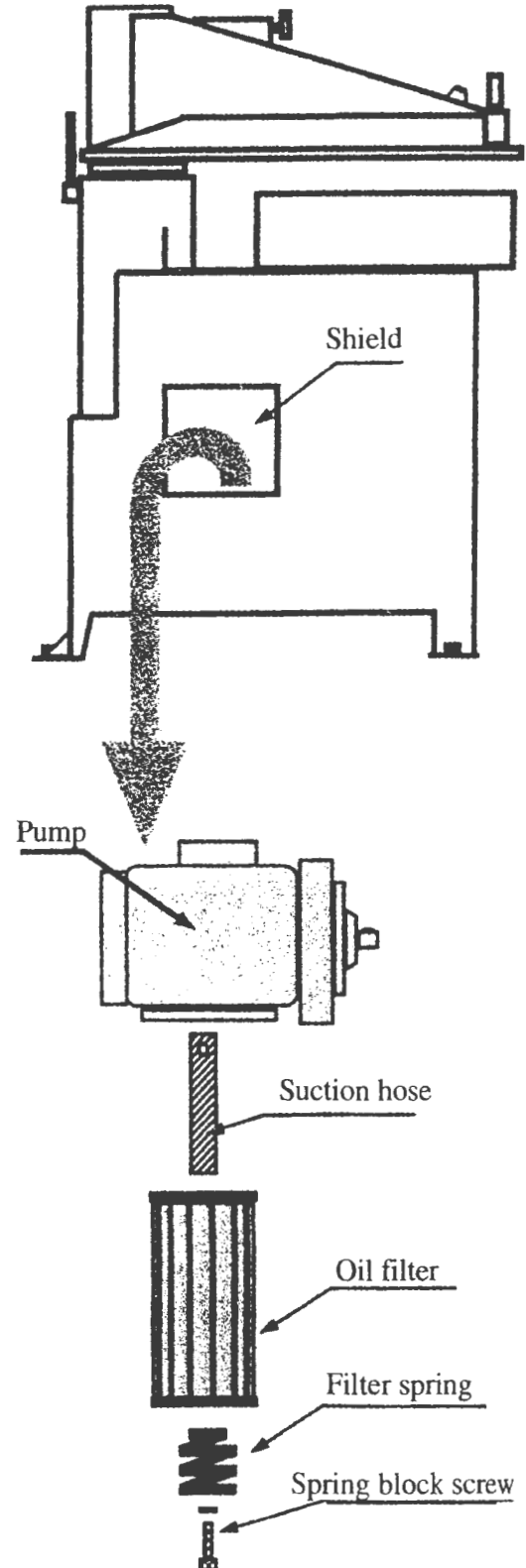
ATTENTION! The screw inside the suction hose regulates the pump noise level. The manufacturer recommends that the position of this setting not be altered as this can increase the noise level of the machine. Check that the grub screw that blocks the rotation of the internal screw is well tightened.

For all physical-chemical characteristics of the oil to be used on the machine, please refer to the unified mark "ISO 46 3,8° Engler at 50°C " easily recognised by all hydraulic oil retailers.

Check the paragraph "TECHNICAL INFORMATION" for the amount of oil necessary, and refer to the paragraph "PRELIMINARY CHECKS" for the oil level position, remembering that as a rule, while the press is running, the oil circulation should not create turbulence with the air present in the tank.

According to environmental rulings, all waste oil must be collected in adequate containers and delivered to specialists in the disposal of polluting substances.

Fig.3



TROUBLESHOOTING AND IDENTIFICATION INSTRUCTIONS.

When the ignition switch is turned on , the motor does not start up.

- No current; check the line and relative fuses.
- The motor overload cutout has been triggered. Check the cutout setting according to the motor line amperes; where necessary increase the setting before attempting to press the motor overload cutout button again.

When the cutting stroke buttons are pressed, the arm is not lowered.

- Check that the red LED on the card (Fig.1) is lit up. This LED shows the condition of the button and the internal contact of the pressure switch. If the LED is OFF, check the button conductivity level using a tester (Fig.2) as well as the relative wiring to the electronic card.
- Check the condition of the internal contact of the pressure switch (see page 14) .
- Check the fuse on the transformer entry line.
- Check the electronic card and the electromagnet working voltage on the transformer using a tester.
- Try replacing the electronic card.

When the cutting stroke buttons are pressed, the arm is lowered but the machine does not cut : low machine pressure.

- Check that there are no oil leaks such as spray from the delivery hose or from any of its connections (Fig. 3) .
- Check if there are any oil leaks around the pump cover (Fig.4: shown by arrows)

The motor starts up but the arm does not rise.

- Check the same leaks as described above.
- Check that the key on the pump is not broken (Fig.4) : the motor turns, but is almost still, or turns more slowly because of gasket friction.

Fig. 1

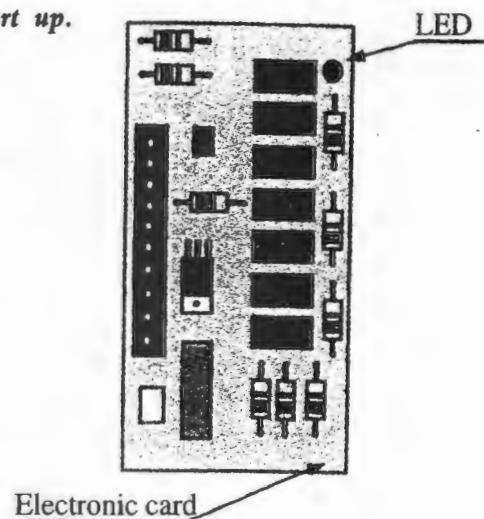


Fig. 2

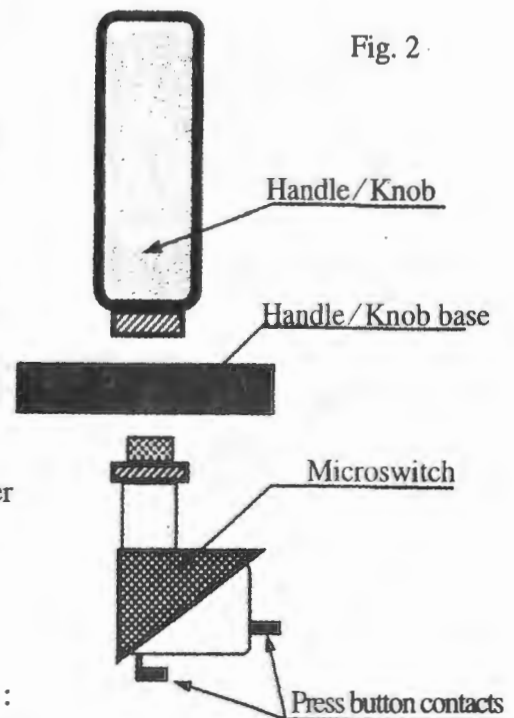


Fig. 3

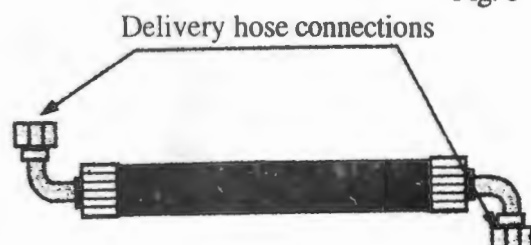
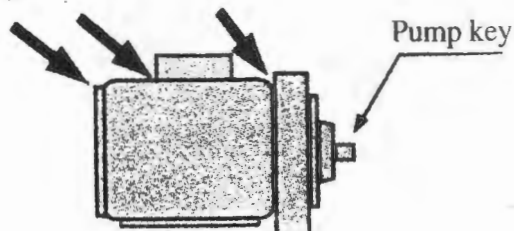


Fig. 4



TROUBLESHOOTING AND IDENTIFICATION INSTRUCTIONS.

Die cutting is not complete, and cuts deeper.

- Check the potentiometer (s) and their connection wiring using a tester (Fig.1) .
- Check the condition of the internal contact of the pressure switch (Fig.2) as follows. Disconnect the two pressure switch wires and short circuit them. Connect the tester (Ohm position) to the pressure switch connections. Start up the machine cutting down on a wood or nylon block without mounting the die and check the opening of the internal contact on the tester.
- To disassemble the hydraulic distributor and to remove eventual residual which can compromise the correct operation.

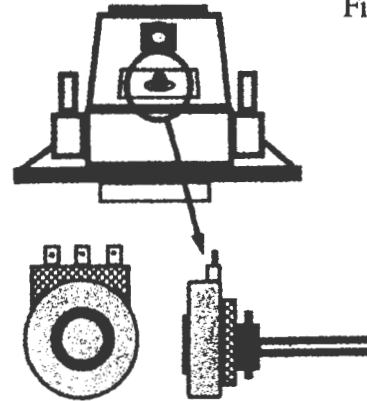


Fig. 1

The handwheel does not control the arm movement.

- Check the condition of the multispiral spring inside the column and control whether it has been damaged.
- Check that the multispiral spring is tight between the two clamps to be able to transmit rotation action to the setting screw.

The handwheel unscrews slightly in an anticlockwise direction with each cutting stroke.

- This fault increases the arm stroke. Gradually adjust the two nuts behind the knob (Fig.4) to increase the braking action that the compressed rubber plug exercises on the transmission pin.

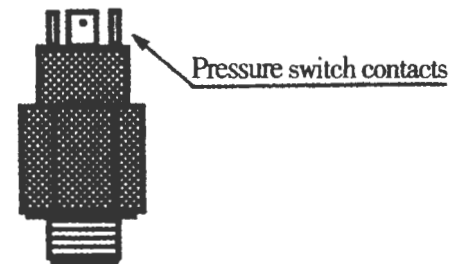


Fig. 2

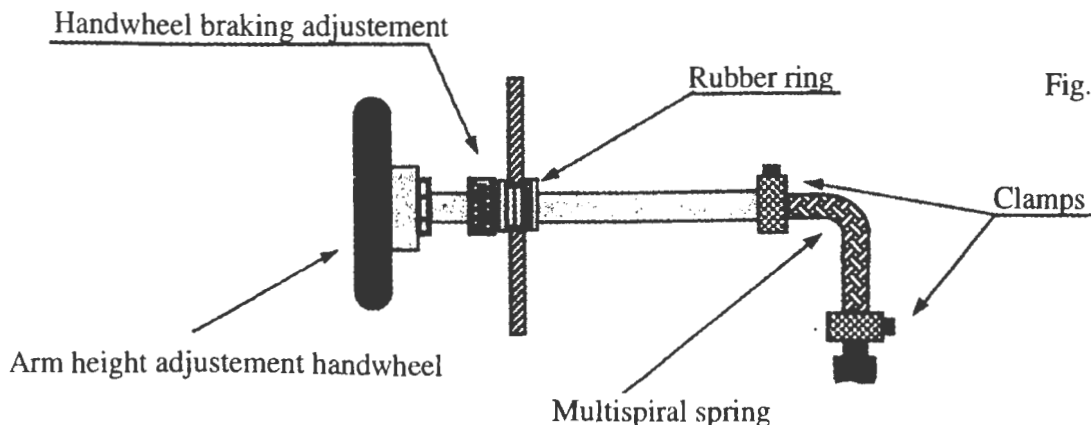


Fig. 4

PARTS SUBJECT TO WEAR

P 663	Arm plate 370×500×12
P 614	Cutting plate 900×430×30
N 194	Self blocking nut (P 660)
N 865	Cupped washer (P 660)
N 1211	Flared head screw (P 660)

SPARE PARTS

N 779	Left and right knobs/handles
P 672	Pump seal
P 417	Flexible sheath
P 966	Pump flexible hose
N 107	Pump key
N 225	Electromagnet 24VDC
N 511	Magnetothermal switch (overload cutoff)
N 520	16 amp. three phase switch
N 603	Pressbutton panel double microswitch
N 770	1M Ω potentiometer
N 931	Electronic card 24VDC
N 948	Star
G 170	Suction filter unit with hose
G 172	Electrovalve unit 24VDC
G 180	Power regulator (Potentiometer)
G 182	Pressure switch unit

OPTIONAL ACCESSORIES

P 181	Side tables (pair)
N 116	Adding stroke counter
N 118	Programmable stroke counter
G 191	Programmable press button panel (3 buttons)

WARNING: Tampering with machine command controls, and replacement of machine parts with non original manufacturer's parts make the customer completely responsible for any danger risk during work operations

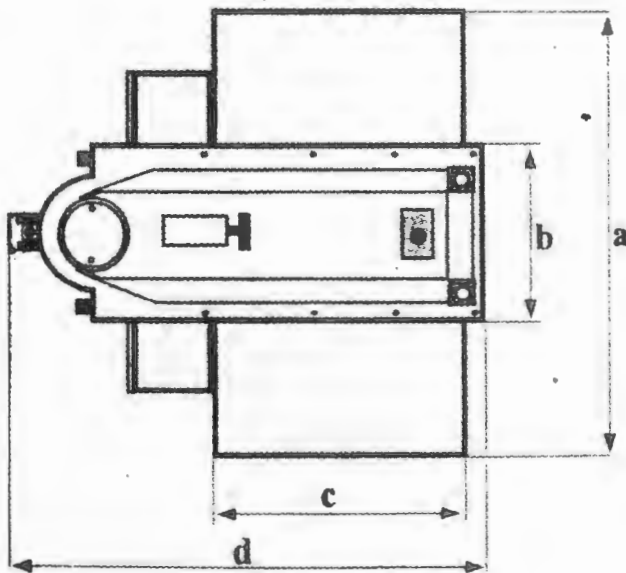
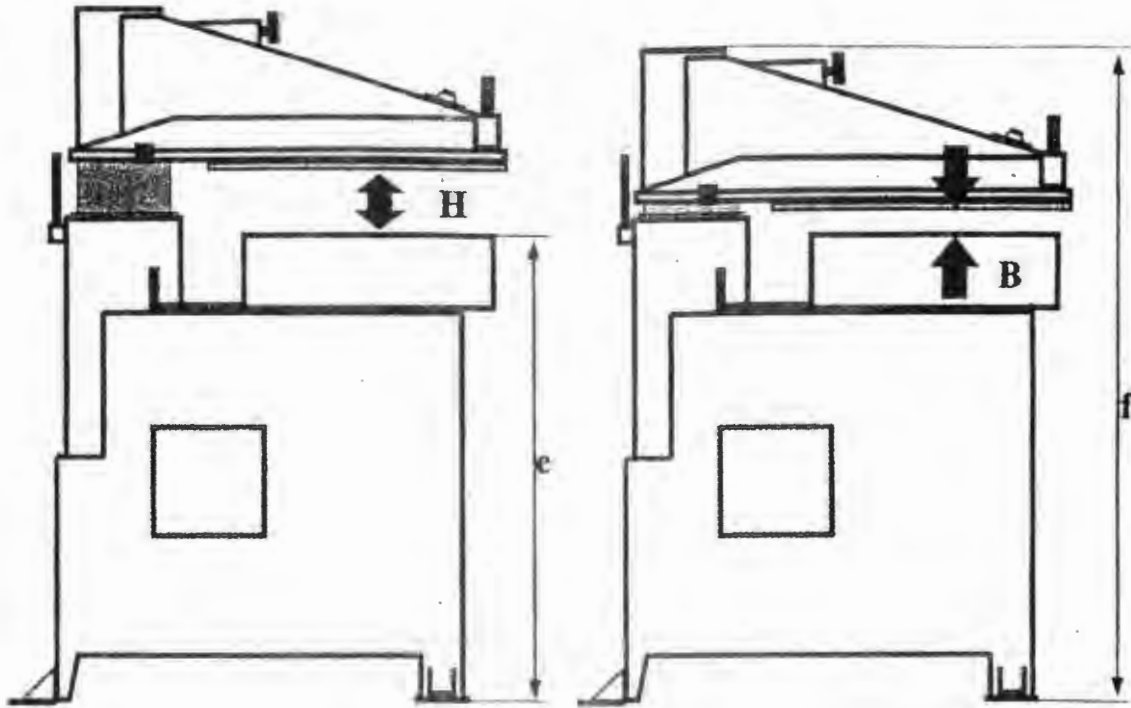
TECHNICAL INFORMATION

CLICKIN PRESS TW-520C、TW-528C-TECHNICAL INFORMATION			
		TW-520C ()	TW-528C ()
Max.cutting force	T.	20	28
Arm run	mm.	80	100
Arm descent speed	mm/sec.	100	84
Arm rise speed	mm/sec.	110	158
Actual cutting surface	mm	370*430	500*500
Noise level	db(A)	67/70	67*70
Power	Kw	0.75~1.1	1.1
	HP	1~1.5	1.5
Weight with oil load	kg	580	850
Oil quantity	kg	42	52
Weight withn pallet	kg	600	880
Weight with sea packing	kg	650	1000

Oil-applied mark

ISO 46 3,8° ENGLER a 50°C .

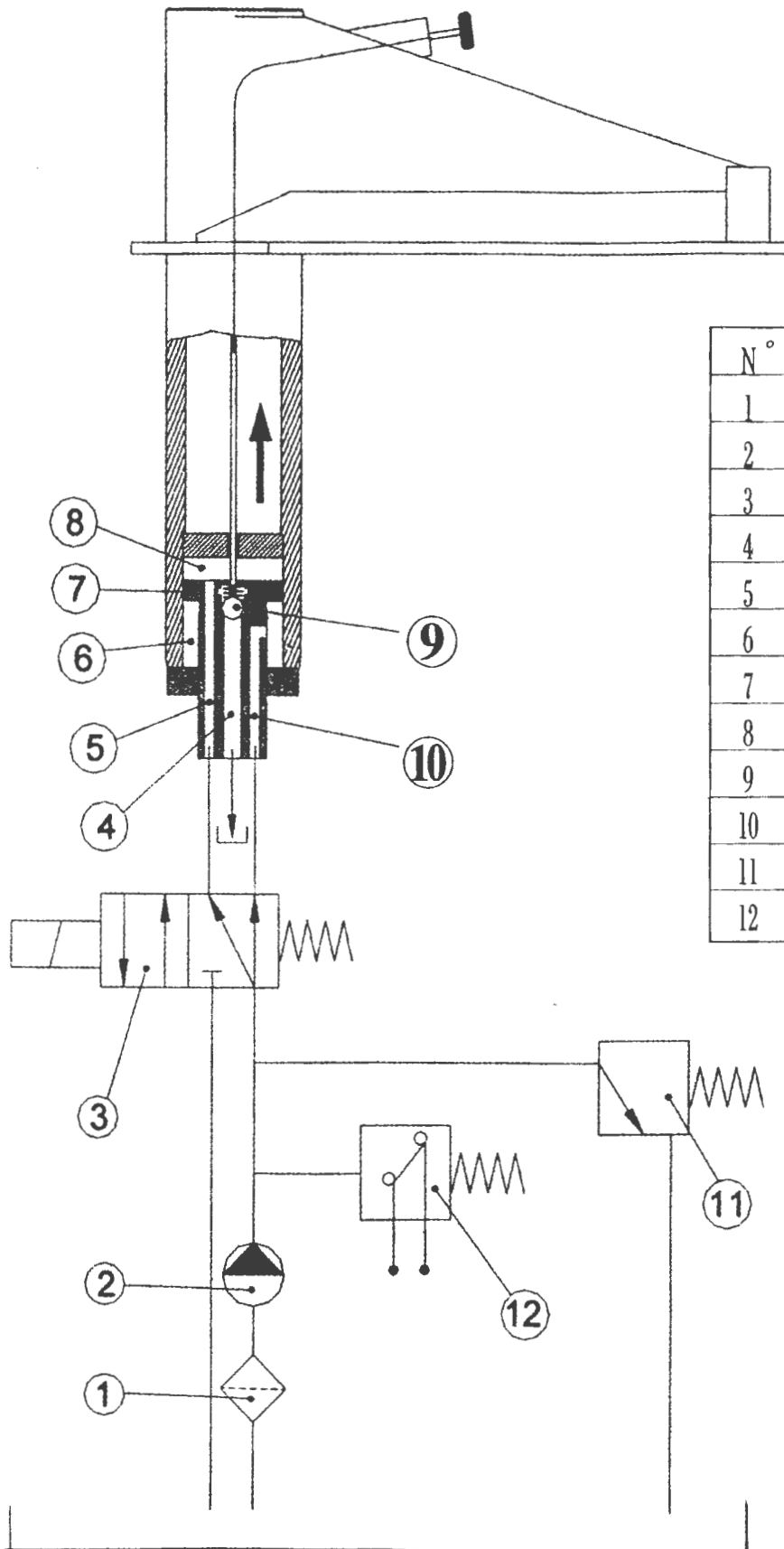
MACHINE MEASUREMENTS.



型号	H	B	a	b	c	d	e	f
TW-520C ()	120	40	900	370	430	935	970	1300
TW-528C ()	140	40	1000	500	500	1030	970	1360

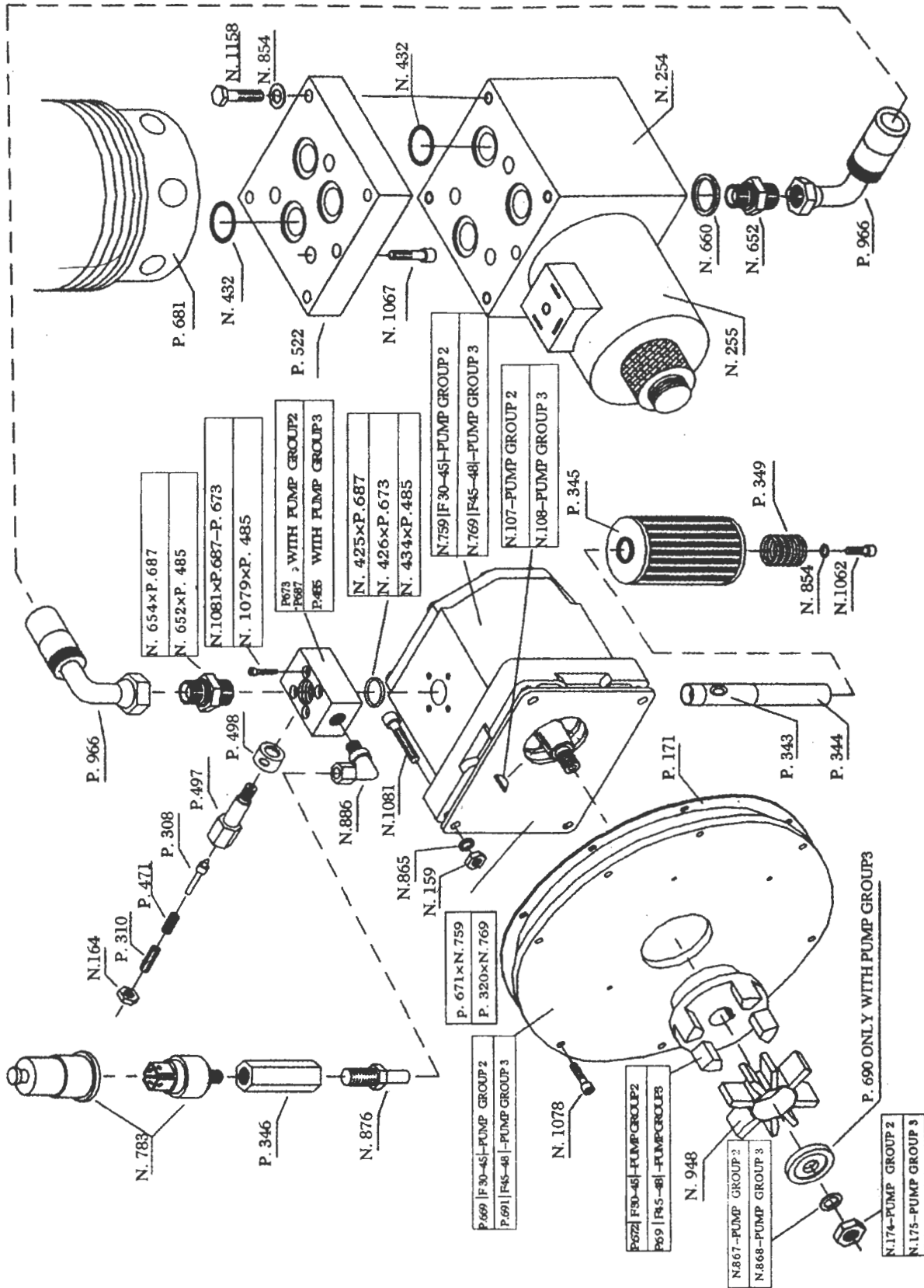
MEASUREMENTS IN MILLIMETRES

HYDRAULIC OIL CIRCUIT LAYOUT DRAWING

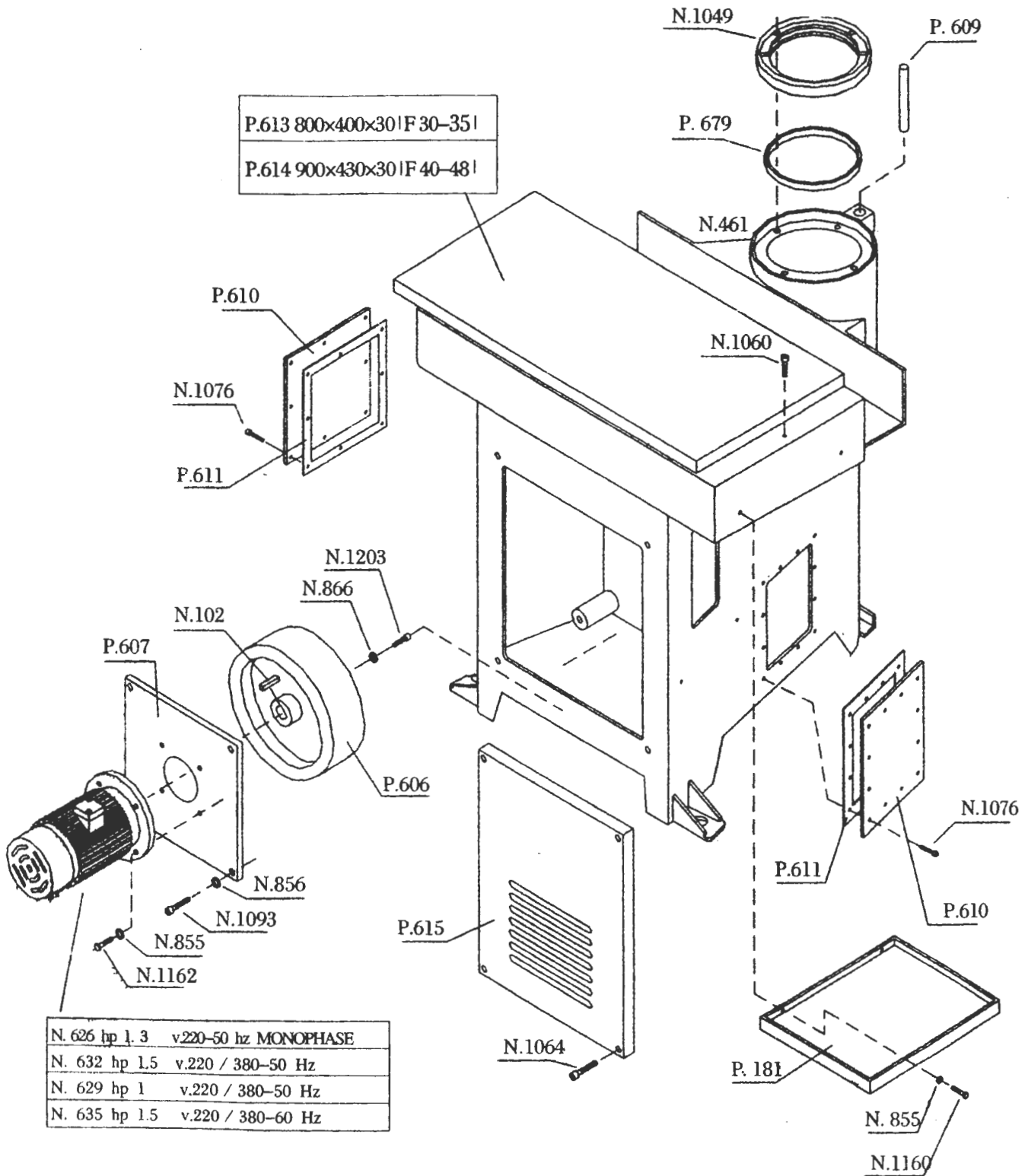


N °	Description
1	Filter
2	Pump
3	Electrovalve
4	Discharge passage
5	Up-stroke passage
6	Cylinder arm down-stroke
7	Piston
8	Cylinder arm up-stroke
9	Adjustment stroke valve
10	Down-stroke passage
11	Max pressure valve
12	Press switch

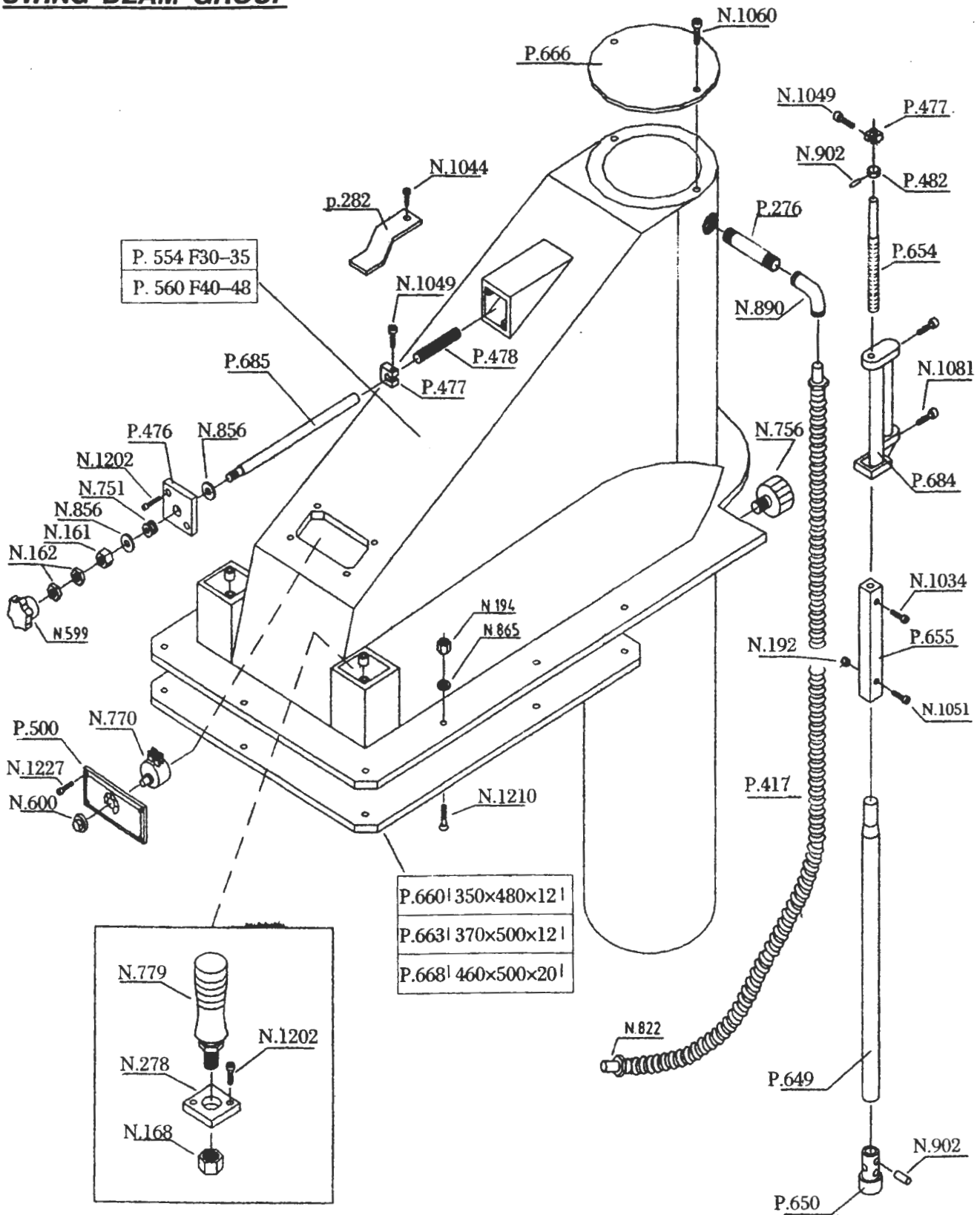
HYDRAULIC OIL DISTRIBUTION UNIT.



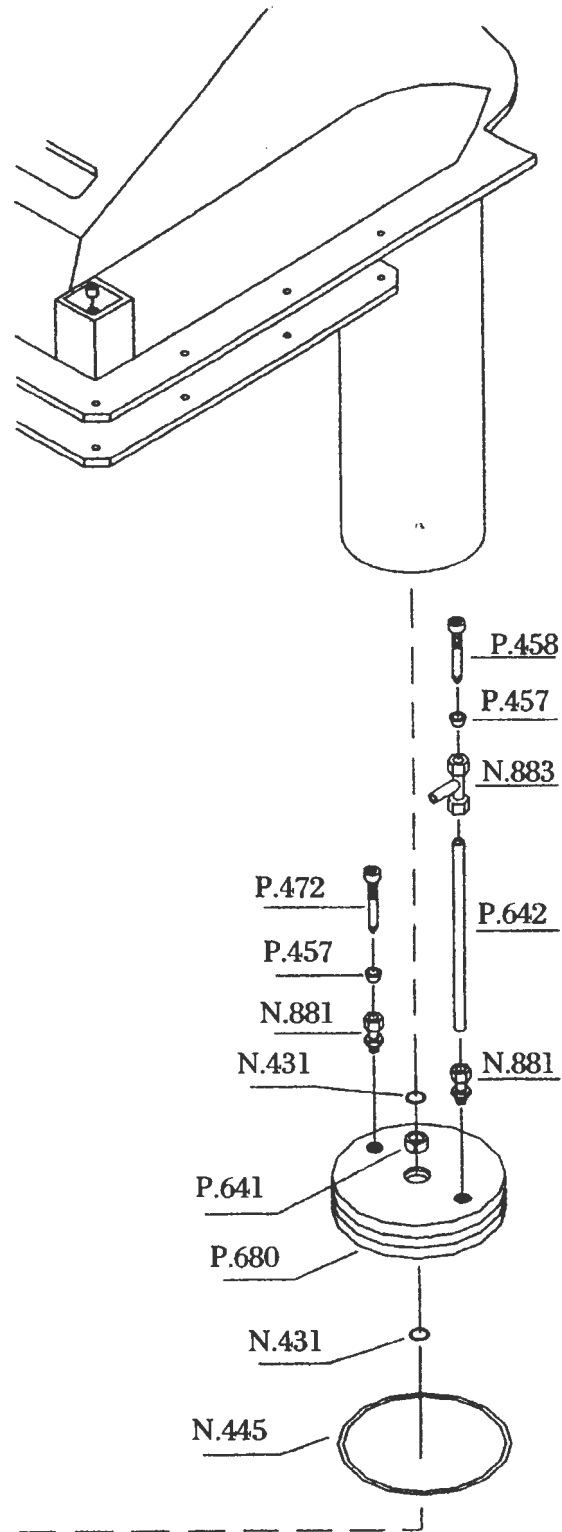
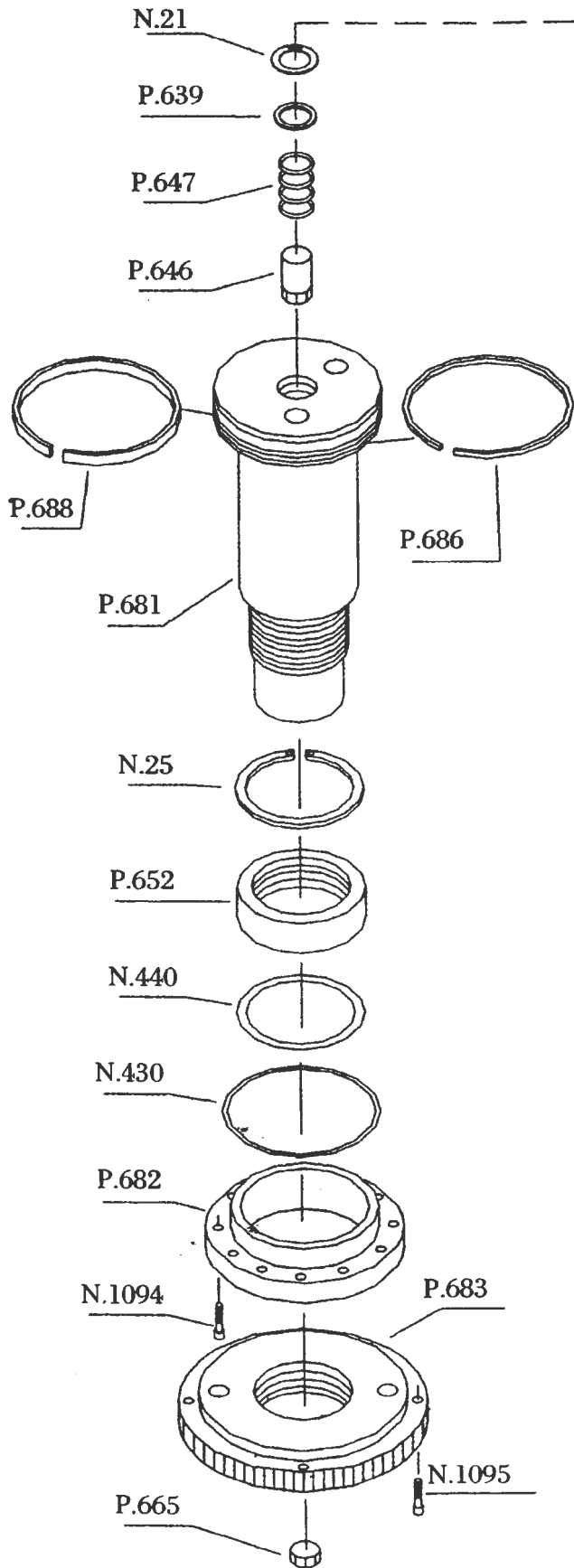
MACHINE BASE



SWING BEAM GROUP



PISTON. CYLINDER GROUP



ELECTRICAL LAYOUT DRAWING.

