

METALMASTER

Hydraulic NC Guillotine OPERATION MANUAL



Models.

SG2504E, SG2506E, SG3206E

Product Code S915, Product Code S916, Product Code S918

Edition No : SBG003E

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OPERATION MANUAL

MACHINE DETAILS

MACHINE	<input type="text" value="HYDRAULIC NC GUILLOTINE"/>
MODEL NO.	<input type="text"/>
SERIAL NO.	<input type="text"/>
DATE OF MANF.	<input type="text"/>

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Note:

This manual is only for your reference. Owing to the continuous improvement of the Metalmaster machines, changes may be made at any time without obligation or notice. Please ensure the local voltage is the same as listed on the specification plate before operating any electric machine.



NOTE:

In order to see the type and model of the machine, please see the specification plate. Usually found on the back of the machine. See example (Fig.1)

METALMASTER	
PRODUCT SPECIFICATION	
MODEL:	<input type="text"/>
CAPACITY:	<input type="text"/>
SER. NO:	<input type="text"/>
MFG DATE:	<input type="text"/>
WEIGHT:	<input type="text"/>
VOLTS:	<input type="text"/>
MOTOR Kw:	<input type="text"/>
www.machineryhouse.com.au Made in China	

Fig.1



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1.1 SPECIFICATIONS:

Order Code	S915	S916	S918
Model	SG-2504E	SG-2506E	SG-3206E
Shearing Length (mm)	2500	2500	3200
Material Capacity Mild Steel (mm)	4	6	6
Material Capacity Mild Steel (mm)	2	3.5	3.5
Shear Angle (degree)	1°30'	1°30'	1°30'
Back Gauge Range (mm)	10 - 600	10 - 600	10 - 600
Back Gauge Type	Screw	Screw	Screw
System Pressure (MPa)	18	18	18
Oil Tank Volume	157	170	210
Overall Dimensions			
Width (mm)	3175	3190	3890
Depth (mm)	1950	2050	2200
Height (mm)	1750	1750	1800
Packing Dimensions			
Width (mm)	3200	3250	4000
Depth (mm)	1450	1550	1750
Height (mm)	1720	1800	1850
Height of Work Table (mm)	800	800	800
Weight (kgs)	3205	4300	5550
Voltage 50Hz (V)	415 3Ph	415 3Ph	415 3Ph
Main Motor 3 Phase 415 V 50Hz (kW)	5.5	7.5	7.5
Back Gauge 3 Phase 415 V 50 Hz (kW)	0.37	0.37	0.37

1.2. STANDARD EQUIPMENT:

- Back-gauge assembly
- Front guarding
- Foot switch and control panel
- Front sheet supports
- Tool-set and Instruction manual

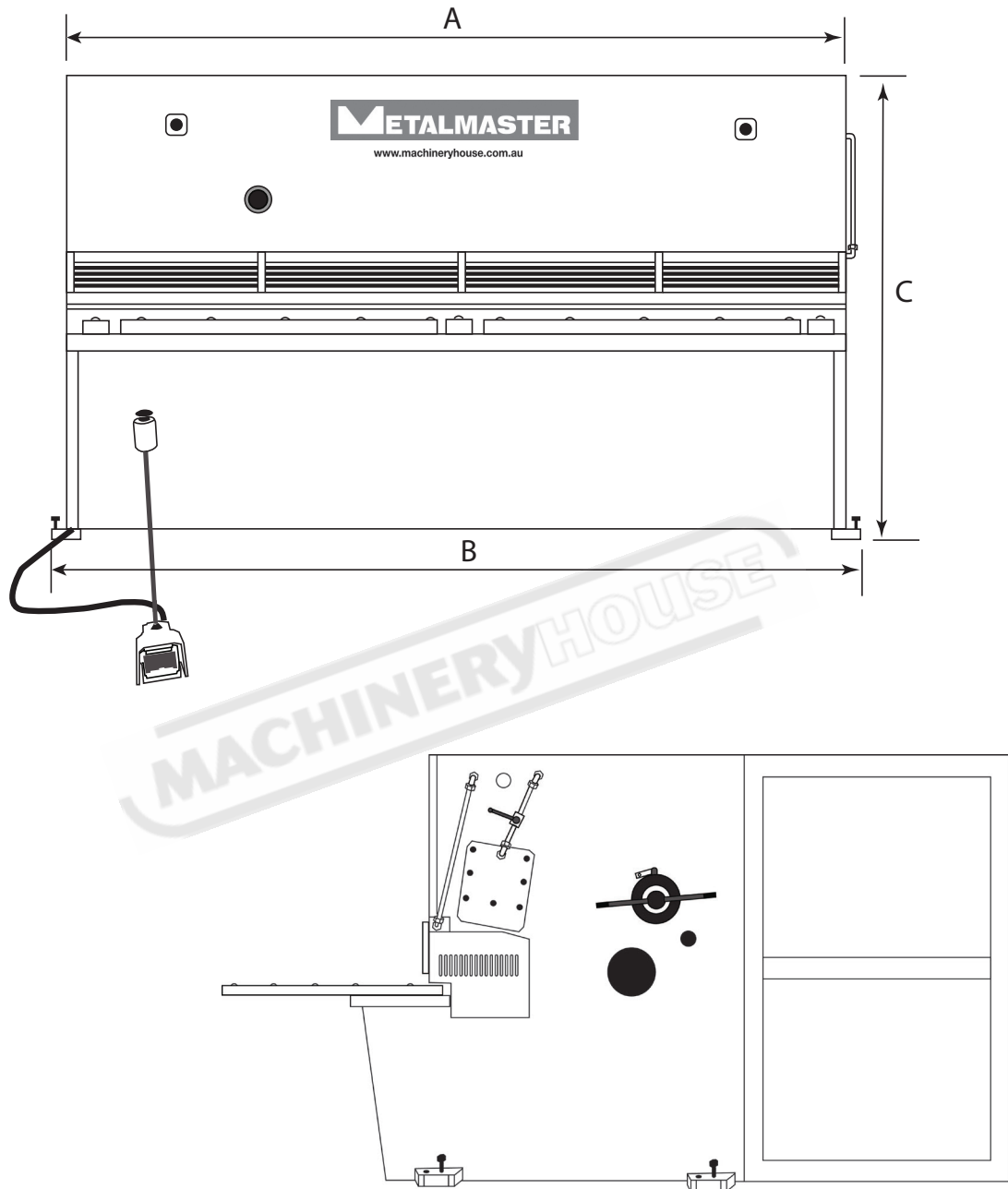
OPTIONAL EQUIPMENT

- Rear pneumatic sheet supports

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1.3. OVERALL DRAWINGS



mm	SG-2504E	SG-2506E	SG-3206E
A	3175	3190	3890
B	3230	3250	3990
C	1750	1800	1850
D	1450	1550	1750

Fig. 1.2



OPERATION MANUAL

2.1 SAFETY REQUIREMENTS

DO NOT use this machine unless you have read this manual or have been instructed in the use of this machine in its safe use and operation



WARNING

This manual provides safety instructions on the proper setup, operation, maintenance, and service of this machine. Save this manual, refer to it often, and use it to instruct other operators. Failure to read, understand and follow the instructions in this manual may result in fire or serious personal injury—including amputation, electrocution, or death.

The owner of this machine is solely responsible for its safe use. This responsibility includes, but is not limited to proper installation in a safe environment, personnel training and authorization to use, proper inspection and maintenance, manual availability and comprehension, of the application of the safety devices, integrity, and the use of personal protective equipment.

The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.



Safety glasses must be worn at all times in work areas. Earmuffs should be worn if the work area is noisy.



Sturdy footwear must be worn at all times in work areas.



Gloves should NOT be worn when operating this machine. Should only be used when handling the workpiece



Long and loose hair must be contained with a net or under a hat

OWNER'S MANUAL. Read and understand this owner's manual before using the machine.

DISCONNECT POWER FIRST. If using power, always disconnect the machine from power supply before making adjustments, or servicing the machine. This prevents any risk of injury from unintended startup or contact with live electrical equipment

TRAINED OPERATORS ONLY. Operators that have not been trained have a higher risk of being seriously injured. Only allow trained or supervised people to use this machine. When the machine is not being used, disconnect the power, to the machine to prevent unauthorized use—especially around children. Make the workshop safe.



OPERATION MANUAL

2.1 SAFETY REQUIREMENTS Cont.

WEARING PROPER APPAREL Do not wear clothing, apparel or jewelry that can become entangled in moving parts. Always tie back or cover long hair. Wear non-slip footwear to avoid accidental slips, which could cause loss of operating control.

HEARING PROTECTION. Always wear hearing protection when operating or observing loud machinery. Extended exposure to this noise without hearing protection can cause permanent hearing loss.

REMOVE ADJUSTING TOOLS. Tools left on machinery can become dangerous projectiles upon startup. Never leave hex keys, wrenches, or any other tools on machine. Always verify removal before starting!

USE CORRECT TOOL FOR THE JOB. Only use this tool for its intended purpose. Do not force the machine or its attachments to do a job for which they were not designed. Never make unapproved modifications. Modifying the machine or using it differently than intended may result in malfunction or mechanical failure that can lead to personal injury or death!

AWKWARD POSITIONS. Keep proper footing and balance at all times when operating machine. Do not overreach! Avoid awkward hand positions that make operating control difficult. This could increase the risk of accidental injury

GUARDS & COVERS. Guards and covers reduce accidental contact with moving parts or flying debris. Make sure they are properly installed, undamaged, and working correctly.

FORCING MACHINERY. Do not force the machine. It will do the job safer and better at the rate for which it was designed.

NEVER STAND ON MACHINE. Serious injury may occur if the machine is tipped or if the cutting tool is unintentionally contacted

STABLE MACHINE. Unexpected movement during operation greatly increases risk of injury or loss of control. Before starting, verify machine is stable and if using a mobile base it is locked in position.

UNATTENDED OPERATION. To reduce the risk of accidental injury, turn the machine OFF and ensure all moving parts have completely stopped before walking away. Never leave the machine running while unattended.

MAINTAIN WITH CARE. Follow all maintenance instructions and lubrication schedules to keep the machine in good working condition. A machine that is improperly maintained could malfunction, leading to serious personal injury or death.

CHECK DAMAGED PARTS. Regularly inspect the machine for any condition that may affect the safe operation. Immediately repair or replace damaged or parts that are incorrectly fitted before operating.

CHILDREN & BYSTANDERS. Keep children and bystanders at a safe distance from the work area. Stop using machine if they become a distraction.



OPERATION MANUAL

2.2 SPECIFIC SAFETY FOR GUILLOTINES

SAFETY CHECKS BEFORE OPERATING

- Ensure fixed guards are in place to prevent hands or other parts of the body from entering area's of high risk.
- Guards or safety devices must never be removed or adjusted, except by an authorized person for maintenance purposes.
- Working parts should be well lubricated and free of rust and dirt.
- The area around the machine must be adequately lit and kept free of materials, which might cause slips or trips.
- Be aware of other personnel in the immediate vicinity and ensure the area is clear before using equipment.
- Familiarize yourself with and check all machine operations and controls.
- Ensure cutting table is clear of scrap and tools.
- Faulty equipment must not be used. Immediately report suspect machinery.

SAFETY CHECKS WHEN OPERATING

- Do not attempt to cut material beyond the capacity of the machine.
- Never attempt to cut rod, strap or wire with this machine.
- Use correct lifting procedures when handling large sheets of material.
- Take extreme care during the initial feeding of the workpiece into the machine.
- The workpiece should always be held sufficiently far back from the edge being fed into the guillotine.
- Ensure fingers and limbs are clear before operating the guillotine.
- Hold material firmly to prevent inaccurate cutting due to creep.
- When cutting ensure feet are positioned to avoid contact with the foot operated lever.

SAFETY CHECKS AFTER OPERATION

- Remove all off cuts and place them in either the storage rack or waste bin.
- Leave the work area in a safe, clean and tidy state.

POTENTIAL HAZARDS

- Cuts from the sharp edges and burrs on the sheets before and after cutting.
- Parts of the body being caught in crush and pinch points.
- Injuries caused when handling metal sheets.





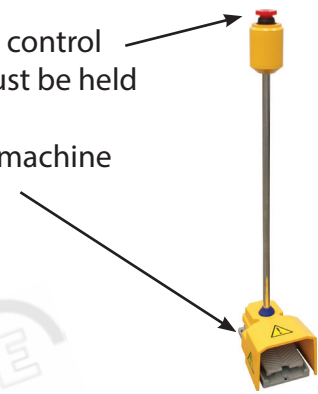
OPERATION MANUAL

2.3 SAFETY FEATURES OF THE MACHINE:

The electrical and hydraulic circuits of your machine are designed to allow operation with maximum safety. The following precautions are available on the machine for enhanced safety. There are three Emergency stop buttons (engaging type) on the machine. One is found on the front of the machine, one on the foot switch control unit, and one on the control panel. Once the button has been pressed to reset the emergency stop, the red button must be rotated to release the stop button.

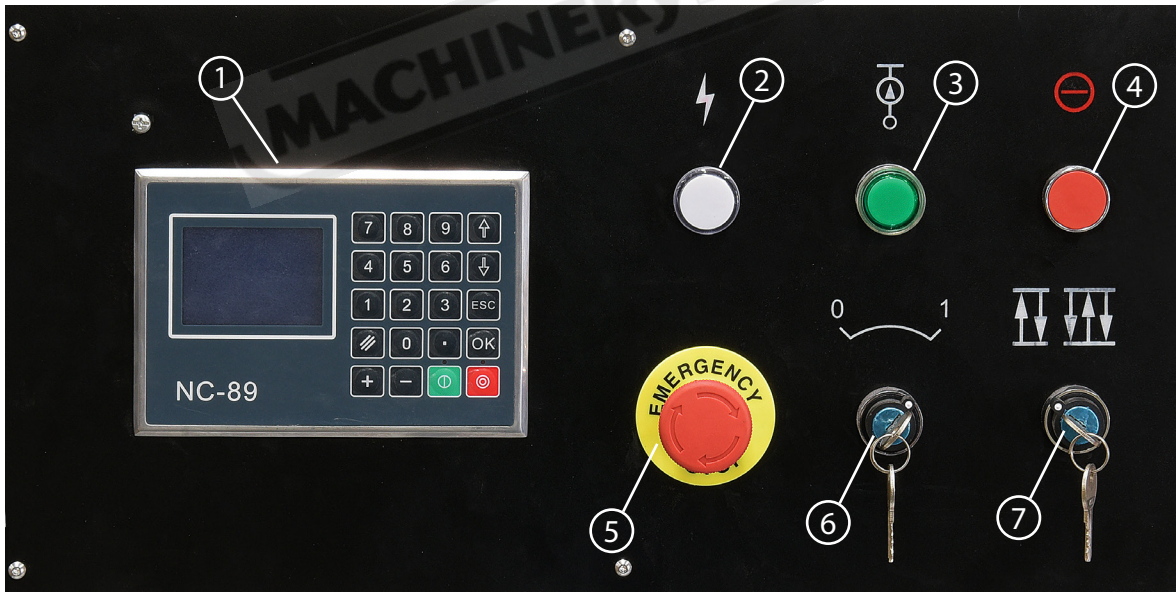
FOOT PEDAL CONTROL

Emergency stop button (engaging type) is available on the foot switch control unit. The foot pedal when pressed activates the shearing beam and must be held in the depressed position until the machine has completed its cut. Releasing the foot pedal during the shearing operation will return the machine to the top of its stroke when controller is set to single cut.



MAIN CONTROLS

The main machine operating controls are located on the control panel mounted on the front of the machine.

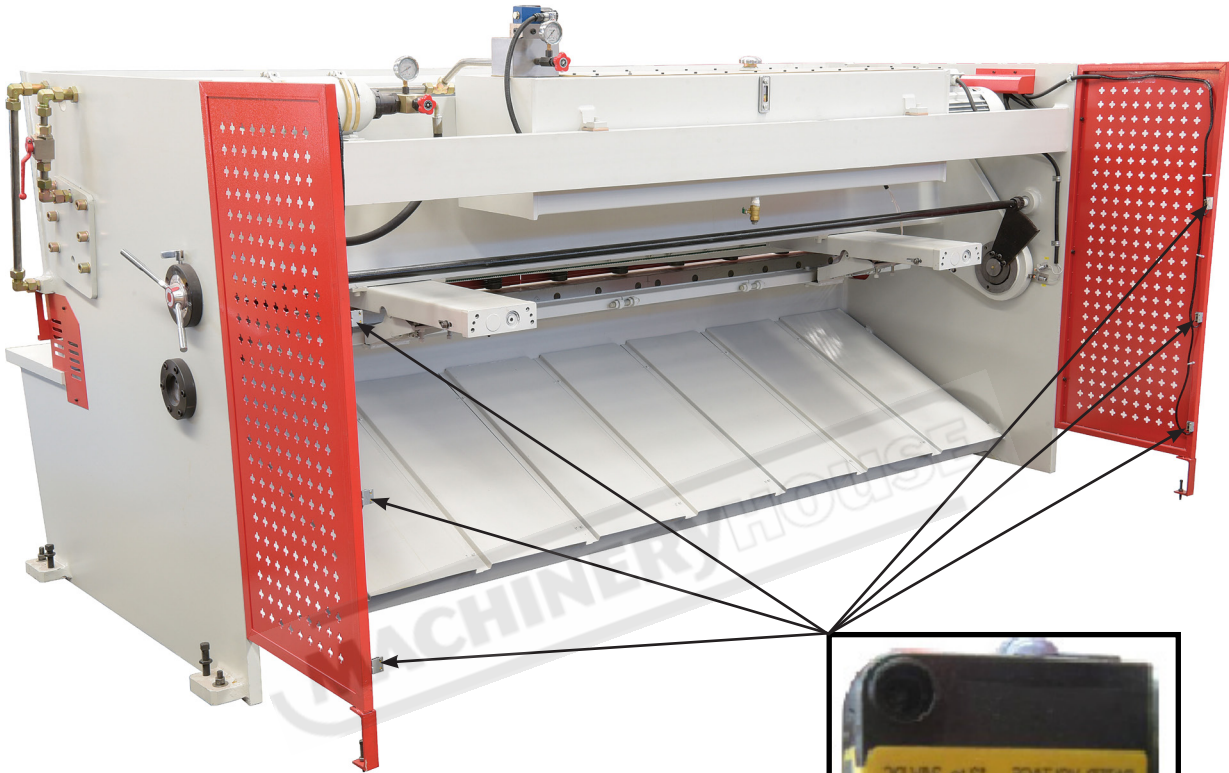


1	NC-89 Controller	5	Emergency Stop Button
2	Power ON Light	6	Switch ON Operating Electrical Circuit
3	Pump Motor ON	7	Single / Continuous Cycle
4	Pump Motor Off		



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To prevent the operator or other persons from accidental injury the machine operation includes a photoelectric light guard at the back of the machine



3 x Photoelectric safety cells are placed on both sides of the back of the machine. When the beam is broken the machine stops.



Once the beam has been broken the system needs to be reset. This is done by pressing the reset button. The reset button is found on the electrical cabinet under the main isolating switch.



OPERATION MANUAL

2.4 LIFTING INSTRUCTIONS

On the day that the machine arrives, make sure that a crane with sufficient capacity is available to unload the machine from the vehicle. Make sure access to the chosen site is clear and that doors and ceilings are sufficiently high and wide enough to receive the machine.

To handle the Guillotine, use only the two sling lifting points located on the top of the end plates. (Fig. 2.3) The slings should be positioned so the machine is level when lifted.

When using slings please take note of the sling angle and the loads that apply.

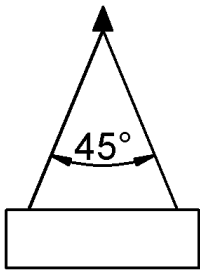


Fig 2.1.

When the slings are at a 45° angle then each sling is carrying the equivalent of 50% of load weight. (Fig.2.1).

When the slings are at a 90° angle then each sling will have a weight equal to 75% of the load on each sling. (Fig 2.2)

Note! The manufacturer recommends not to exceed 90° angle

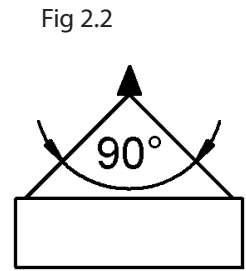


Fig 2.2

LIFTING POINTS

When lifting the machine only use the lifting points on the machine. (Fig. 2.3) and sling as per diagram below. (Fig. 2.4) Ensure that when lifting, the machine does not tip over.

Check that the lifting slings do not interfere with the hydraulic pipes or electrical conduits. Certified lifting slings only should be used. Failure to follow these instructions could cause damage to the machine.



FIG. 2.3

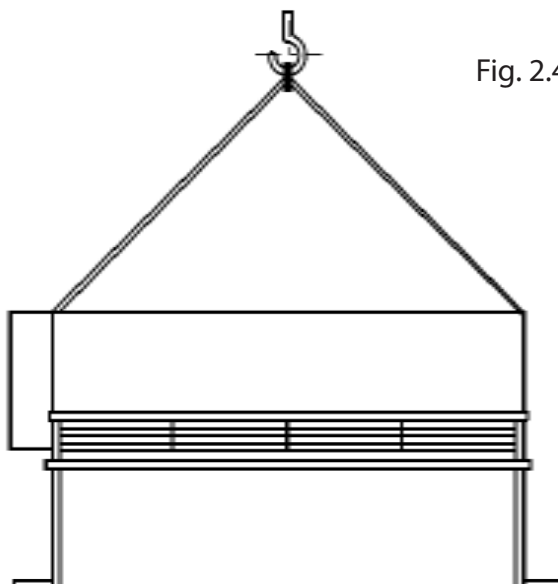
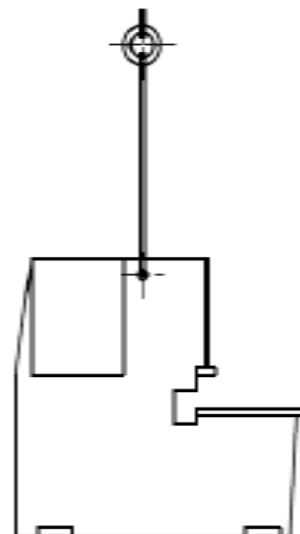


Fig. 2.4





OPERATION MANUAL

3. INSTALLATION

3.1 BASE FOUNDATION AND SECURING POINTS

The machine must be leveled and firmly stationed on the floor where it is to be used, according to the Installation Diagram attached. The floor load, must be suitable for the weight of the machine.

Before securing the machine a solid concrete base must be prepared to the specification of the machine. The sizes for the bolt holes position are listed as A-B listed in the chart below. Check the sizes with the distributor.

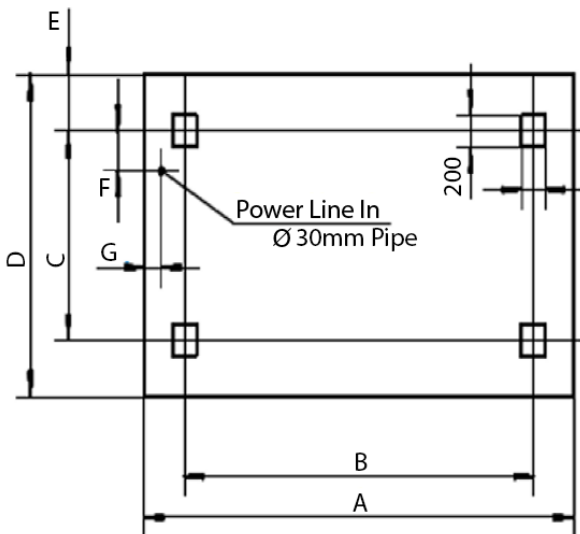
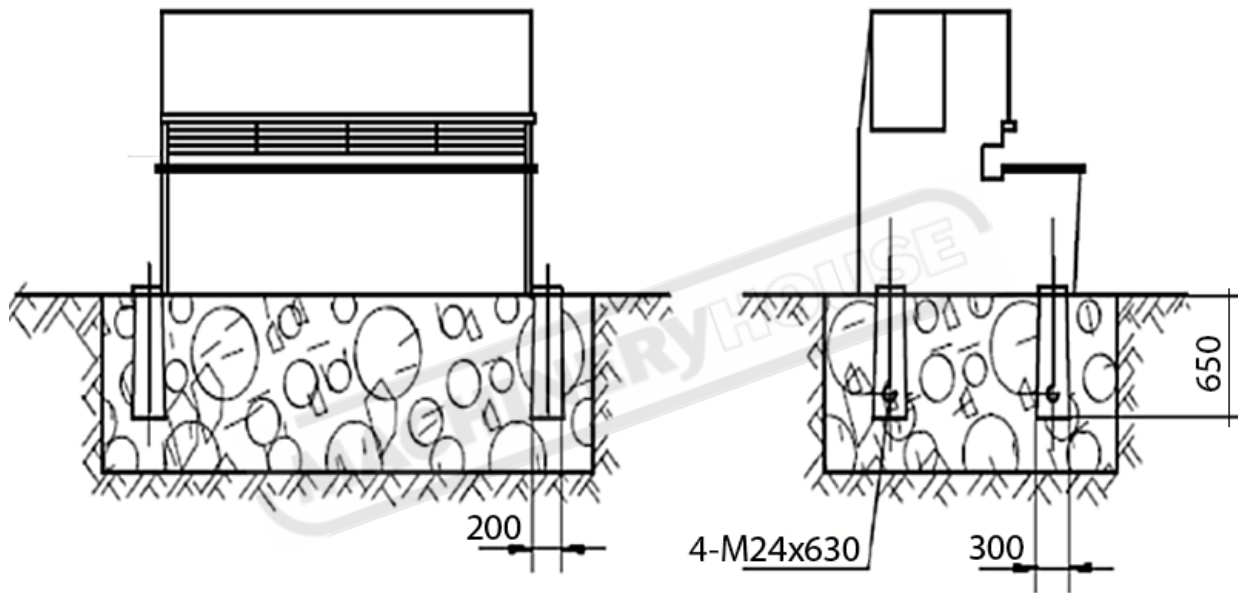


Table of Measurement

Model	SG-2504E	SG-2506E	SG-3206E
A	3500	3500	4200
B	2840	2860	3583
C	1000	1200	1350
D	1750	1900	1900
E	300	300	300
F	130	130	130
G	100	100	100



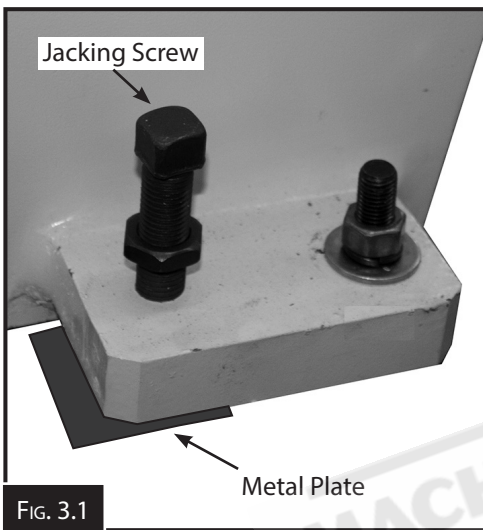
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3.2 MACHINE LEVELING

To set your machine up so that it operates to optimum performance, apply the following procedure. After your guillotine has been anchored to a concrete slab floor, it then needs to be leveled. The leveling is performed by using the screws on each pad.(Fig. 3.1). To adjust the level, loosen the hold down bolts and place a level on the surface of the working table.

Tolerances: 1000:0.30mm, for both longitudinal and transverse.

Metal plates need to be placed under each jacking screw to distribute the load. Once level tighten the locknuts on the jacking screws and then tighten the hold down bolts.



The machine must not rest on supports other than those defined in Fig. 3.1.

3.3 ELECTRICAL INSTALLATION

Place the machine near an existing power source. Make sure all power cords are protected from traffic, material handling, moisture, chemicals, or other hazards. Make sure there is access to a means of disconnecting the power source. The electrical circuit must meet the requirements for 415V. To minimize the risk of electrocution, fire, or equipment damage, these machines should be hard wired with installation work and electrical wiring done by a qualified electrician.

NOTE : The use of an extension cord is not recommended as it may decrease the life of electrical components on your machine.

ELECTRICAL REQUIREMENTS

Nominal Voltage.....	415V
Cycle.....	50 Hz
Phase.....	Three Phase
Power Supply Circuit.....	20 Amps
Full Load Current (SG-2504E).....	10.5 Amps
Full Load Current (SG-2506E, SG-3206E).....	14.3 Amps

(Full load current rating is also on the specification plate on the motor.)



OPERATION MANUAL

3.4 FULL-LOAD CURRENT RATING

The full-load current rating is the amperage a machine draws when running at 100% of the output power. Where machines have more than one motor, the full load current is the amperage drawn by the largest motor or a total of all the motors and electrical devices that might operate at one time during normal operations.

Full-Load Current Rating for the SG-2504E machine at 415V is 14.3 amps.

Full-Load Current Rating for the SG-2506E and SG-3206E machines at 415V is 10.5 amps.

It should be noted that the full-load current is not the maximum amount of amps that the machine will draw. If the machine is overloaded, it will draw additional amps beyond the full-load rating and if the machine is overloaded for a long period of time, damage, overheating, or fire may be caused to the motor and circuitry.

This is especially true if connected to an undersized circuit or a long extension lead. To reduce the risk of these hazards, avoid overloading the machine during operation and make sure it is connected to a power supply circuit that meets the requirements.



METALMASTER machines are supplied without a lead and must be connected to the power supply. Check the specification plate on the machine to confirm that the voltage is compatible with the local power supply.

The machine must be connected to the power by a qualified and licensed electrician.

Warranty may be voided if it is found that the connection was not carried out by a qualified electrician.

Check the rotation of the motor. (Fig. 3.2) If the direction does not match the arrow below, (Fig. 3.3) isolate the machine and change the wiring.



FIG. 3.2

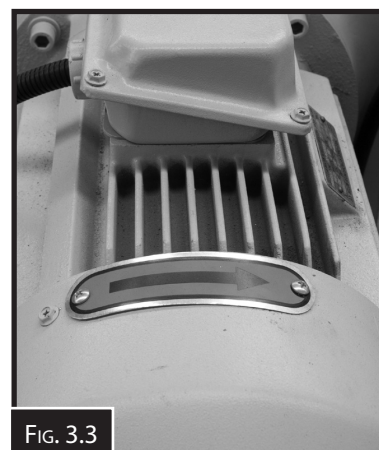


FIG. 3.3

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3.4 ATTACHING THE ACCESSORIES.

- Bolt the support arms onto the feed table. Ensure they are level and square to the table. (Fig 3.4)

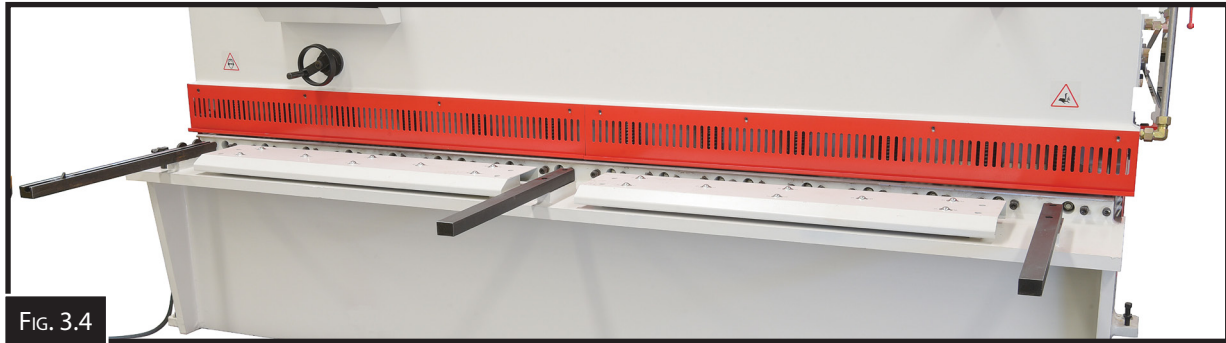


FIG. 3.4

- Place the squaring stops Fig 3.5 into position on the table top, securing into place with the bolts supplied. Check that the square stops are square to the blade. Adjust by loosening the bolts and moving by the adjusting screw and the amount allowed by the clearance-of the holes.

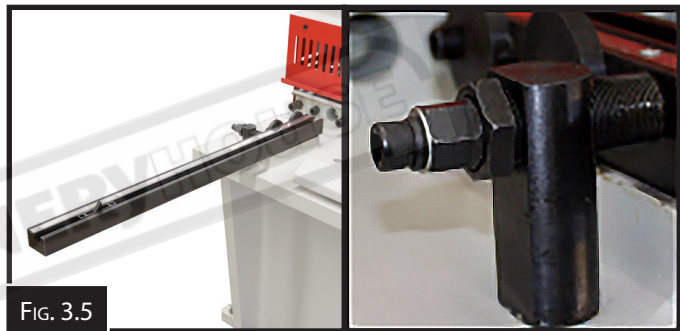


FIG. 3.5

- Re tighten the screws.
- Unpack and attach the rear fence to the back of the machine. Ensure that the sensors have been connected and set up. (Fig.3.6)
- Unpack the mobile foot control and plug it into the socket provided on the machine under the electrical box. (Fig.3.7) The plug can only be inserted one way so the plug needs to be twisted around until the plug slips easily into the socket.



FIG. 3.6



FIG. 3.7

3.5 FILLING THE HYDRAULIC OIL TANK.

When filling the tank with oil, make sure that the top of the tank is clean and free from dust and dirt. (Fig. 3.8)

Use General hydraulic oil that is suitable for hydraulic machines. (46 grade hydraulic oil)

- Remove the oil tank filler cap. (Fig 3.9)
- Using a pump add the oil into the tank.
- Oil level must be filled until the oil reaches the middle mark of the oil indicator. (Fig. 3.10)
- Always keep the oil at the same level.



FIG. 3.8

Sight Glass



FIG. 3.10

Filler Cap

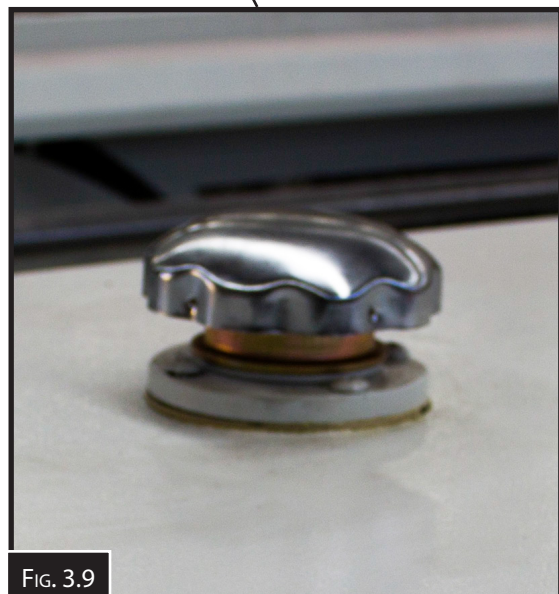


FIG. 3.9



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4. COMMISSIONING

4.1. PREPARATION OF THE MACHINE.

- Make sure all wrapping and packing grease has been removed from the machine.
- Check the machine for loose bolts. Tighten as required.
- Inspect for oil leakage or loose fittings. Similarly check the main rams between the side frames.
- Clean the blades and tighten the securing bolts as required. Examine the cutting edges of both blades for damage.
- Inform your service provider of any damage or faults with the machine.

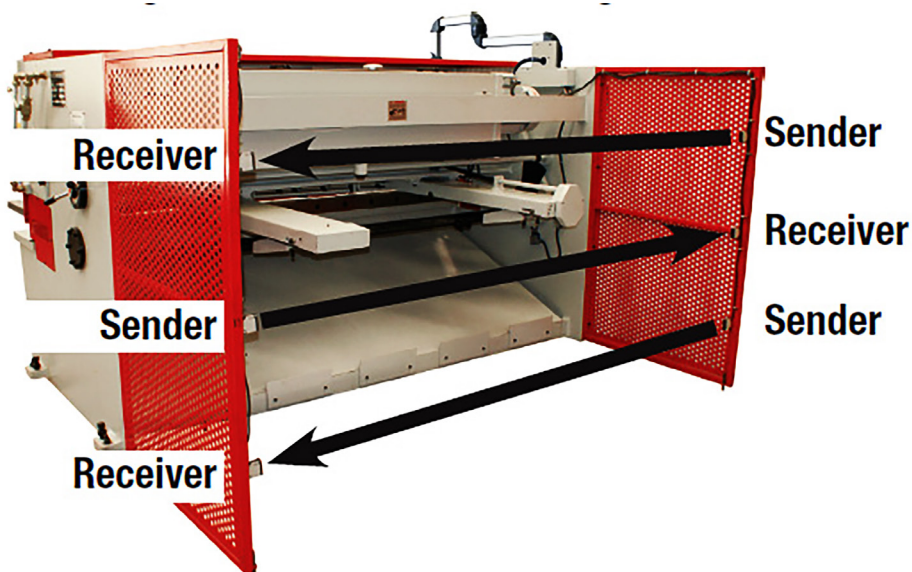
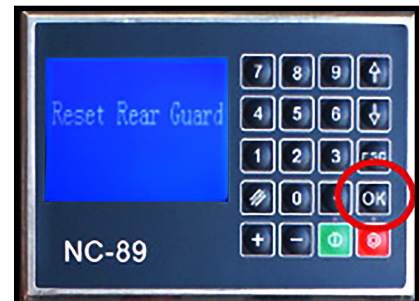
4.2 OMROM E3Z SAFETY SENSOR ALIGNMENT

Warning- Follow all setup instructions before starting hydraulic pump.

The safety circuit consists of a reset switch and two rear side guards, each having 3 sensors. Your machine may not have a RED warning light but instead has a message displayed on the NC89 display (Reset Rear Guard). When the main power is switched on or the rear sensors have been tripped then the safety circuit must be reset before the hydraulic pump can be started.

To Reset the Safety Guards

When the message is displayed on the screen, press the reset button on the electrical cabinet and then press OK on NC89.



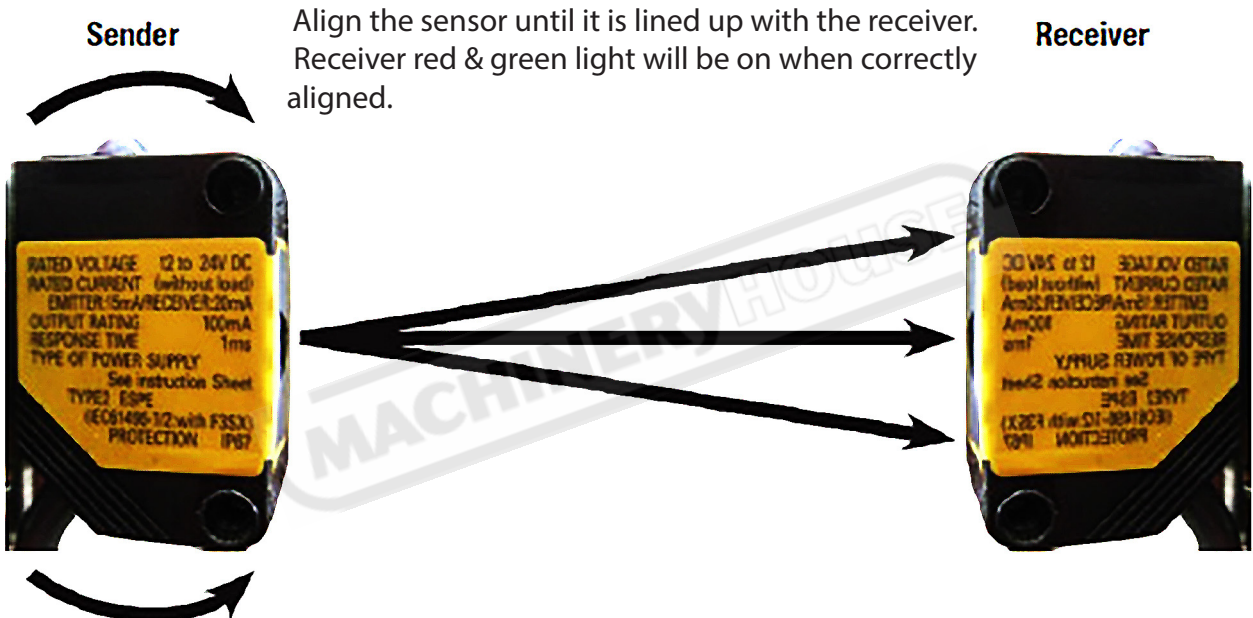


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4.2 SAFETY SENSOR ALIGNMENT CONT.

Machine setup- First ensure that the machine is level and all four levelling jacking bolts are correctly adjusted. Ensure the rear fences are tight and the stabilizing bolt is on the ground to stop the fence moving around.

Alignment- The sensors are sensitive to alignment so try to align as accurately as possible. If the sender is only slightly aligned with the receiver any vibration when cutting will stop the pump and the safety circuit will have to be reset again. Alignment could involve loosening the sensor mounting screws or bending the mounting brackets to get the best alignment



Identifying sensors

Senders- Each sender has a red light on top of the unit and a red light on the front. These two lights will be on all the time while the machine has power.





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4.2 SAFETY SENSOR ALIGNMENT. CONT.

Receivers- Each receiver has two lights on top of the unit. These lights indicate if the receiver has power and if it has been aligned correctly with the sender.

No Lights on



No power

Green light on



Power on but not aligned

Orange and green light on



Has Power & aligned ok

Alignment order- The receivers are wired in series and must be aligned in the correct order. As each receiver is aligned correctly it will send power to the next receiver.

No-1 receiver (middle)- A green light on indicates it has power. When it is correctly aligned with the sender an orange & green light will be on and it will send power to No-2 receiver.

No-2 receiver (top)- A green light on indicates it has power. When correctly aligned with the sender an orange & green light will be on and it will send power to the No-3 receiver.

No-3 receiver (bottom)- will have a green light on and when it is correctly aligned with the sender the orange & green light will be on and it will send power to the reset button.

Successful alignment- When all 3 receivers are aligned correctly with their corresponding senders, they should all have an orange and green light on top. The reset button can now be pressed.

When all three sets of receivers and senders have been aligned then the safety guard can now be reset by firstly pressing the rest button on the electrical cabinet then press OK on the NC89. After a successful reset the NC89 screen should be the same as (Fig. 4.1).

The Pump can now be started



FIG. 4.1

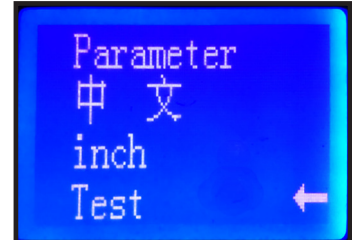
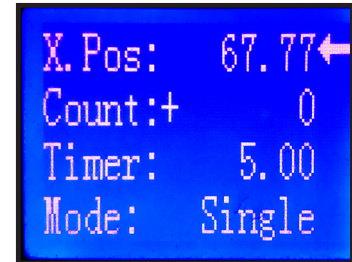


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4.3 CALIBRATE "X" AXIS ON CONTROLLER

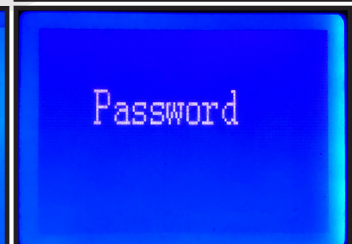
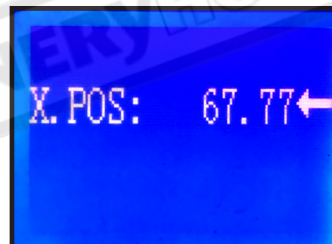
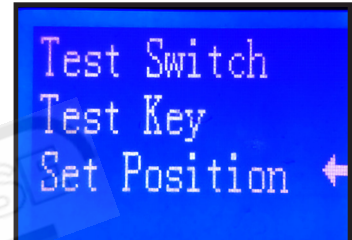
Before operating the machine the "X" axis needs to be checked. The following is that process.

1. Cut a piece of material and measure it with a vernier. Check the dimension against the x position on the readout. If the measurement is the same then the "X" axis has been set. If they are different then do the following.
2. With power off depress the red button on the controller and turn on the power key.
3. Arrow down to test and press OK.
4. Arrow down to set position and press OK. The controller will ask you to enter the access code below.



ACCESS CODE IS 258

5. After entering the access code delete size on screen and enter new size.
6. Press OK to save changes.
7. Press ESC 3 times to exit out to normal screen.



4.4. COMMISSIONING CHECK LIST.

Before starting the machine the following checks must be made.

- Setup rear sensors.
- Check pump rotation.
- All grease nipple points have been lubricated.
- Installation and machine preparation has been performed according to the manuals instructions.
- Fill the oil reservoir with 46 grade hydraulic oil and ensure that the oil filter breather cap is fitted.
- Electrical earth fitted and power circuits, switches, and foot-pedal checked.
- Check power connections and any damage to any wiring.
- Test safety operation, Estop, rear sensors, stop button etc.
- Test controller operation.
- Test all mechanical operation on the machine including blade and back gauge travel and limit switch operation.
- Calibrate x axis on controller.
- Test cut material and check quality of cut.
- Tools, equipment and personnel are clear of the machine.
- Operation Manual on how to operate the machine has been read.



OPERATION MANUAL

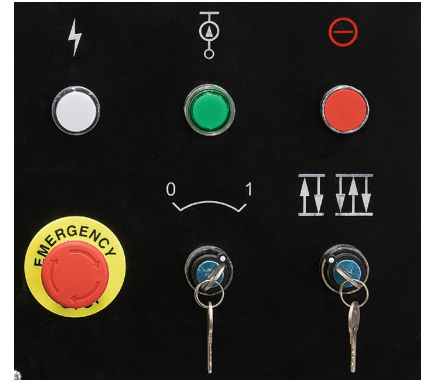
5. OPERATION INSTRUCTIONS

5.1 PRE-OPERATIONAL SAFETY CHECK PRIOR TO OPERATING

Before operating the machine the rear safety beam guard needs to be checked. Below are the steps that need to be followed.

1. Start machine as per instruction procedures.
2. Stand outside rear safety gate & obstruct sensor. (1)
3. Ensure machine has stopped and is disabled.
4. Check your control: Warning message. (A)
5. Press green reset button rear of electrical box image. (C)
6. Press OK on NC-89 control panel to activate guard system. (A)
7. Repeat steps 1 to 6 for each sensor. (2) & (3)

Control Panel



A: NC89 Control Display



B: Rear Guarding Sensors



C: Guard Reset Button



EMERGENCY STOP CHECK,

1. Start machine as per instruction procedures.
2. Press emergency stop button on control panel.
3. Ensure machine has stopped and is disabled.
4. Reset emergency stop button by twisting red dial. (Some models may need the guard to be reset. (D))
5. Repeat steps 1 to 4 for each emergency stop on your machine.

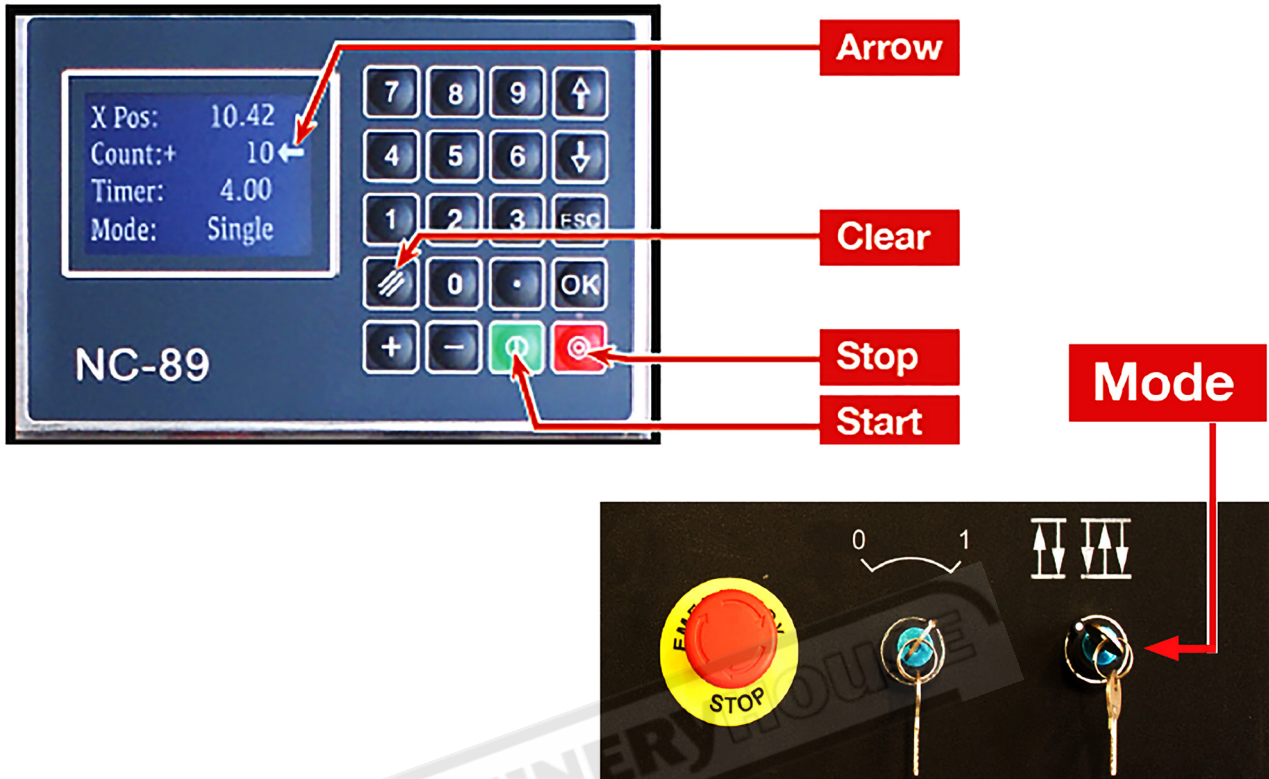
Emergency Stop Buttons






D: Guard Reset Button



5.2 NC89 CONTROLLER OPERATION







X. Pos: Back Gauge Position,

Operation: Move Arrow to X Pos, press  to clear number, enter desired value, press  and start button. 

The back gauge will now go to the new entered position to within 0.5mm. Once back gauge has stopped searching use the manual handle for fine adjustment.



Count: Number of cuts.

Count can be cleared at any time by using clear  button, it will then count upwards with each cut. A set number of cuts can also be entered.

Operation: Move Arrow to Count, clear the number,  enter 3 and press  After 3 cuts it will count down to 0 and the controller will stop cutting. You must now arrow down to Count and press  for counting upwards or enter any number for counting downwards.

Timer: Length of cut.

The length of cut can be changed to suit the width of material being cut.

Operation: Arrow down to timer, clear value and enter new value for cut length time, press  and start  button.

Mode: Continuous / Single

Mode Single - Used to perform 1 cut at a time when foot pedal is pressed.

Mode Continuous - Used to perform continuous cutting when foot pedal is pressed.



OPERATION MANUAL

5.3 SETTING THE BLADE GAP

Blade clearance is the distance between the upper and lower blade of the shear as they pass each other during the shearing process. For optimum shearing quality, the clearance between the upper and lower blades should be set to suit the material thickness.

To adjust the blade gap for the material thickness and type, firstly check the chart in Fig 5.3 for correct setting.

TABLE FOR ADJUSTMENT GAP

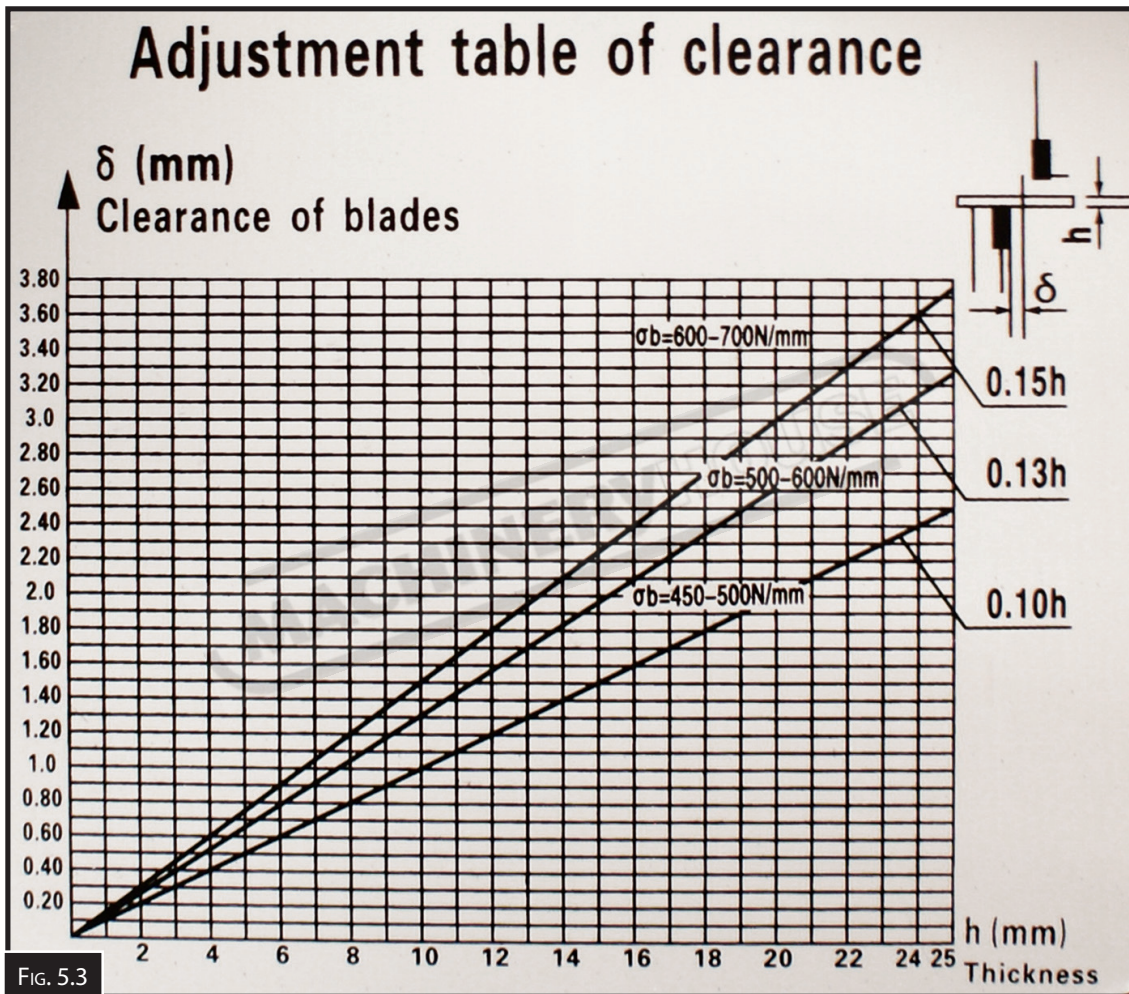


FIG. 5.3

Then adjust the hand wheel (Fig 5.4) to correct graduated setting.



FIG. 5.4



OPERATION MANUAL

6. MAINTENANCE AND INSPECTION

6.1 TYPE AND FREQUENCY OF INSPECTIONS

Inspection	Period	Responsibility
Lubrication of all grease points	Daily	Operator
Lubrication of slide-ways	Weekly	Operator
All Guards that protect against physical damage	Weekly	Operator
Machine fixing bolts against loosening	Weekly	Operator
Oil leakage in cylinders	Weekly	Operator
Hydraulic Oil Change and filter	1000hrs	Maintenance
Oil leakage in pipes, hoses and hydraulic elements	Weekly	Operator
Hydraulic fluid level	Weekly	Operator
Cylinder connections bolts against loosening	Weekly	Operator
Safety & limit switches against loosening, damage	Weekly	Operator
Terminal connections of the electrical installation	Annually	Electrician

6.2 LUBRICATION POINTS

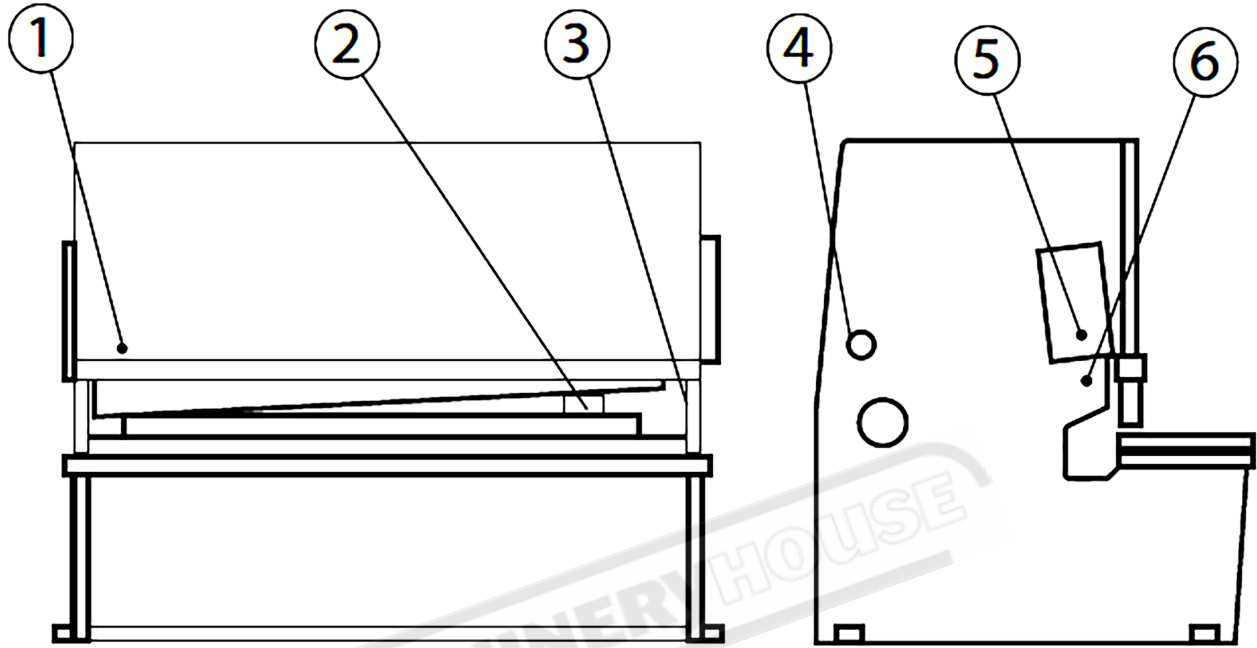


Fig. 6.1

Lubricants.

- Cylinder and main pivot points - grease.
- Back-stop: shafts, screws, nuts - grease.
- Shear beam slides - grease.
- Hydraulic oil #46.

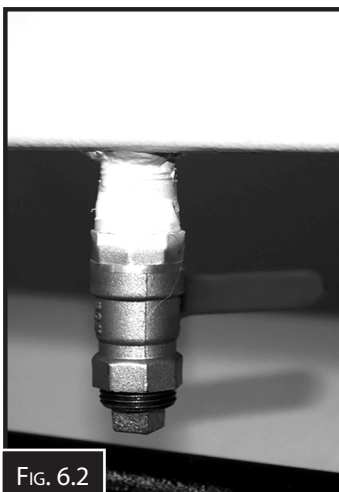
6.3 CHANGING THE HYDRAULIC OIL

All precautions must be taken to keep the hydraulic system clean at all times. When changing oil, make sure that the top of the oil tank is clean and free from dust and dirt.

- Remove the oil in the tank using the drain tap at the bottom of the tank. (Fig 6.2)
- Remove the oil tank cover and make sure that all the oil has been removed.
- Clean out the bottom of the tank with clean rags to remove all dirt and foreign objects
- Replace the cover, remove the filler cap (Fig. 6.4) and using a pump, add the new oil into the tank.
- Oil level must be filled until the oil reaches the centre mark of the oil indicator. (Fig. 6.3)
- Always keep the oil at the same level.
- Oil must be changed after the first 200 working hours of use, and then after every 1000 working hours. (See: Lubrication Diagram Fig. 6.1).



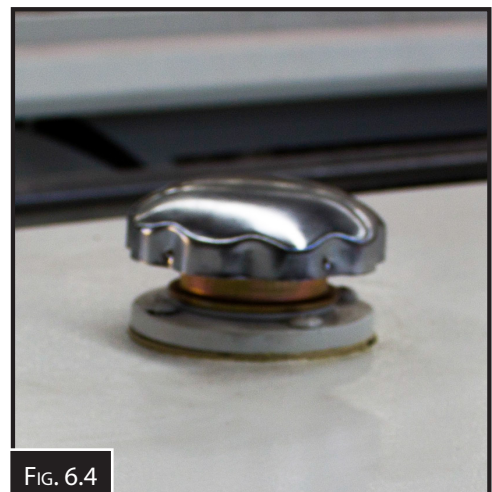
Drain Tap



Sight Glass



Filler Cap



6.4 CHANGING THE FILTER

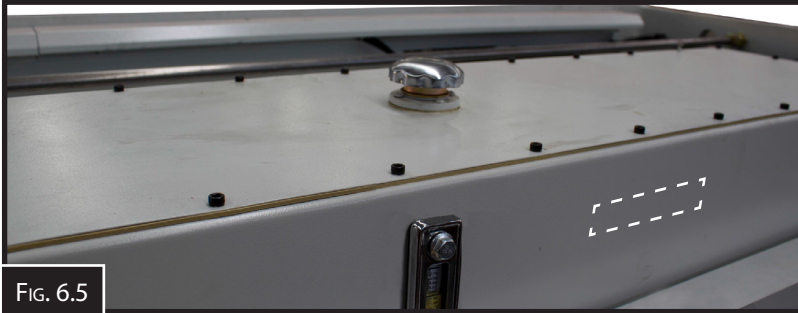


FIG. 6.5



FIG. 6.6

- Drain the oil from the tank using the drain tap on the bottom of the tank. (See Section 6.3)
- Remove the cover on the oil tank. (Fig.6.5)
- Unscrew the old filter from its place inside the oil tank. (Fig. 6.6)
- Screw the new filter into its place in the tank.
- Clean the bottom of the tank and replace the cover.
- Refill the tank until the oil is in the middle of the oil sight gauge.

NOTE: The suction filter element must be cleaned after the first 200 hours of use, and then after every 1000 working hours. Replace if damaged or un-serviceable.

6.5 NITROGEN TANK

The machine is fitted with a nitrogen bottle used to lift the beam on the return stroke. (Fig. 6.7)

NOTE: Any maintenance requirements should be carried out by a service engineer.

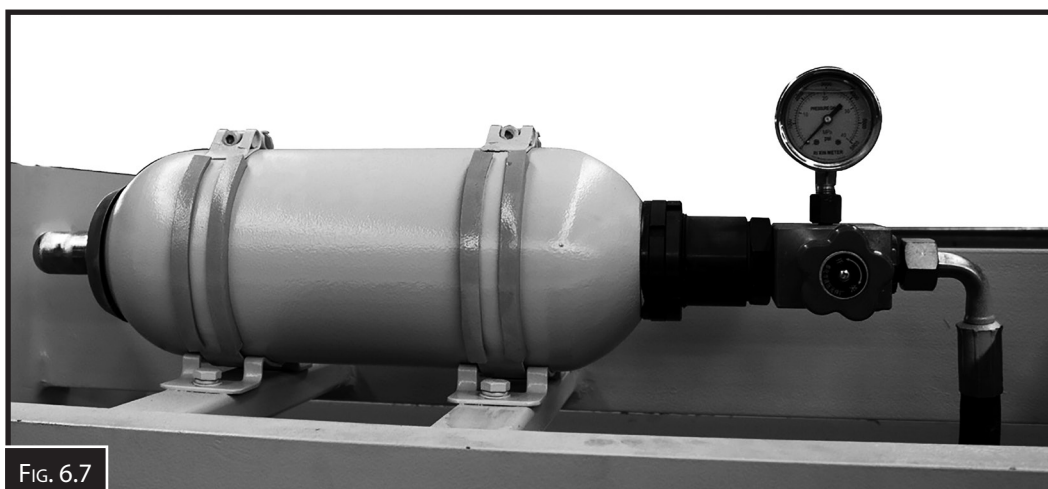


FIG. 6.7



OPERATION MANUAL

6.5 BLADE PARALLEL ADJUSTMENT.

The following information also applies when fitting new or sharpened blades.

The blade clearance will need to be checked with a feeler gauge (Fig 6.8) by removing the front guard of the machine to access the blade.

- The clearance is checked across the full length of the blades.
- Use feeler gauges, to test the clearance.
- According to the test adjust the clearance.

⚠ WARNING This operation is dangerous and if done incorrectly could damage the blades, and may require the blades to be replaced. Metalmaster recommends that it should be done by a trained service engineer.

TO CHECK THE CLEARANCE AT SET INTERVALS ON THE BLADE.

- Set the selector control on the control box to normal operation function.
- Depress the foot pedal and move the blade to the maximum down stroke position then shut off the ball valve in Fig 6.9 to hold the down stroke position.
- Release the ball valve slowly to allow the upward movement of the blades to check the clearance at set intersecting intervals of the blades. (Fig. 6.8)
- Once the clearances are equal and parallel tighten all fasteners and locknut's and release the ball valve fully.
- This operation may be required to be repeated until clearances are correct and equal.

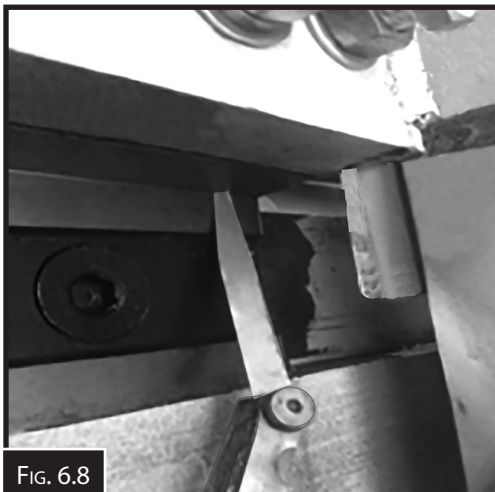


FIG. 6.8

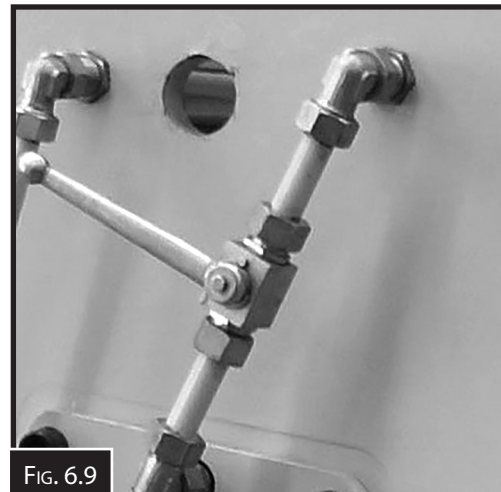


FIG. 6.9

On completion of the blade setting, replace and secure all covers on the machine. Set the blade gap and take a test cut at the maximum rated capacity. An optimum blade setting will allow the material to fracture cleanly.



OPERATION MANUAL

6.6 TROUBLESHOOTING

Problem	Possible Cause	Action
Machine shudder on the down stroke.	<ul style="list-style-type: none"> • Incorrect relief valve setting 	<ul style="list-style-type: none"> • Re-adjust relief valve Adjust the relief valve by unlocking the hexagon head grub screw on the side of the body of the valve. Turn in a clockwise direction closing the valve while cycling the machine
Machine will not cut.	<ul style="list-style-type: none"> • Low system oil pressure • Check the blades for excessive clearance or damage to the cutting edges 	<ol style="list-style-type: none"> 1. Check the system pressure. 2. Check the oil level (See page 24). 3. Check the blade gap (See page 21). 4. Check the blade clearance 5. Reset or regrind the blades as required
Machine will not stop in the neutral position	<ul style="list-style-type: none"> • Check limit switch /relay • Check directional control valve 	<ul style="list-style-type: none"> • Replace if necessary. • Remove valve, check and replace if necessary
Clamping does not work	<ul style="list-style-type: none"> • No clamping pressure 	<ol style="list-style-type: none"> 1. Check the system pressure. 2. Check electrical circuit
Oil leaking from cylinder	<ul style="list-style-type: none"> • Gland seal is damaged 	<ul style="list-style-type: none"> • Change seal
Oil leaking from fittings	<ul style="list-style-type: none"> • Fittings are loose 	<ul style="list-style-type: none"> • Tighten fittings

WARNING

The machine must be disconnected from the power supply before servicing the machine. Failure to do so can cause serious injury and even death. Before operating the machine, ensure that all the tools have been removed and personnel are clear of the moving parts.



OPERATION MANUAL

SPARE PARTS SECTION

The following section covers the spare parts diagrams and lists that were current at the time this manual was originally printed. Due to continuous improvements of the machine, changes may be made at any time without notification.

HOW TO ORDER SPARE PARTS

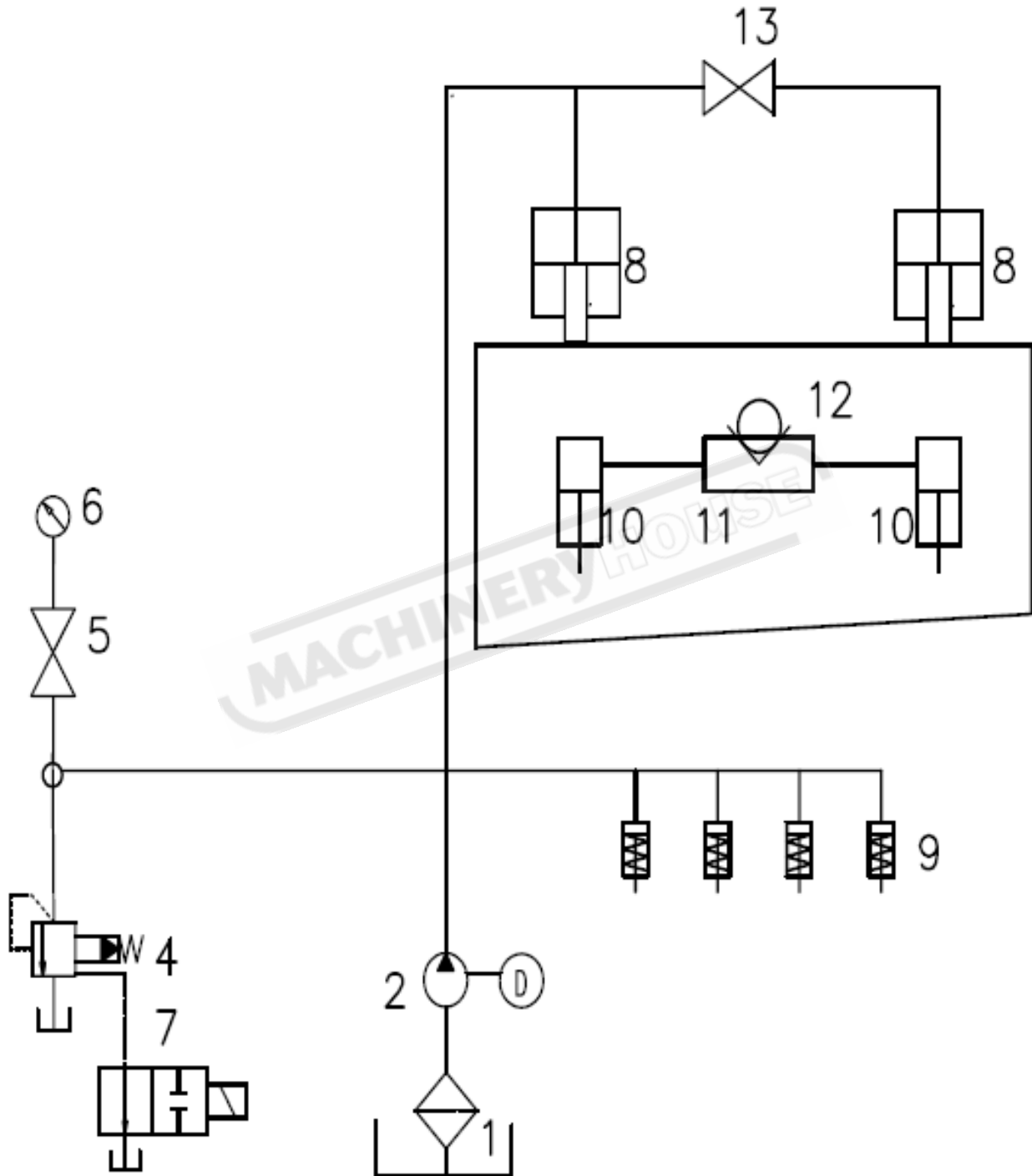
1. Have your machines **model number, serial number & date of manufacture** on hand, these can be found on the specification plate mounted on the machine
2. A scanned copy of your parts list/diagram with required spare part/s identified
3. Go to www.machineryhouse.com.au/contactus and fill out the inquiry form attaching a copy of scanned parts list.





OPERATION MANUAL

A. HYDRAULIC CIRCUIT FOR SG-2504E





OPERATION MANUAL

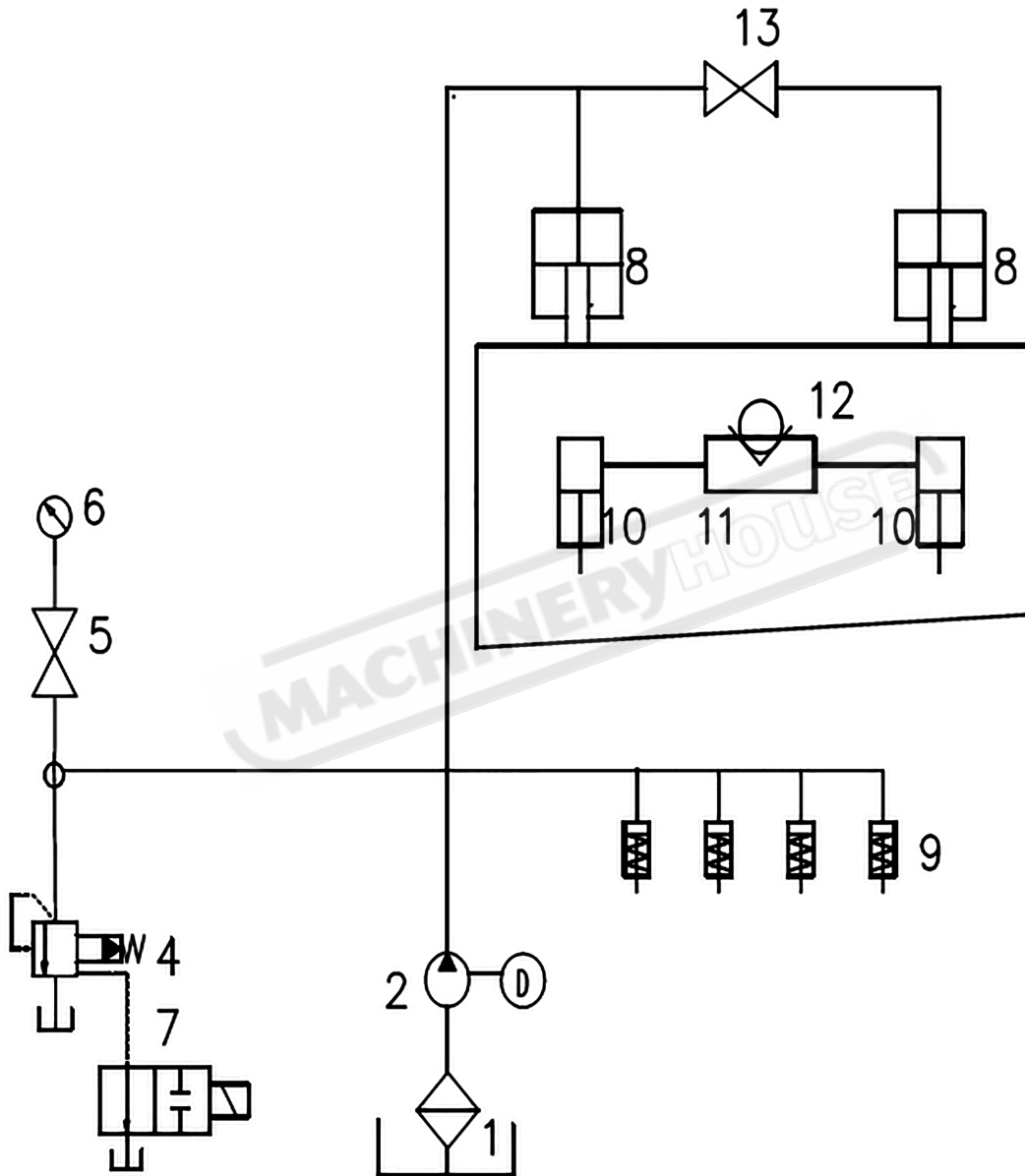
A. HYDRAULIC PARTS LIST FOR SG-2504E

No.	Name	Model	Qty.	Remarks
1	Oil Filter	WU-63*100-J	1	
2	Gear Pump	CPO-10-P-10R	1	
3				
4	Overflow Valve		1	
5	Pressure Meter Switch	KJF-L8H	1	
6	Pressure Meter	YN60-40	1	40MPa
7	Electromagnetic Exchange Valve	4WE6D61/EGZ4NZ5L	1	
8	Oil cylinder	4 x 2500	2	
9	Material Clamp Cylinder		10	
10	Return Oil Cylinder		2	
11	Accumulator	NXQ A-2.5	1	<6Mpa
12	Fill air valve	QXF-5	1	
13	Ball valve	CJXQ-F10L	1	



OPERATION MANUAL

A. HYDRAULIC CIRCUIT FOR SG-2506E & SG-3206E





OPERATION MANUAL

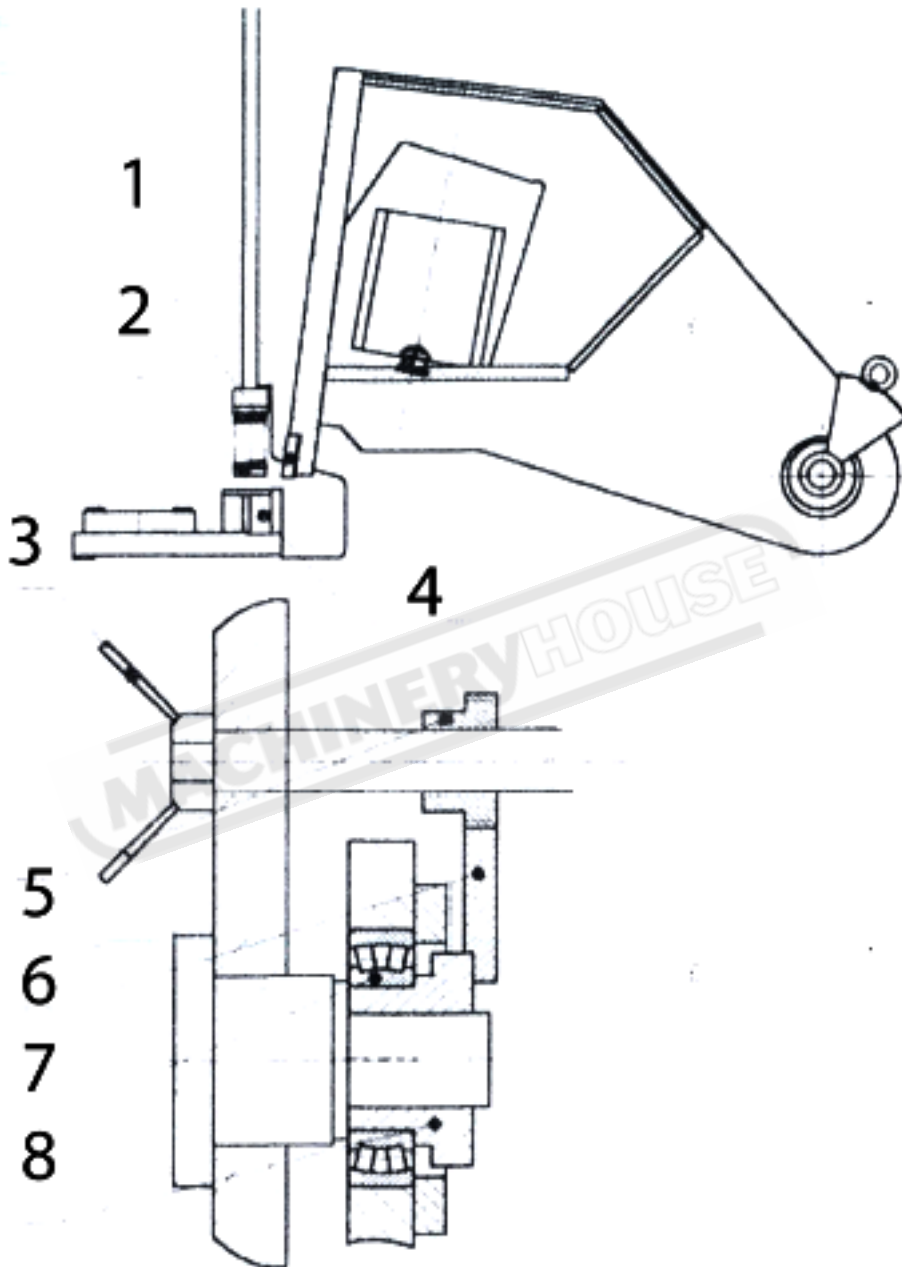
A. HYDRAULIC PARTS LIST FOR SG-2506E & SG-3206E

No.	Name	Model	Qty.	Remarks
1	Oil Filter	WU-63*100-J	1	
2	Gear Pump	CPO-25-P-10R	1	
3				
4	Overflow Valve		1	
5	Pressure Meter Switch	KJF-L8H	1	
6	Pressure Meter	YN60-40	1	40MPa
7	Electromagnetic Exchange Valve	4WE6D61/EGZ4NZ5L	1	
8	Oil cylinder	6 x 3200	2	
9	Material Clamp Cylinder		14	
10	Return Oil Cylinder		2	
11	Accumulator	NXQ A-4	1	<6Mpa
12	Globe Valve	XJF-10	1	
13	Ball valve	CJXQ-F10L	1	



OPERATION MANUAL

B. MATERIAL CLAMPS & BLADE GAP ADJUSTMENT

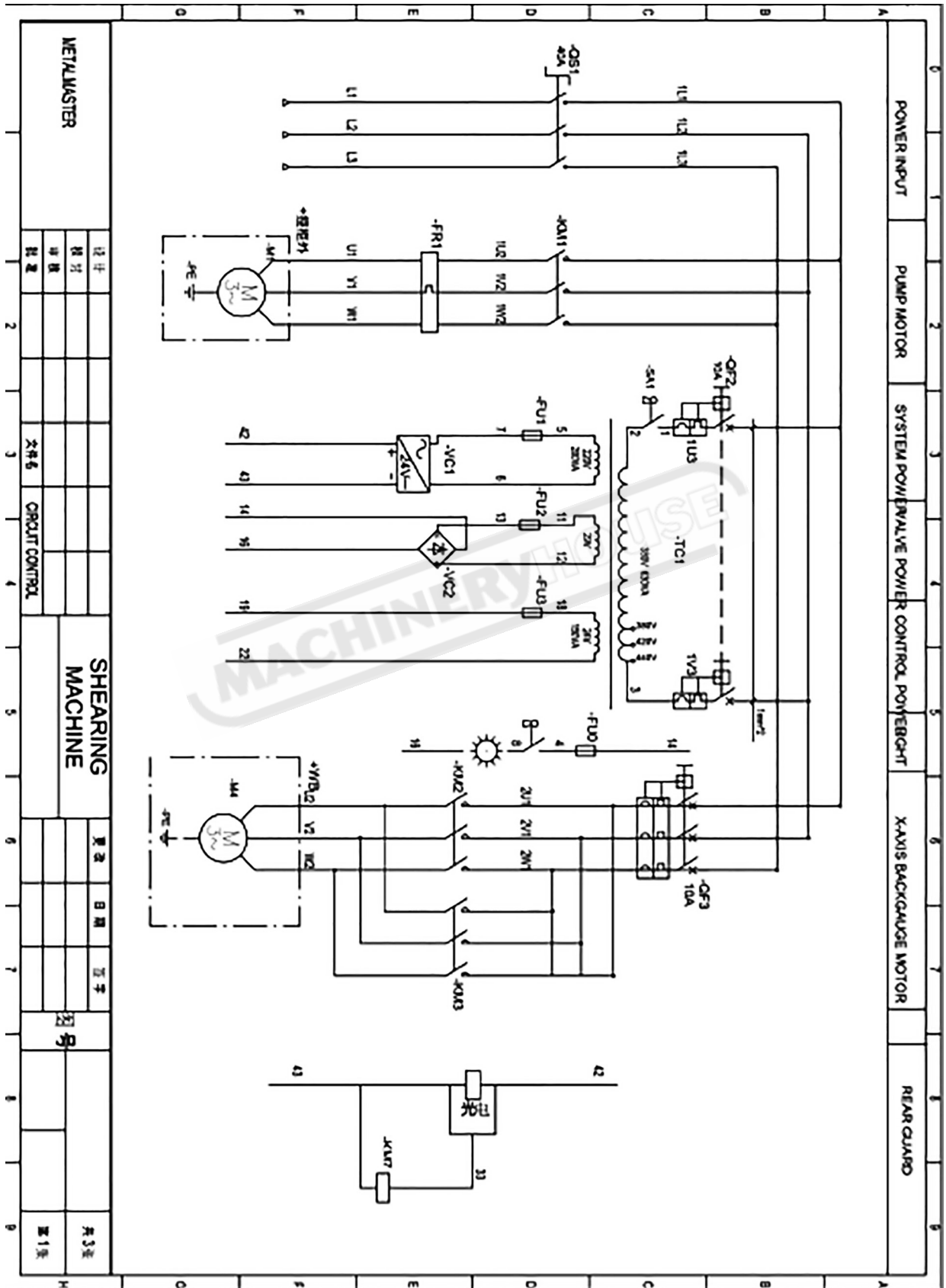


- | | | |
|---------------------------|----------------------|-----------------------|
| 1 - Upper Blade | 2 - Material Clamps | 3 - Adjustment Handle |
| 4 - Blade Movement Holder | 5 - Support Cover | 6 - Fan Shape Gear |
| 7 - Bearing | 8 - Adjust Bush Gear | |



OPERATION MANUAL

C. ELECTRIC CIRCUIT DIAGRAM

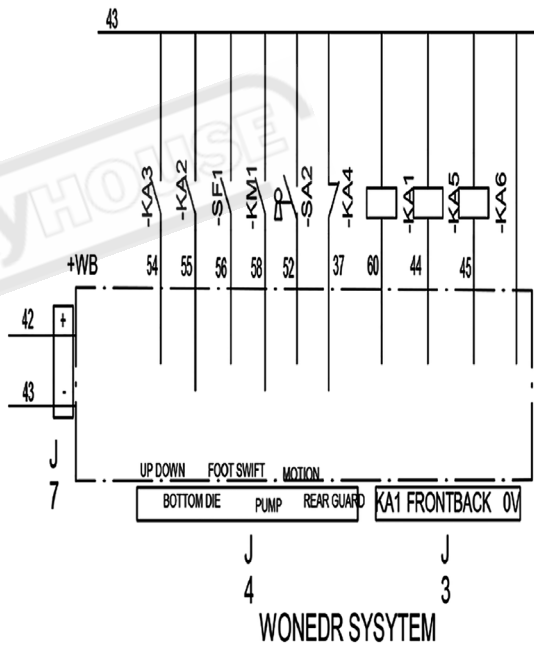
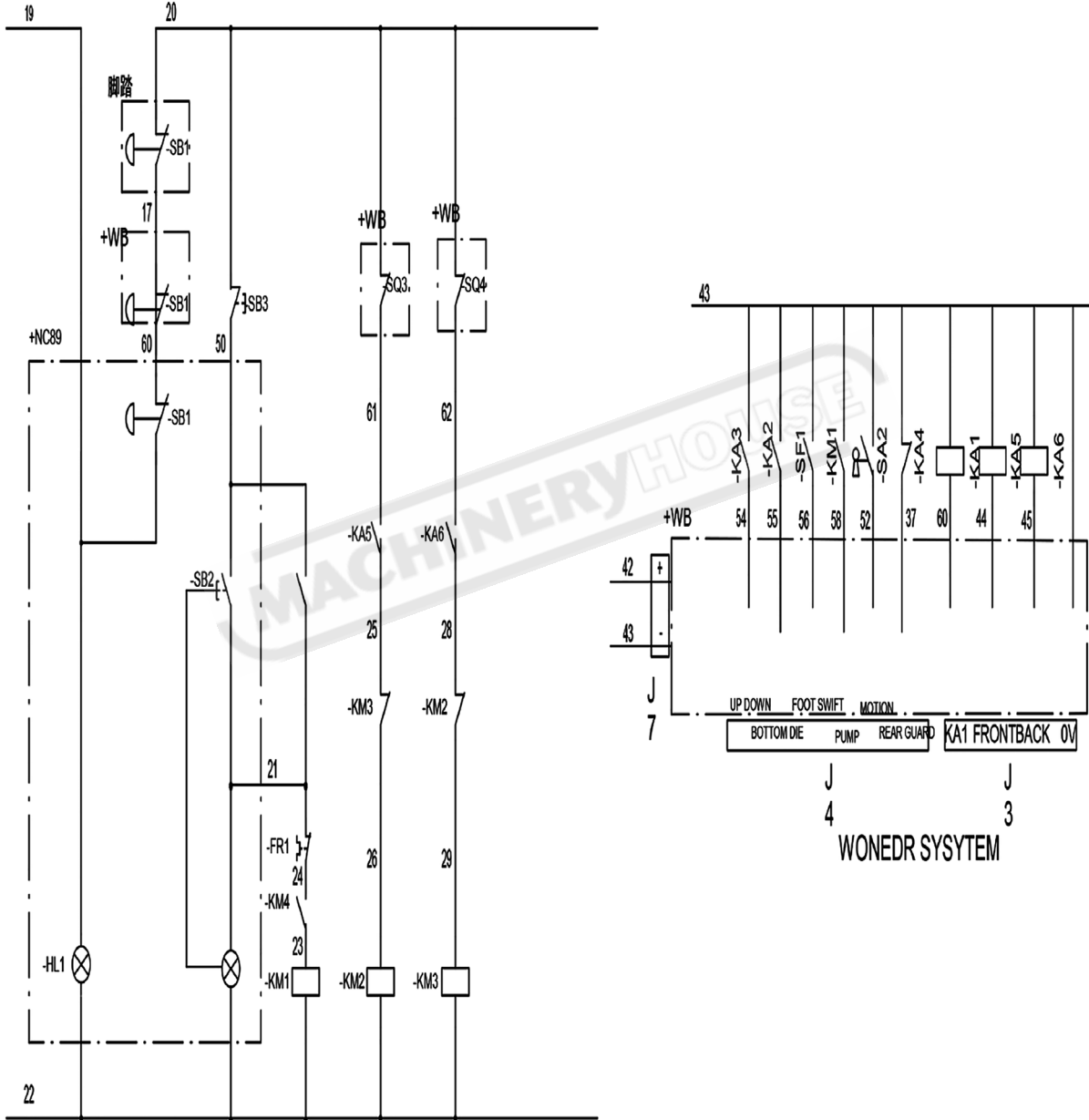




OPERATION MANUAL

C. ELECTRIC CIRCUIT DIAGRAM

0	1	2	3	4	5	6	7	8	9
POWER LIGHT	E-STOP	MAIN MOTOR CONTROL	X-AXIS CONTROL			WONEDR NC89 SYSTEM			

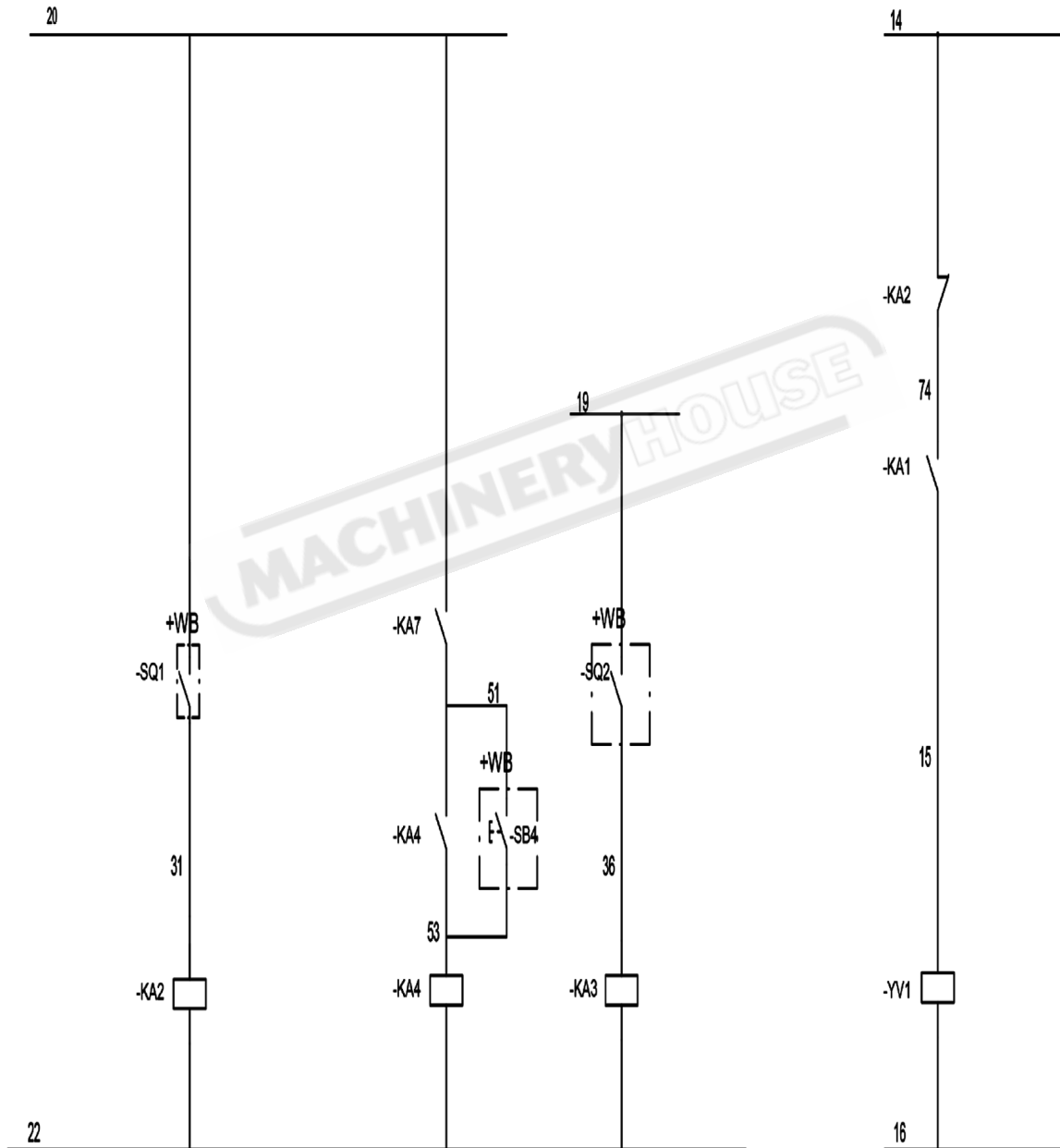




OPERATION MANUAL

C. ELECTRIC CIRCUIT DIAGRAM

0	1	2	3	4	5	6	7
	BOTTOM DIE POINT		RESET REAR GUARD	UP DIE POINT		VALVE CONTROL	





WARNING

General Machinery Safety Instructions

Machinery House
requires you to read this entire Manual before using this machine.

- 1. Read the entire Manual before starting machinery.** Machinery may cause serious injury if not correctly used.
- 2. Always use correct hearing protection when operating machinery.** Machinery noise may cause permanent hearing damage.
- 3. Machinery must never be used when tired, or under the influence of drugs or alcohol.** When running machinery you must be alert at all times.
- 4. Wear correct Clothing.** At all times remove all loose clothing, necklaces, rings, jewelry, etc. Long hair must be contained in a hair net. Non-slip protective footwear must be worn.
- 5. Always wear correct respirators around fumes or dust when operating machinery.** Machinery fumes & dust can cause serious respiratory illness. Dust extractors must be used where applicable.
- 6. Always wear correct safety glasses.** When machining you must use the correct eye protection to prevent injuring your eyes.
- 7. Keep work clean and make sure you have good lighting.** Cluttered and dark shadows may cause accidents.
- 8. Personnel must be properly trained or well supervised when operating machinery.** Make sure you have clear and safe understanding of the machine you are operating.
- 9. Keep children and visitors away.** Make sure children and visitors are at a safe distance for you work area.
- 10. Keep your workshop childproof.** Use padlocks, Turn off master power switches and remove start switch keys.
- 11. Never leave machine unattended.** Turn power off and wait till machine has come to a complete stop before leaving the machine unattended.
- 12. Make a safe working environment.** Do not use machine in a damp, wet area, or where flammable or noxious fumes may exist.
- 13. Disconnect main power before service machine.** Make sure power switch is in the off position before re-connecting.
- 14. Use correct amperage extension cords.** Undersized extension cords overheat and lose power. Replace extension cords if they become damaged.
- 15. Keep machine well maintained.** Keep blades sharp and clean for best and safest performance. Follow instructions when lubricating and changing accessories.
- 16. Keep machine well guarded.** Make sure guards on machine are in place and are all working correctly.
- 17. Do not overreach.** Keep proper footing and balance at all times.
- 18. Secure workpiece.** Use clamps or a vice to hold the workpiece where practical. Keeping the workpiece secure will free up your hand to operate the machine and will protect hand from injury.
- 19. Check machine over before operating.** Check machine for damaged parts, loose bolts, Keys and wrenches left on machine and any other conditions that may effect the machines operation. Repair and replace damaged parts.
- 20. Use recommended accessories.** Refer to instruction manual or ask correct service officer when using accessories. The use of improper accessories may cause the risk of injury.
- 21. Do not force machinery.** Work at the speed and capacity at which the machine or accessory was designed.
- 22. Use correct lifting practice.** Always use the correct lifting methods when using machinery. Incorrect lifting methods can cause serious injury.
- 23. Lock mobile bases.** Make sure any mobile bases are locked before using machine.
- 24. Allergic reactions.** Certain metal shavings and cutting fluids may cause an allergic reaction in people and animals, especially when cutting as the fumes can be inhaled. Make sure you know what type of metal and cutting fluid you will be exposed to and how to avoid contamination.
- 25. Call for help.** If at any time you experience difficulties, stop the machine and call you nearest branch service department for help.



Power Operated Guillotine Safety Instructions

Machinery House
requires you to read this entire Manual before using this machine.

- 1. Maintenance.** Make sure the Guillotine is turned off and disconnect from the main power supply and make sure all moving parts have come to a complete stop before any inspection, adjustment or maintenance is carried out.
- 2. Guillotine Condition.** Guillotine must be maintained for a proper working condition. Never operate a Guillotine that has low oil levels, damaged or worn parts. Scheduled routine maintenance should be performed on a scheduled basis.
- 3. Blade Condition.** Never operate a Guillotine with a damaged or badly worn blades. Replace if required.
- 4. Pump Direction.** Pump rotation must be in arrow direction otherwise the pump will be damaged.
- 5. Hand Hazard.** Keep hands and fingers clear from moving parts. Serious injury can occur if hand or finger tips come between blades.
- 6. Personal Protection.** Gloves are recommended when handling the workpieces.
- 7. Authorized and trained personnel.** The machine must be operated by authorized and trained personnel. The shear is designed to be operated by a single user. Using the machine with more than one operator is forbidden, except for certain maintenance situations.
- 8. Power outage.** In the event of a power failure during use of the machine, turn off all switches to avoid possible sudden start up once power is restored.
- 9. Work area hazards.** Keep the area around the Guillotine clean from oil, tools, objects & chips. Pay attention to other persons in the area and know what is going on around the area to ensure unintended accidents.
- 10. Guards.** Operate machine only with all protective devices and guarding in place and operational. Never remove, defeat or bypass. Any presence-sensing safeguarding used must have regular Safety integrity tests and records kept. These records must be kept for 5 years or for the life of the plant and be handed to any person that you relinquish control of the plant to. Tests include stop time measurements, safety distance calculations and inspections, with operator checks and periodic maintenance checks. (WHS Regulation 226)
- 11. Material.** Material must NOT be hardened ceramic or glass-originated, non flat metals (at origin) e.g. rods, bars, tubes & pipes.
- 12. Blade gap adjustment.** Do NOT operate the machine without proper blade gap adjustment according to sheet thickness.
- 13. Warning Labels.** Take note of any warning labels on the machine and do not remove them.
- 14. Backgauge Area.** Do not access the backgauge area, while the machine is working.
- 15. Protective fence.** Do not bridge the safety limit switch of the rear protective fence.
- 16. Squaring arm.** Do not use side squaring arm and front support arms for intermediate storage of workpieces.
- 17. Operation.** During the shearing process, the workpiece may slide or move unexpectedly. Therefore, the material must be handled carefully.
- 18. Emergency stop.** Use the emergency stop button in case of any emergency.
- 19. Level machine.** Level the machine on a flat concrete surface by using a spirit level.
- 20. Overloading machine.** Do not exceed the rated capacity of the guillotine. Please refer to the manual for capacities.
- 21. Hearing protection and hazards.** Always wear hearing protection as noise generated from machine and workpiece can cause permanent hearing loss over time.
- 22. Call for help.** If at any time you experience difficulties, stop the machine and call your nearest branch service department for help.

PLANT SAFETY PROGRAM

NEW MACHINERY HAZARD IDENTIFICATION, ASSESSMENT & CONTROL

Power Operated Guillotine

Developed in Co-operation Between A.W.I.S.A and Australia Chamber of Manufactures
This program is based upon the Safe Work Australia, Code of Practice - Managing Risks of Plant in the Workplace (WHSA 2011 No10)

Item No.	Hazard Identification	Hazard Assessment	Risk Control Strategies <small>(Recommended for Purchase / Buyer / User)</small>
B	CRUSHING	LOW	Secure & support work material on table.
C	CUTTING, STABBING, PUNCTURING	MEDIUM	Wear gloves to prevent cuts from sharp material offcuts.
D	SHEARING	MEDIUM	Hands should be kept clear of moving parts and blades. Isolate power to machine prior to any checks or maintenance. Ensure front blade guard is fitted securely. Do not adjust or clean until machine has fully stopped. Access to the rear of machine must be interlock or photoelectric guarded to prevent access when the machine is operating, (see workover authority principles of machine guarding for guidelines).
F	STRIKING	MEDIUM	Wear safety glasses. Stand clear of falling offcuts. Ensure material hold downs are correctly adjusted. Ensure guards are secured properly.
H	ELECTRICAL	MEDIUM	Machine should be installed & checked by a Licensed Electrician. All electrical enclosures should only be opened with a tool that is not to be kept with the machine.
O	OTHER HAZARDS, NOISE.	LOW	Wear hearing protection as required.
Plant Safety Program to be read in conjunction with manufactures instructions			



www.machineryhouse.com.au



www.machineryhouse.co.nz

Authorised and signed by:

Safety officer:

Manager:

Revised Date: 25th Sept 2015