



HYDRAULIC BOX & PAN BRAKES

MODEL: HBB-0412 / HBB-0410

HBB-0612 / HBB-0610

HBB-0812 / HBB-0810

HBB-1014 / HBB-1010

Operation & Parts Manual

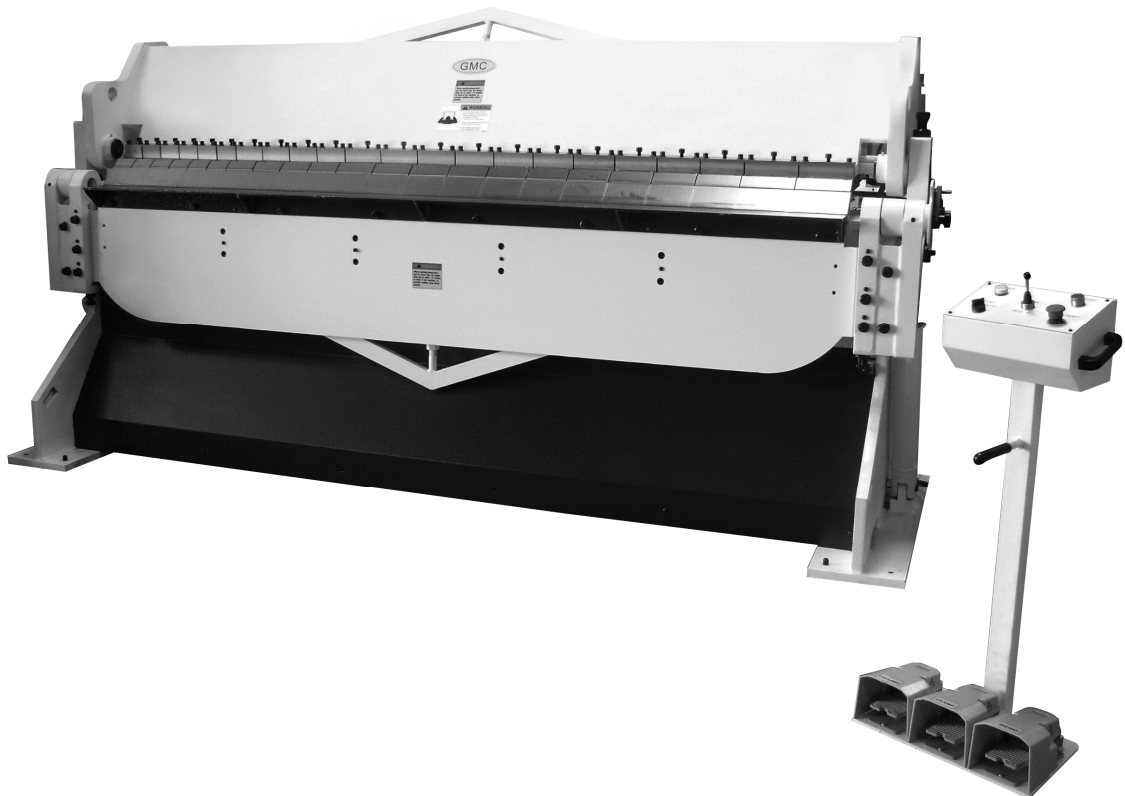


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CAUTION

THIS IS VERY DANGEROUS MACHINE.

**NEVER PLACE HANDS OR ANY PART OF BODY IN
THE MACHINE. BODILY INJURY COULD OCCUR. NEVER
OPERATE THE MACHINE WITHOUT PROPER EYES AND
BODY PROTECTION.**

 **WARNING!**

This manual provides critical safety instructions on the proper setup, operation, maintenance, and service of this machine/tool. Save this document, 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/tool is solely responsible for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training and usage authorization, proper inspection and maintenance, manual availability and comprehension, application of safety devices, cutting/sanding/grinding tool integrity, and the usage of personal protective equipment.

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

 **WARNING!**

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints.
- Crystalline silica from bricks, cement and other masonry products.
- Arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: Work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

WARNING

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 workpiece control.

HAZARDOUS DUST. Dust created while using machinery may cause cancer, birth defects, or long-term respiratory damage. Be aware of dust hazards associated with each workpiece material, and always wear a NIOSH-approved respirator to reduce your risk.

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 chuck 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 it or an attachment to do a job for which it was not designed. Never make unapproved modifications—modifying tool 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 workpiece control difficult or increase the risk of accidental injury.

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

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 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 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 mobile base (if used) is locked.

USE RECOMMENDED ACCESSORIES. Consult this owner's manual or the manufacturer for recommended accessories. Using improper accessories will increase the risk of serious injury.

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

MAINTAIN WITH CARE. Follow all maintenance instructions and lubrication schedules to keep 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 machine for any condition that may affect safe operation. Immediately repair or replace damaged or mis-adjusted parts before operating machine.

MAINTAIN POWER CORDS. When disconnecting cord-connected machines from power, grab and pull the plug—NOT the cord. Pulling the cord may damage the wires inside. Do not handle cord/plug with wet hands. Avoid cord damage by keeping it away from heated surfaces, high traffic areas, harsh chemicals, and wet/damp locations.

EXPERIENCING DIFFICULTIES. If at any time you experience difficulties performing the intended operation, stop using the machine! Contact our Technical Support at 909-947-7787

I. Machine construction & Application

This machine is driven by hydraulic system, and all steel welded machine construction with high intensity, good appearance, compact, safe and reliable performance. This machine is suitable for the sheet metal processing plants, electrical protection, automobile manufacturing and other thin sheet metal bending processing, etc.

Need to fill up the oil tank with Shell #68HD hydraulic oil or equivalent. Please make sure $\frac{3}{4}$ full of the tank. Need to change hydraulic oil every 3 months or sooner subject to how many hours the machine in use every day.

II. Specifications

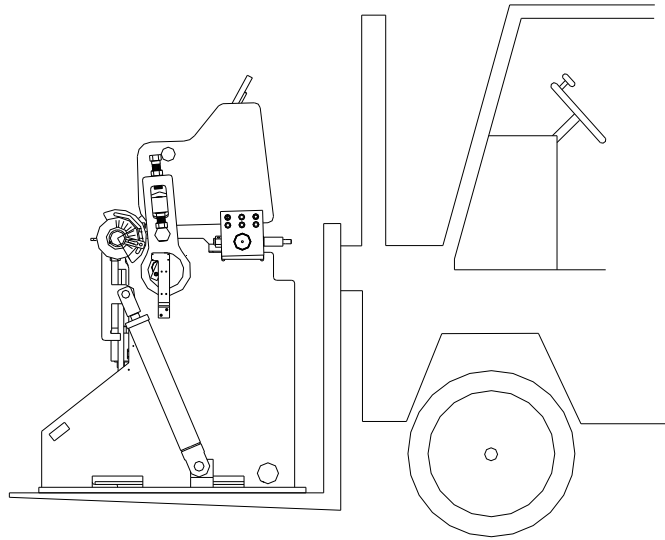
Model	HBB-0412 HBB-0410	HBB-0612 HBB-0610	HBB-0812 HBB-0810	HBB-1014 HBB-1010
Max.bending thickness	HBB-0412:12Ga. HBB-0410: 10Ga.	HBB-0612:12Ga HBB-0610:10Ga	HBB-0812: 12Ga HBB-0810: 10Ga	HBB-1014:14Ga HBB-1010:10Ga
Max.bending width	48" (1220mm)	72" (1830mm)	96" (2440mm)	120"(3050mm)
Angle(°),degree	0 ~135	0 ~135	0 ~135	0 ~135
Hydraulic cylinder stroke = clamp opening	3"	3"	3"	3"
Hydraulic cylinder pressure (MP)	15	15	15	15
Hydraulic cylinder speed(mm/s)	50-58	50-85	50-85	50-75
Motor working pressure (Mp)	12	12	9-13	16
Motor Speed range(rpm)	<30	<30	<30	<30
Motor power(HP)	5HP	5HP	7-1/2HP	10HP
N.W./G.W. LBS	4310 / 4630	5100/5300	6280 /6620	7510/37950
Packing size, inch	81x42x67	105x42x67	128x42x67	153x42x67

III. Transportation and Installation

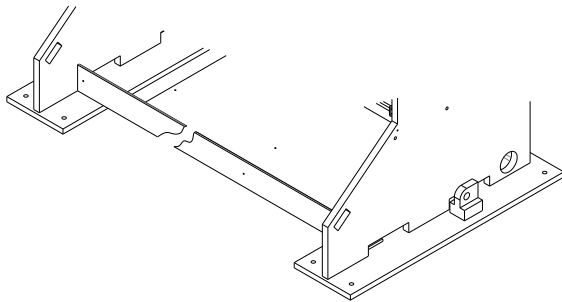
Crane or forklift is recommended

To move the machine, please move with forklift slowly and carefully, especially pay attention.

The machine is lifted by crane or moved by forklift after the removal of pallet.



2、 Installation: When installing machine should be installed in a horizontal on the bottom of foundation, level the machine very well, using leveling pads or foundation bolts.



IV. Safety inspection and Safety rules during and/or before operation

To ensure safety, it is necessary to do the following inspections for this machine after installation.

Check if the transportation procedure has influenced the accuracy and functions of the machine.

Check if the foundation of the machine is appropriate.

Check if the machine's main power switch should have earth wiring connected.

Use the multimeter to check the stability of the three-phase voltage, and the low voltage must be the range of 208V-240V or high voltage must be 440V-480V, can not use voltage higher than 480V.

Check if the control panel function and push button are functioning

Check emergency stop function.

Check if safety protection accessories are functioning well

Check if other accessories, including hydraulic and pneumatic ones, are connected well (including transformer etc.)

Check if the oil amount indicator and air pressure indicator are normal.

Make sure no obstacle is around machine and control system.

Make sure no personnel are in dangerous area.

Tools and any unnecessary items are not allowed on the machine, moving parts, or similar locations.

Before pressing/switching any button/switch always confirm that the button/switch is the correct one and never touch a switch accidentally. Malfunction and potential danger might result.

Do not operate when wearing gloves or loose clothing. Malfunction and potential danger might result.

Do not touch switches with wet hands, an electric shock could occur.

If a work requires two or more operators, the cooperation among each operator must be well organized, every step of each operator should be clarified to avoid potential danger.

Tools should be consisting with the machine's specifications, such as dimensions, weight and types. Grip workpieces carefully to minimize movement and vibration between workpieces. Too much movement/vibration might result in injuries of personnel, or damage the machine or workpiece.

Stop the machine before replacing workpiece, and reserve sufficient distance between workpiece and machine. Safety for the electrical connection/disconnection

Electrical connection:

A cable with four wires is supplied to connect your machine into the 3 phase power supply. The exact power source voltage, frequency, and number of phase shall be checked according to the installation diagram and circuit diagram. The correct direction of main motor should be checked after connecting.

Electrical disconnection:

Be sure to disconnect this machine from power source, when you want to stop the job for maintenance or adjustment.

Grounding

The grounding of this model is carried out by connecting the yellow/green terminal of supply cable to the grounding terminal of power source. Be sure to ground your machine before connecting machine to power source in any situation.

Warning!

Do not disconnect grounding terminal before disconnecting power source.

Description for the safety function of this machine

The following safety functions are equipped with this machine. Be sure to check and ensure the correct function before you start to operate your machine:

The emergency stop device:

The machine is designed to be immediately stopped under emergency situation. As soon as this device is actuated, any movement will be stopped in a short time after the actuation of emergency stop switch (E-stop).

Be sure to check that machine action will stop immediately after this button is pressed and will not cause any action when this button is disengaged.

V. Machine adjustment

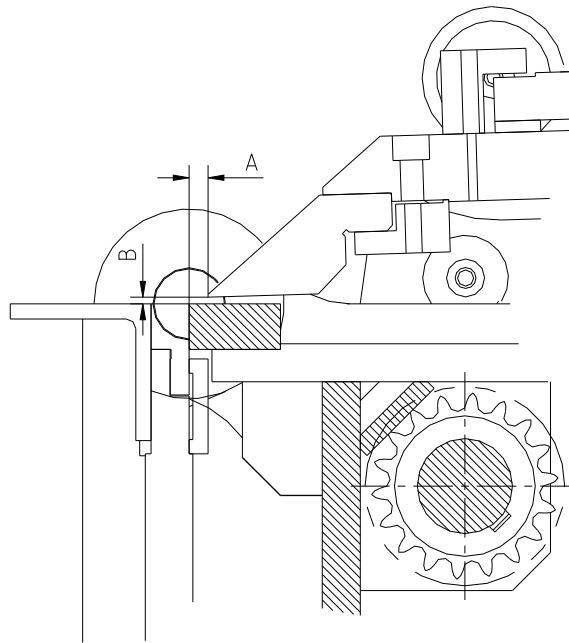
CLEARANCE CHART

Before operation, please use the following formula to calculate & adjust the gap between the punch & die according to the thickness of the work piece

For the following, $A = \text{material} \times 2$, for example, if you want to process 10Ga. thickness material, the

$$A = 0.137 \times 2 = 0.274 \text{ inch}$$

$B = \text{thickness of material} - 0.5 \sim 2 \text{ mm}$. For example, if the thickness of the material is 2.0mm, the $B = 1.0 \text{ mm}$. If the thickness of the material is 10Ga, $B = 0.098''$ (12Ga.)



How to adjust A and B, please pay attention to the following steps:

- 1) Adjust A: A can be adjusted through No.3 hand wheel left and right to adjust A.
- 2) Adjust B: Loose No 2 after adjust to the right pressure then tight No.1

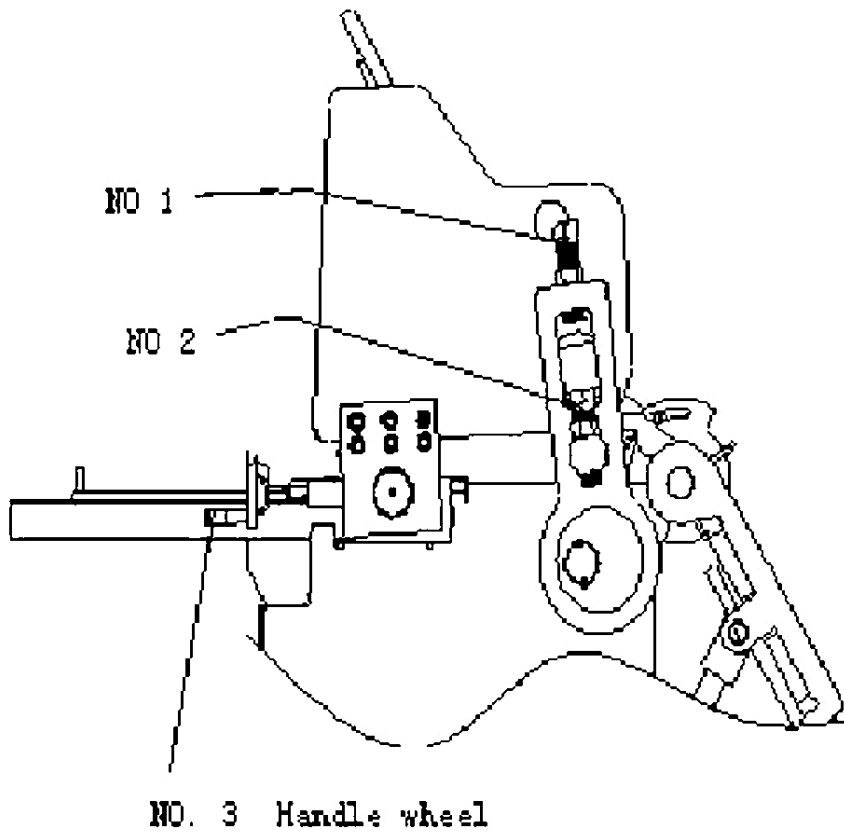
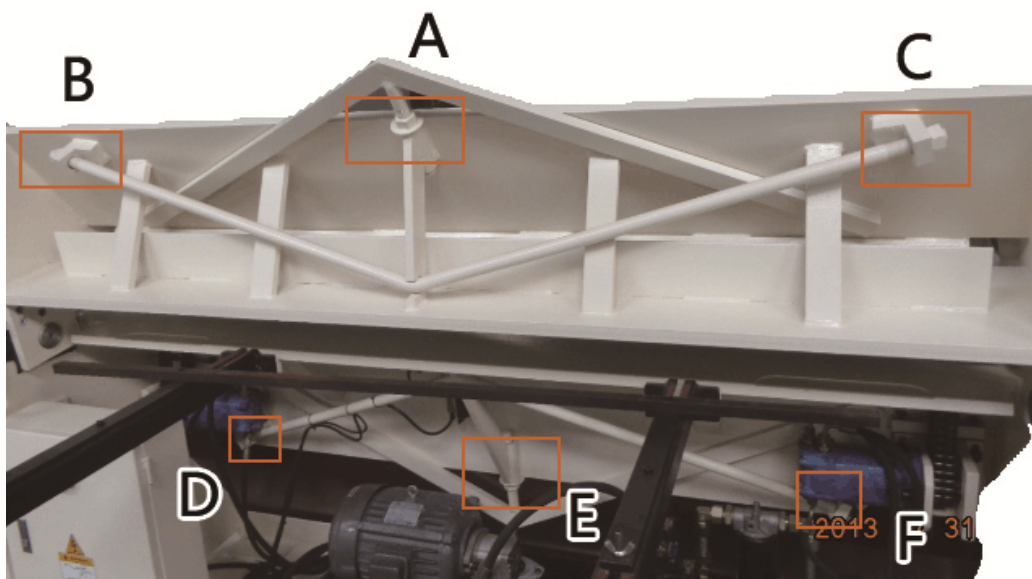


TABLE CROWNING COMPENSATION

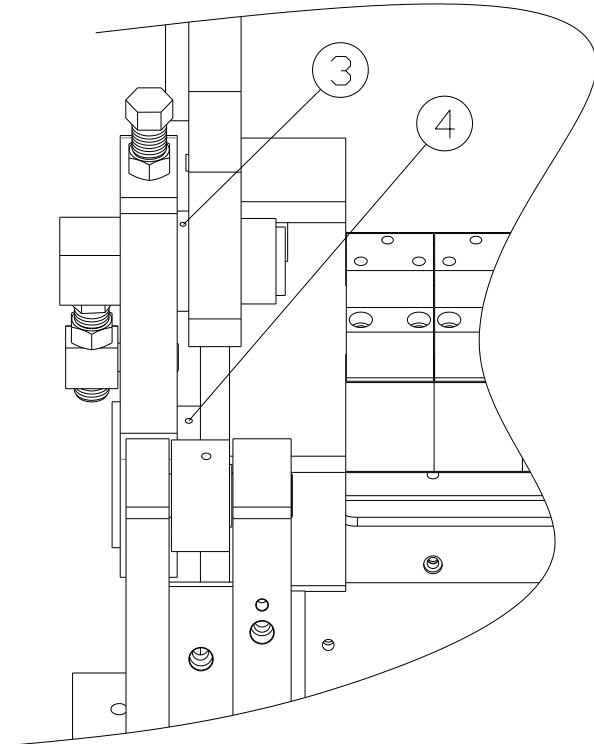
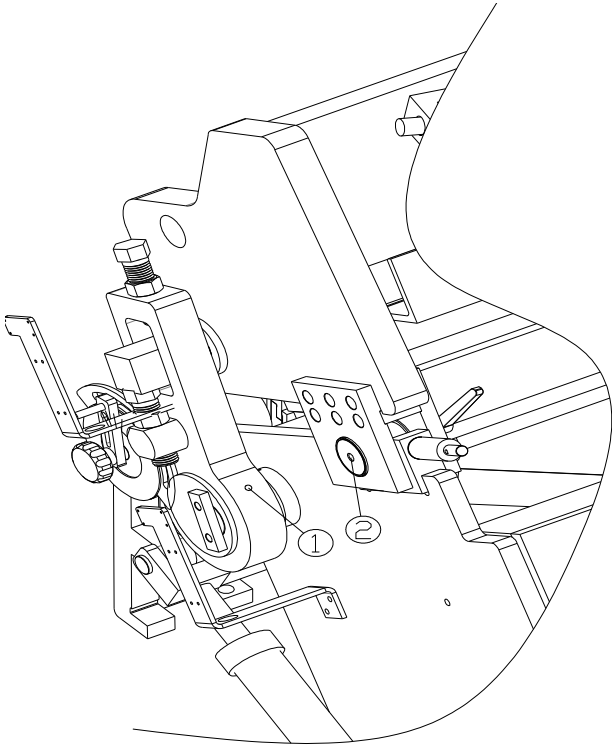
If the angles of work-piece two sides are both on 90 degree, but middle side only 89 degree, Micro adjusting screws at bending left and bottom beam for compensate the middle has the same angle.

- 1) Open the top beam, and then turn off the machine power
- 2) Tight screws A-G at upper beam and folding leaf, and make screw tight following different work-piece crowing situation.



VI. Lubrication

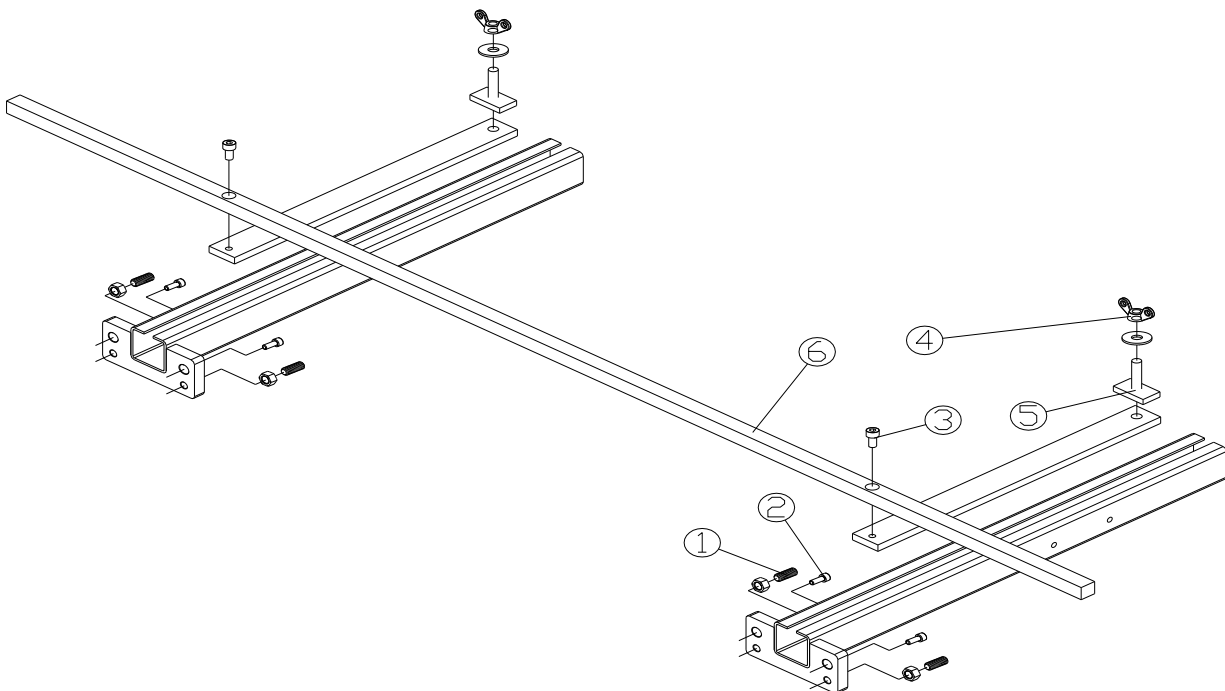
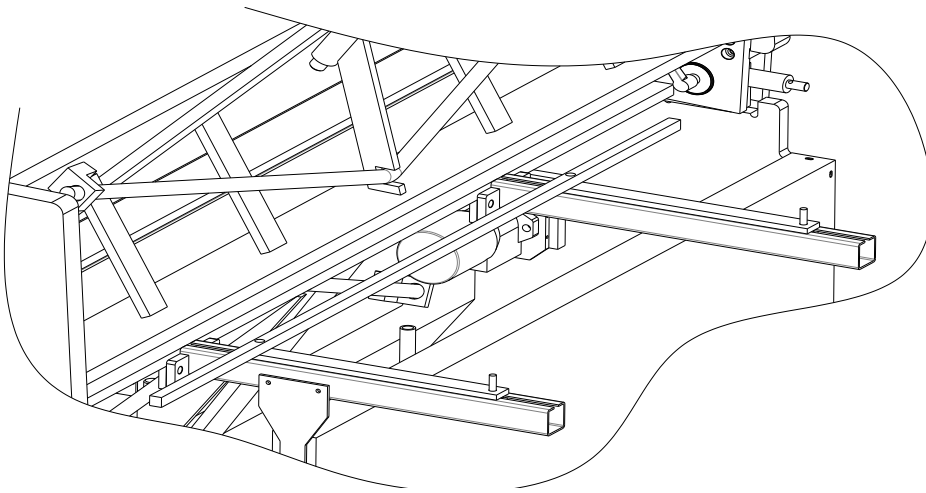
Please lubricate the following oil fittings ① ② ③ ④ four times a day, using lubrication oil # Shell Tonna-33



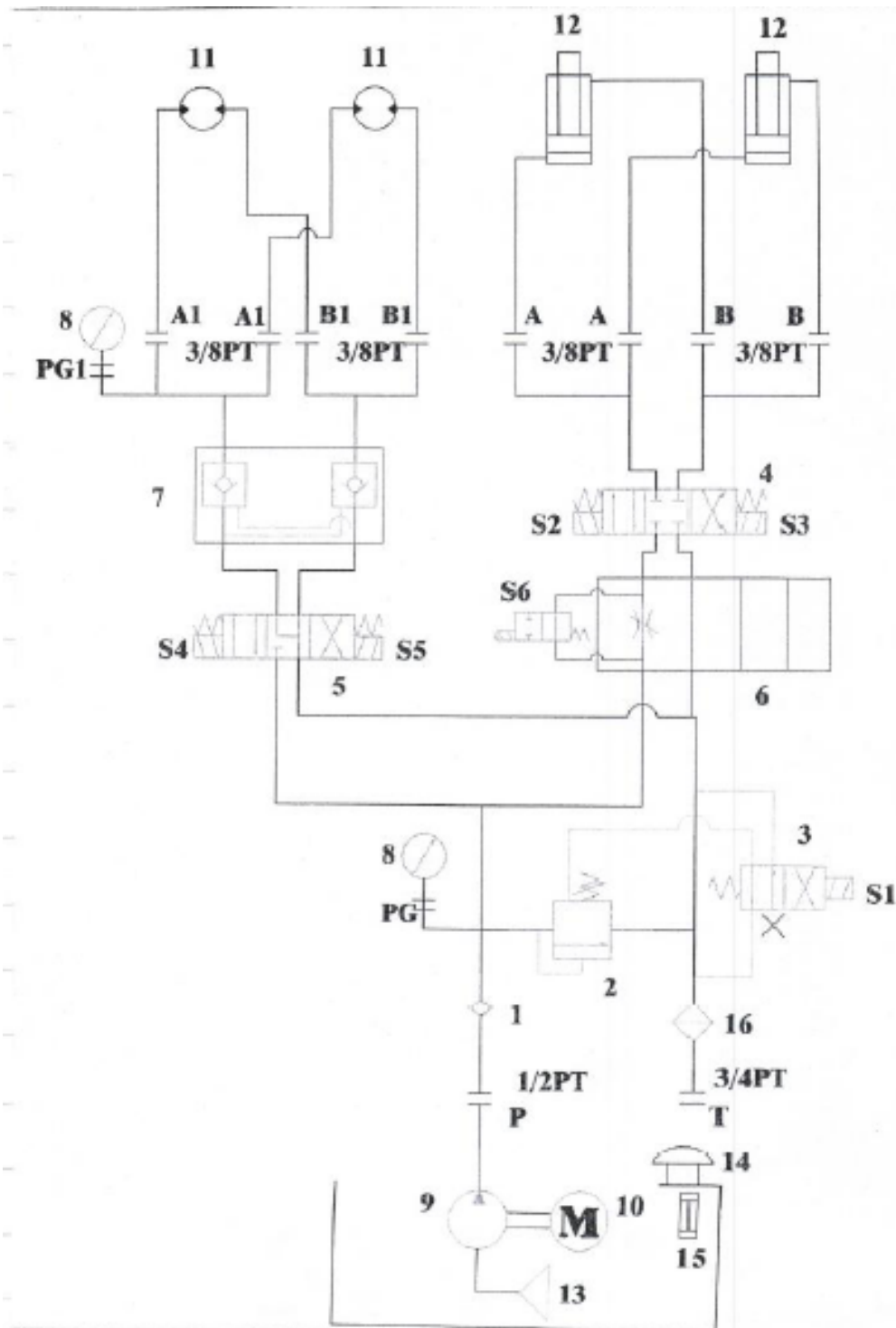
VII. How to use back gauge

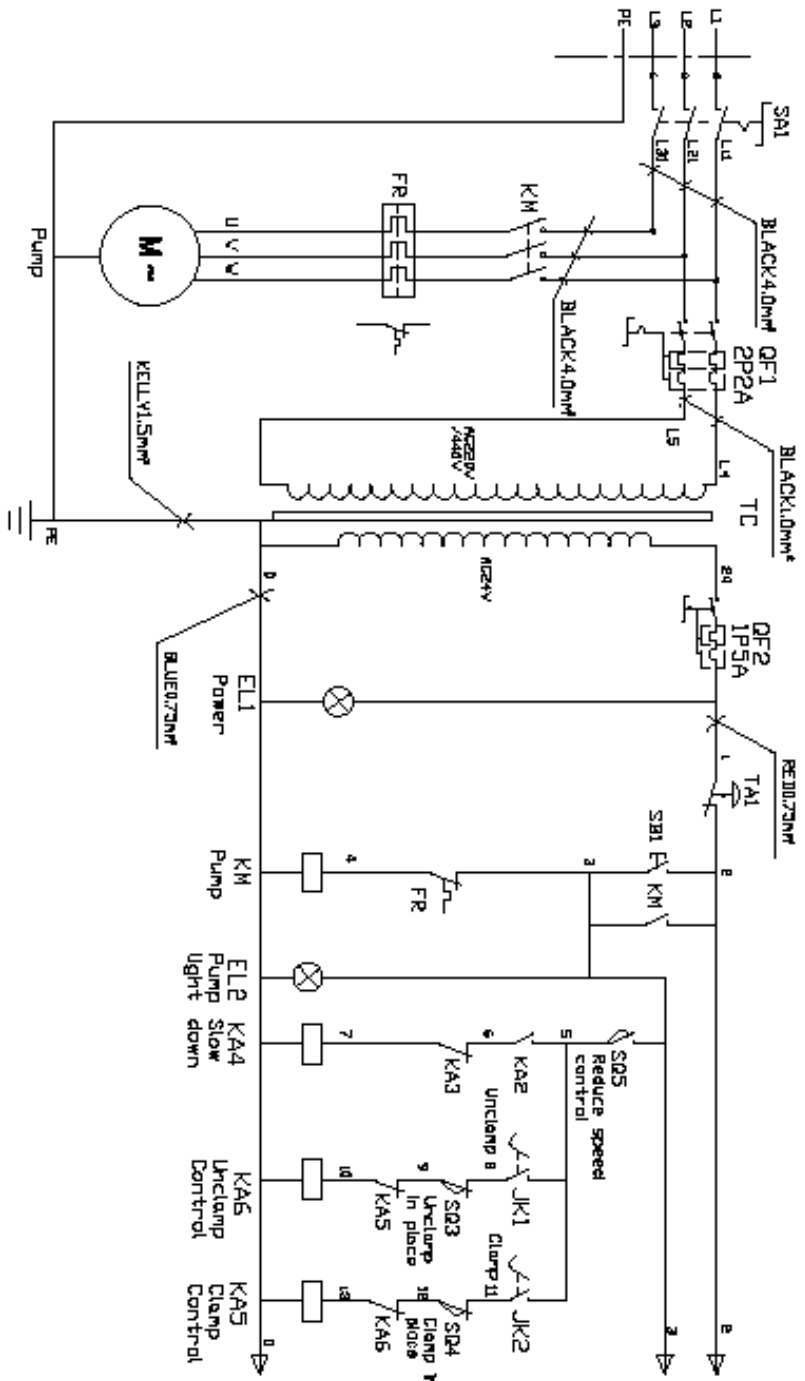
This machine comes with a manual back gauge. Before first time use, please install the back gauge first. Two support arms are mounted on the rear side of the table by screw 1 and 2, the stop bar # 6 on the back gauge is mounted by screw 3.

Adjust the distance of back gauge: Loosen the butterfly nut # 4 and then T-nuts are released. Move the stop bar # 6 back and forth to adjust the distance of the back gauge you need. Then tighten screw # 4.

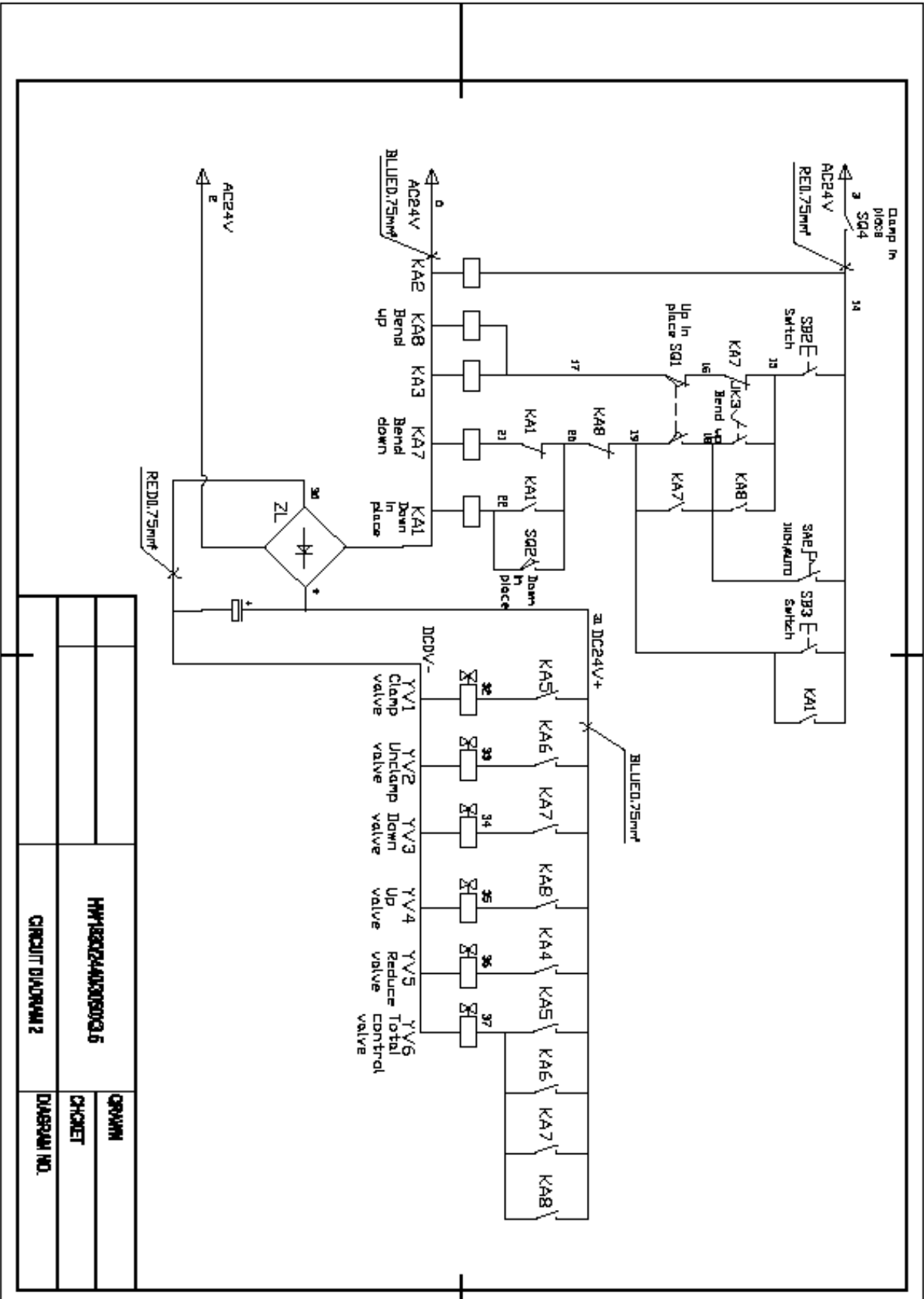


VIII、Hydraulic diagram





HNY180P44Q2N002.5		GRVMM
CIRCUIT DIAGRAM 1		CHCRET
		DIASRAAI NO.



		HYDRAULIC PRESS HW18022AUC0503A15	СХЕМА CHCNET
		СХЕМА ДИВАРНА 2 CIRCUIT DIAGRAM 2	ДИВАРНА НО. DIAGRAM NO.

Operation Instruction

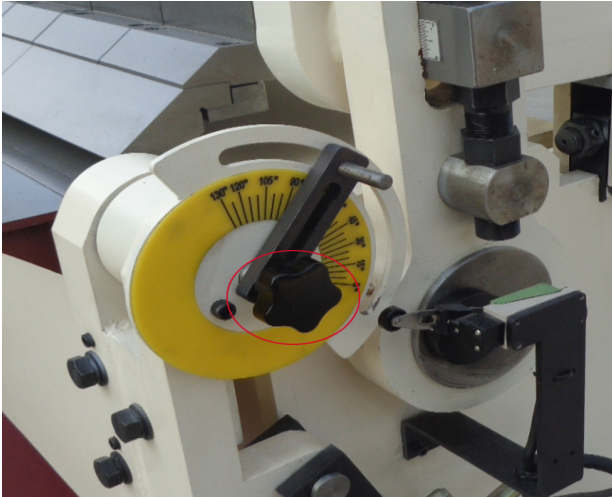
1) Turn the main power switch on the electric box to “ON” position



2) then power light is on , turn E-STOP RESET clockwise to fully release the E-stop push button, and press bush button for pump start



3) Angle set up: turn the black locking knob (circled in red) to counter clockwise to release the set-up bar and set up the bending degree you need then tighten the black locking knob, the bending angle degree can be set-up from 0-135° .



This machine has two operation modes: one is for Auto cycle, and 2nd is for inch (jog).

4)-1 on inch (jog) mode:

Press unclamp foot pedal, the top beam raises up, please insert the material in ,then press clamp pedal to close down the top beam with fingers. (caution: the top beam must be closed down tightly, otherwise, The bending leaf will be not lifted up to make bend.) press BEND foot pedal to jog the bending leaf up.



Or push the following circled black controller up to BEND position, the bending leaf will go up joggly and push the black controller down to release position, the bending leaf will go down joggly.



4)-2 on Auto cycle operation mode:

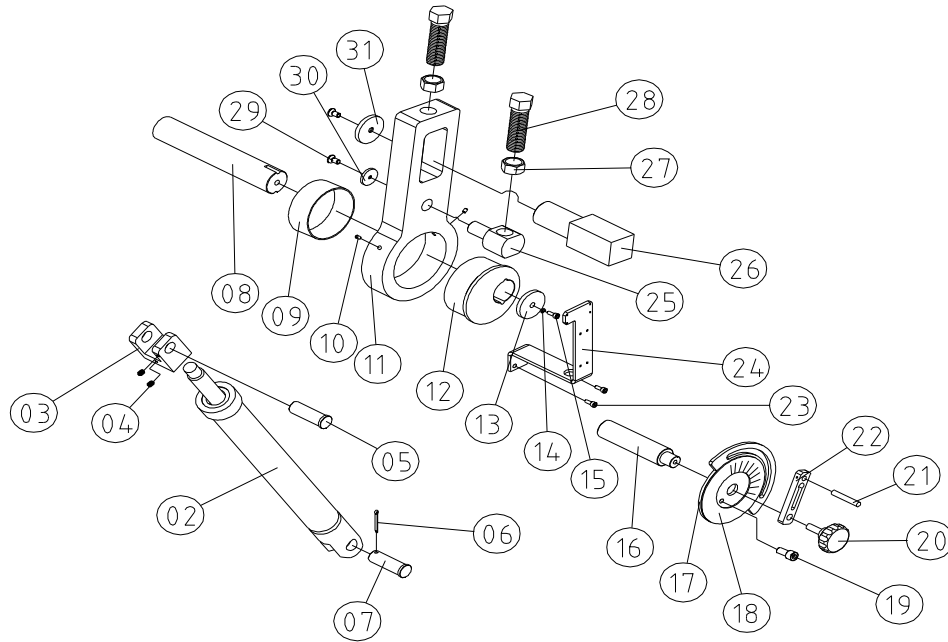
Press BEND foot pedal, the bending leaf automatically go up and make bend and then automatically go back to the bottom position and stops to make one autocycle bending. Or 2nd way, push and release the above circled black controller up to BEND position, the bending does the same automatic cycle bending and then stops.

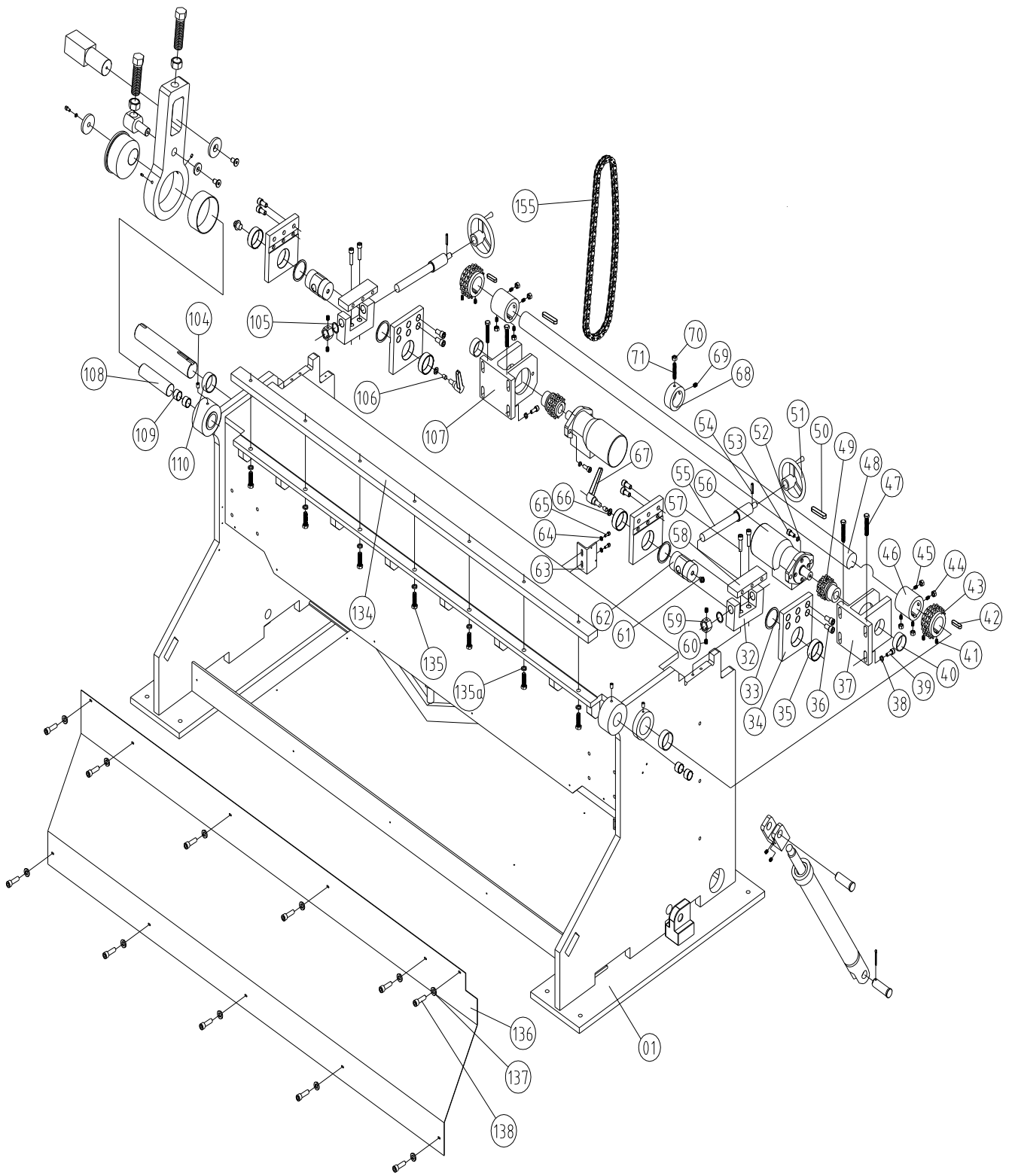


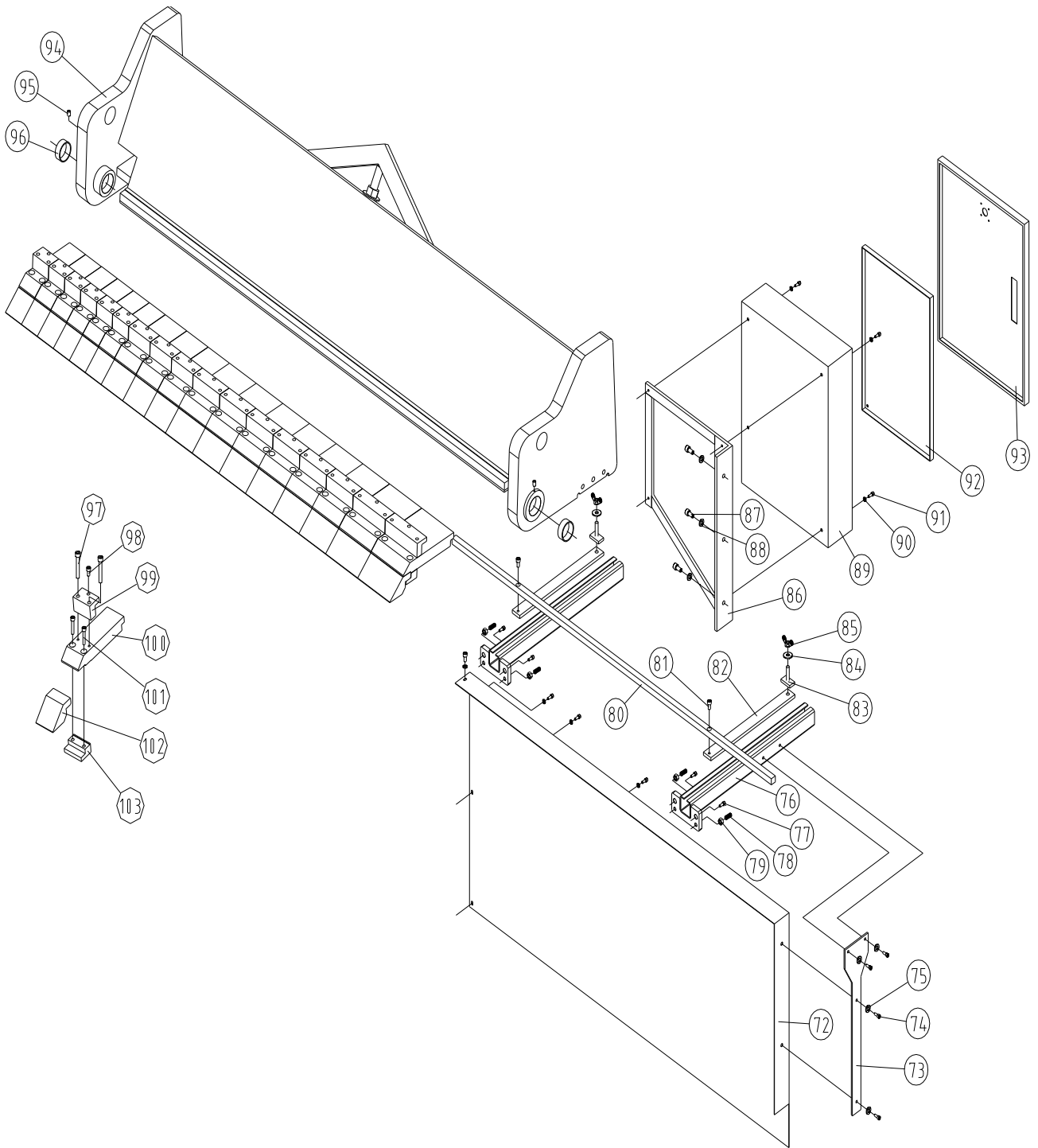
X.Troubleshooting

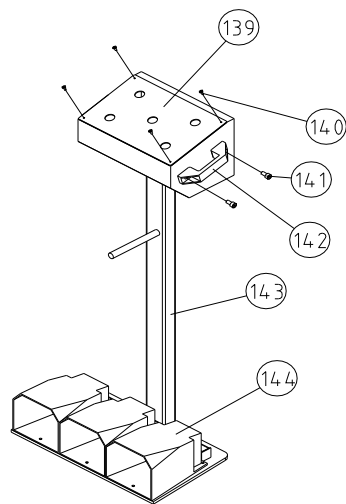
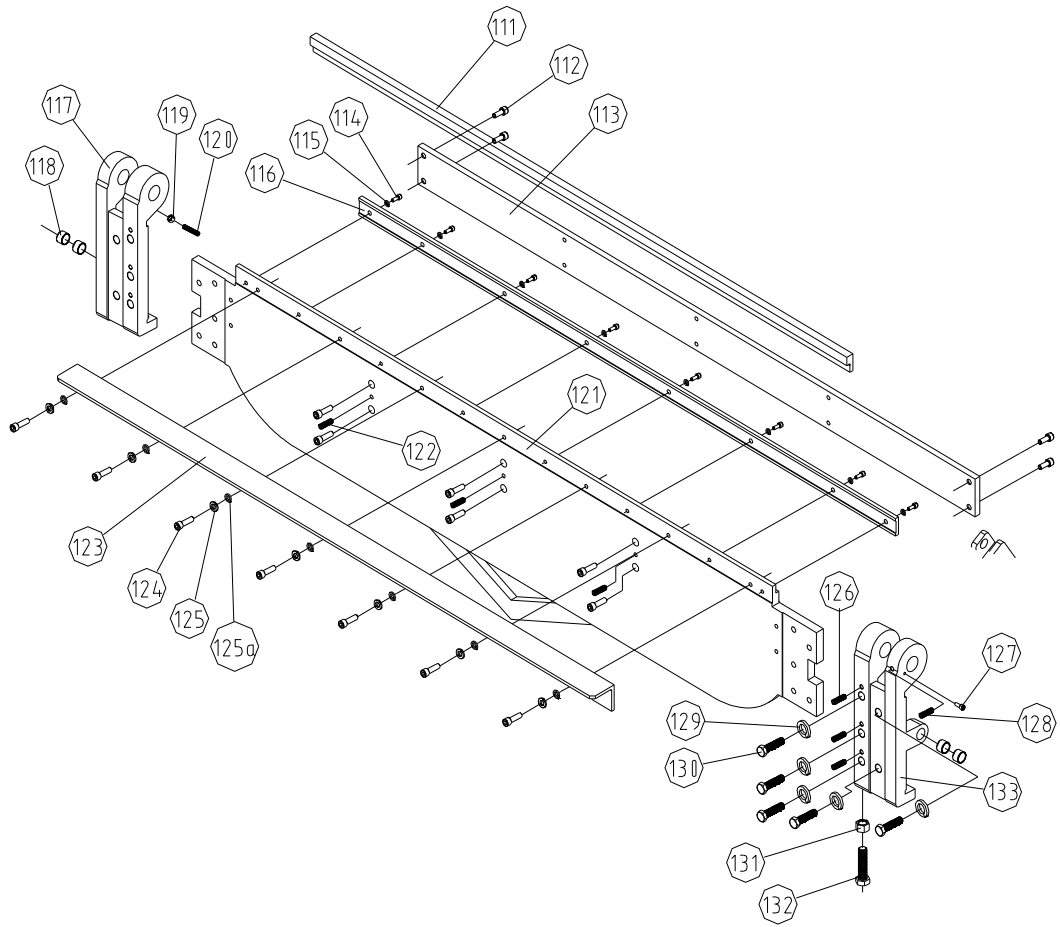
<i>Troubles</i>	<i>Possible cause</i>	<i>Remedy</i>
Hydraulic cylinder crawling	Hydraulic or pipe has air	Start the hydraulic system and forth several times to the maximum stroke, forced exclusion of air; seal the pipeline and system.
	Somewhere a negative pressure in the hydraulic cylinder Ring seal too tight	Locate a negative pressure at the hydraulic cylinder and sealed, then exhaust the air. Adjustment ring, so as not to loose not tight, to ensure that the rod can be pulled back and forth by hand.
Leakage of the hydraulic cylinder	Cylinder wall or piston surface strain, badly worn or local corrosion	Boring the cylinder bore, the piston reassignment
	Cylinder bore and piston with the gap due to wear resulting in increased tolerance, rod surface damage	Repair rod damage
	Seal the edges injury or aging	Replace the seals
	Pipe joint is not seal tightly	Replace the seals
	Hydraulic cover is not seal tightly	Check the seal contact surface machining accuracy and aging, be replaced or repaired.
Sound and noise	Due to poor exhaust air temperature adiabatic compression cause local damage seals	Inspect the exhaust system, or additional exhaust, timely exhaust.
	1) hydraulic cylinder has air 2) Cylinder rod lack oil	1)Slow movement of the piston several times, each time went to the top, to exclude gas tank, you can eliminate this serious noise, but also to prevent seals burns. 2) cylinder rod oil can also cause less noise, this time should be oiled at the pole.

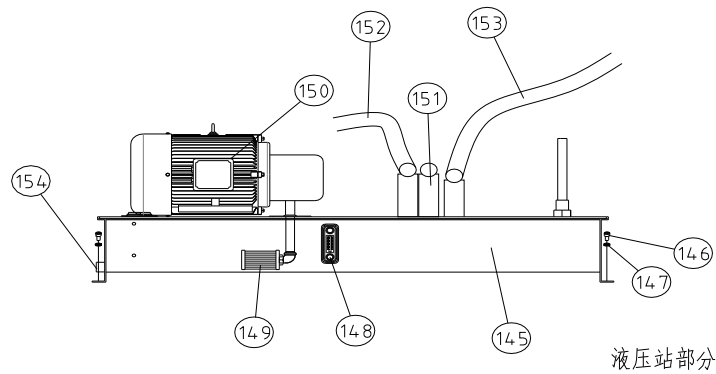
XI. Parts breakdown manual and parts list











No.	Desc.		Q'ty	Note
1	Body		1	
2	Hydraulic Cylinder		2	2pcs different
3	Connecting plate on hydraulic cylinder		2	
4	Six pyramid end screw set	M8X12	4	
5	Fixed upper pole on hydraulic cylinder		2	
6	cotter	4X40	2	
7	Fixed bottom pole on hydraulic cylinder		2	
8	eccentric disk shaft		2	
9	bush	12050	2	SF-1
10	oil cup	8	4	
11	Eccentric disc holder		2	
12	Eccentric disk		2	
13	Eccentric disk fixed plate		2	
14	Spring washer	12	2	
15	hexagon socket cap screws	M12X35	2	
16	Leaf beam right rotation shaft		1	
17	Angle plate		1	
18	Angle plate		1	
19	hexagon socket cap screws	M8X40	1	
20	handle	M10X30	1	
21	Round pin	10X60	1	
22	Angle rotation boards		1	
23	hexagon socket cap screws	M6X16	2	

24	Emergency stop stand		1	
25	Bolt seat		2	
26	Head frame shaft		2	
27	Hex nut		4	
28	Hex screw		4	
29	Hexagon socket countersunk head screws	M10X25	4	
30	cover		2	
31	cover		2	
32	U-block		2	
33	Spacer		4	
34	Side plate of U-block		4	
35	Bush	5520	4	SF-1
36	Hex cylinder head screw	M12X25	24	
37	Right motor seat		1	
38	Spring washer	12	8	
39	Hex cylinder head screw	M12X40	8	
40	Bush	4520	2	SF-1
41	Hexagon socket countersunk head screws	M8X12	4	
42	key	12X45	2	
43	Large chain wheel		2	
44	Screw	M10	8	
45	Inner hexagon socket set screw	M10X20	8	
46	Driven sleeve		2	
47	Hex bolt	M10X65	4	
48	Driven shaft		1	
49	Small chain wheel		2	
50	Key	14X70	2	
51	Handle wheel	Φ16X125	2	
52	Spring washer	12	4	
53	Hex cylinder head screw	M12X40	4	
54	Spring pin	6X32	2	
55	Lead screw		2	
56	motor		2	
57	Hex cylinder head screw	M10X40	4	
58	Plate		2	
59	Nut		2	
60	Inner hexagon socket set screw	M10X40	4	
61	Oil cup	M8X1	2	
62	shaft		2	

63	Emergency seat		2	
64	Flat washer	6	4	
65	Hex cylinder head screw	M6X16	4	
66	Flat washer	12	2	
67	Adjustable handle	M12X25	2	
68	Touch off cover		1	
69	Inner hexagon socket set screw	M10X12	1	
70	Nut	M10	1	
71	Hex.socker	M10X50	1	
72	Back liner insert		1	
73	tailgate stents		1	
74	hexagon socket cap screws	M6X16	8	
75	flat gasket	6	8	
76	Keep-off stents		2	
77	hexagon socket cap screws	M12X25	4	
78	Allen flat end set screws	M10X25	4	
79	nut	M10	4	
80	Keep-off square bar		1	
81	hexagon socket cap screws	M8X16	2	
82	striker plate		2	
83	Keep-off square bar fixing parts		2	
84	big washer	10	2	
85	butterfly nut	M10	2	
86	Electric box connection frame		1	
87	hexagon socket cap screws	M10X20	3	
88	flat washer	10	3	
89	Electrical box		1	
90	flat washer	6	4	
91	hexagon socket cap screws	M6X16	4	
92	Electric plate		1	
93	Electric box door		1	
94	Top rack		1	
95	Oil cup	M8X1	2	
96	bush	5020	4	SF-1
97	hexagon socket cap screws	M10X65	34	
98	hexagon socket cap screws	M12X25	17	
99	Upper blade pressure block		1set	
100	Lower blade		1set	
101	hexagon socket cap screws	M12X50	34	

102	Upper blade		1set	
103	Lower blade pressure block		1set	
104	Oil cup	M8X1	2	
105	Copper dash		4	
106	Nylon pressure block		2	
107	Left motor seat		1	
108	folding fan left shaft		1	
109	bush	3820	4	
110	bush	5020	2	SF-1
111	Bending plate banners		1	
112	hexagon socket cap screws	M12X40	10	
113	Bending boy reinforcing plate		1	
114	Hex bolt thread	M10X25	8	
115	standard spring washer	10	8	
116	Back bending plate		1	
117	Left connecting		1	
118	bush	3820	4	SF-1
119	nut	M10	1	
120	Hex bolt thread	M10X50	1	
121	Bending body		1	
122	Hex bolt thread	M12X40	3	
123	knife edge angle iron		1	
124	Hex bolt thread	M12X30	7	
125	Flat washer	12	7	
125a	standard spring washer	12	7	
126	flat end set screws	M12X40	6	
127	hexagon socket cap screws	M8X40	1	
128	Inner hexagon socket set screw	M12X35	2	
129	standard spring washer	16	10	
130	Hex bolt thread	M16X65	10	
131	nut	M20	2	
132	Hex bolt thread	M20X75	2	
133	Right connecting		1	
134	Press block		1	
135	Hex bolt thread	M12X40	7	
135a	standard spring washer	12	7	
136	Front guard		1	
137	Flat washer	6	11	
138	hexagon socket cap screws	M6X16	11	

139	plate		1	
140	cross recess pan head screw	M4X8	4	
141	hexagon socket cap screws	M8X16	4	
142	carrying handle		2	
143	Operations support		1	
144	foot pedal		3	
145	oil cylinder		1	
146	hexagon socket cap screws	M6X16	4	
147	Flat washer	6	4	
148	Oil temperature measure		1	
149	oil absorption filter oil meter		1	
150	motor		1	
151	Hydraulic cylinder		1	
152	Motor tube		2	进 2.4 出 1.6
153	Hydraulic cylinder tube		2	进 2.6 出 1.8
154	Drain mouth matching oil plug		1	
155	double row roller chain	10A	2	各 40 节

WARRANTY & RETURNS

GMC Machine Tools Corp. warrants every product it sells for 1 year parts to the original purchaser from the date of purchase. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs or alterations or lack of maintenance. This is GMC sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant or represent that the merchandise complies with the provisions of any law or acts unless the manufacturer so warrants. In no event shall GMC liability under this warranty exceed the purchase price paid for the product and any legal actions brought against GMC shall be tried in the State of California, County of S.B.

We GMC shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special, or consequential damages arising from the use of our products.

To take advantage of this warranty, contact us by mail or phone and give us all the details. We will then issue you a "Return Number," which must be clearly posted on the outside as well as the inside of the carton. We will not accept any item back without this number. Proof of purchase must accompany the merchandise.

The manufacturers reserve the right to change specifications at any time because they constantly strive to achieve better quality equipment. We make every effort to ensure that our products meet high quality and durability standards and we hope you never need to use this warranty.

Please feel free to write or call us if you have any questions about the machine or the manual.

Thank you again for your business and continued support. We hope to serve you again soon.

Note: This manual is only for your reference. Any specification changes and improvement are subject to change without prior to notice. And please the power source voltage in your shop before wiring up this machine. Please be carefully and BE SAFE.