HARE&FORBES MACHINERYHOUSE

Established 1930
Distributors of new & used workshop Equipment

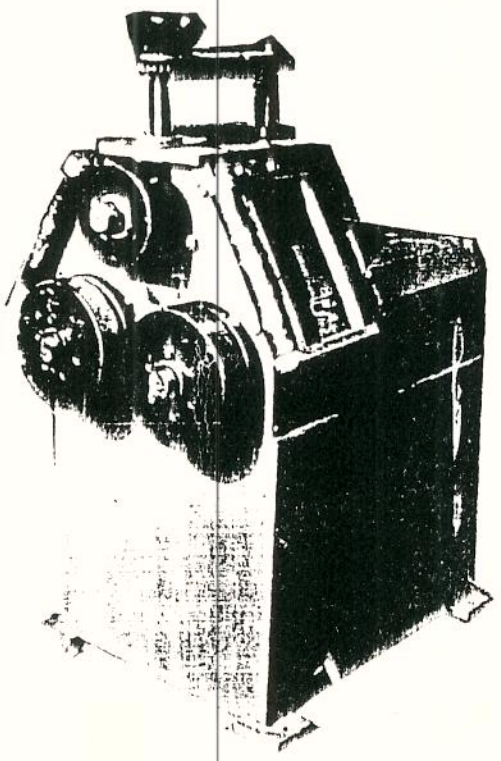
S686

RR-40 RING ROLLER

INSTRUCTION & PARTS MANUAL

7-5-11

Operation Manual of Our Angle bending rolls Machine



Guangzhou Synthesis Machine Works

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1.Product Introduction :

With the rapid development of construction , decoration , hardware , light industry and chemistry , the traditional manual way to work out hardware products , neither in quantity nor in quality , can meet the need of our society nowadays . Accordingly , we have designed and manufactured a series of hardware-processing machines . As a combination of merits from the same type machines in the world , our product can satisfy you with its advanced-built structure , wide-fitting use , stable performance and its convenience to handle .

What we have to do when operating this vertical tube-and-angle bending rolls machine is to change the rolling wheels . Therefore , we can process different kinds of iron or steel material (steel tube / pipe , round steel , angle steel or channel steel) by curving or rolling them round . To meet the various needs in process (e.g. big or small material), we have two types of this machine for your choice , i.e. WB500 and WB750.You are guaranteed of the quality . Using believes and your kindly order is welcome .

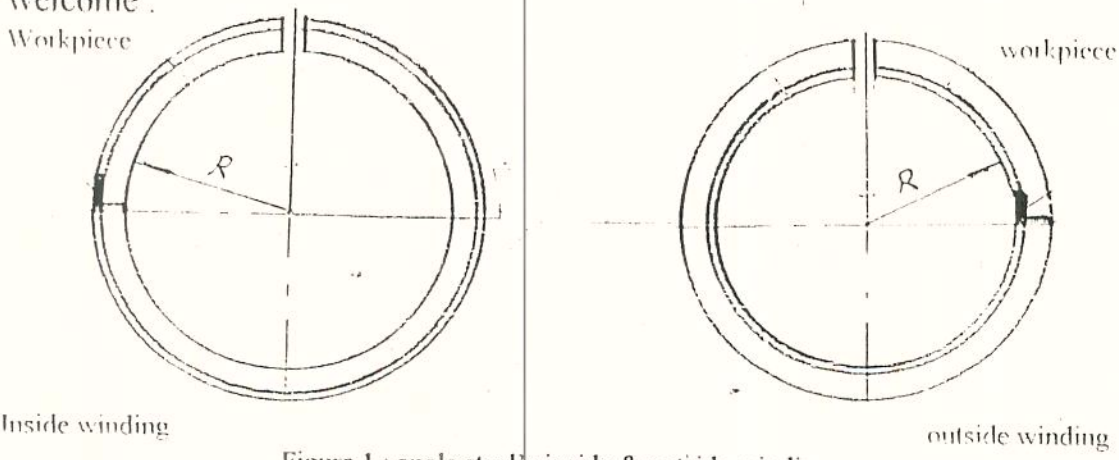


Figure 1 : angle steel's inside & outside winding

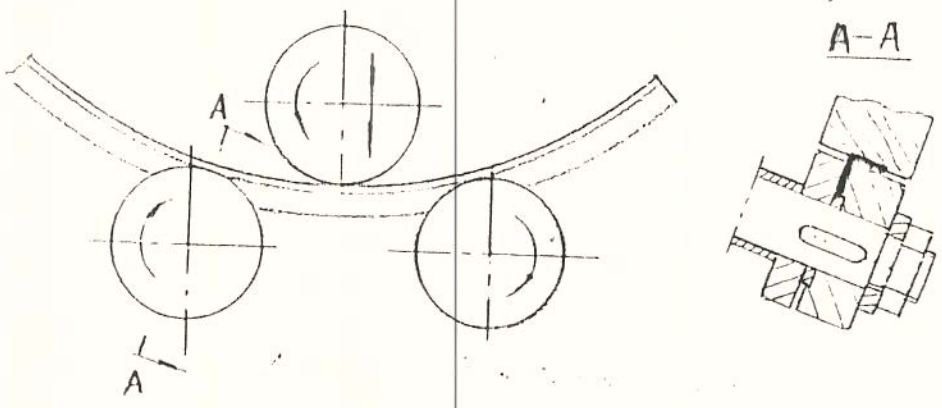


Figure 2 : sketch map shows the shaping of steel material

2 Technical Data :

(1).Main Technical Data:

Item / Type	WB 400	WB 500	WB 750
Capacity	L30 x 30	L 40 x 40	L 60 x 60
Min.Circular-winding	220	400	500
Diameter rolling line speed (m/min)	6.5	6.2	5.9
Norms of motor	380V or 420V 1430r.p.m 1.5kw	380V or 420V 1430r.p.m 3kw	380V or 420V 1430r.p.m 4kw
Contour size (L.W.H) mm	780x580x1070	960x670x1300	1060x820x1320
Weight (kg)	250	500	600

(2).Strength limits (reference index).

Item / Type	Steel-shaping standard	Min. circular winding radius(mm)	Curving model
WB 400	L30 x 30	200	outside winding
	L30 x 30	220	inside winding
	Φ 42 seamless steel tube	200	
WB 500	L40 x 40	450	outside winding
	L40 x 40	420	inside winding
	Φ 42seamless steel tube	400	
WB 750	L60 x 60	650	outside winding
	L60 x 60	620	inside winding
	Φ 65 seamless steel tube	600	

3.Structure :

(1). Machine stand : it is fitted up with angle steel and steel plate welded together ; on the right side of it there fixed an electric switch (see Figure 3).

(2) Transmission mechanism : it is composed of one motor , Group A triangle belt , Group A worm gear and worm , and a Group A gear wheel .

(3) Working installation : it is made of two towing wheels , one pressing wheel and two spacing collars .

(4) Operation installation : it concludes two things: one is the package of leading screw and slide block which controls the pressing wheel's up-and-down movement ; the other is a pedal electric switch which controls the directions the towing wheels turn .

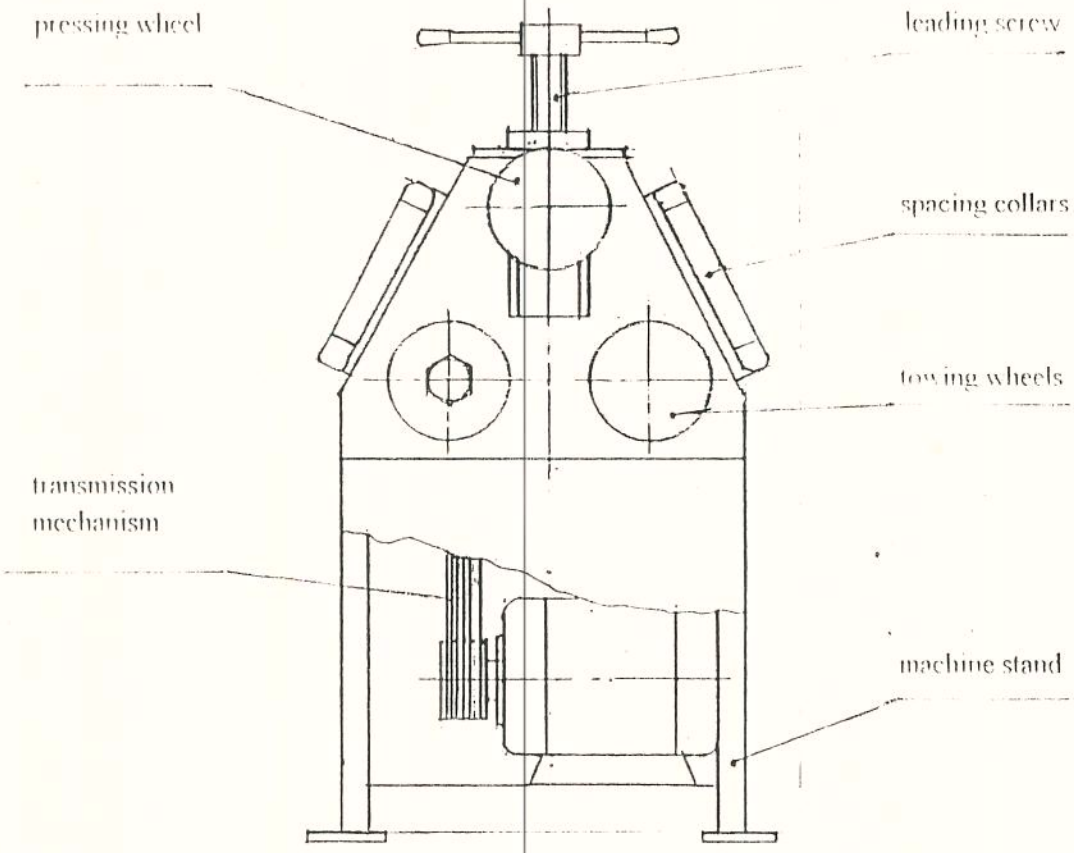


Figure 3 : structure sketch

The use of WB - 400 Angle bending rolls Machine's underproping wheel:

(1) When bending outside-winding angle steel flanges (circular-winding diameters between Φ200 ~ Φ300), you should move up the underproping wheel to press close to the pressing wheel, in order to correct the angle steel's angle and guarantee it is 90°, even when bending small diameter circular winding.

(2) The underproping wheel can do nothing while bending steel tube/pipe or round steel. At that time, you can move down the underproping wheel to the lowest point.

(3) To move up or down then underproping wheel. you can circumgyrate the hand circumgyrating wheel.

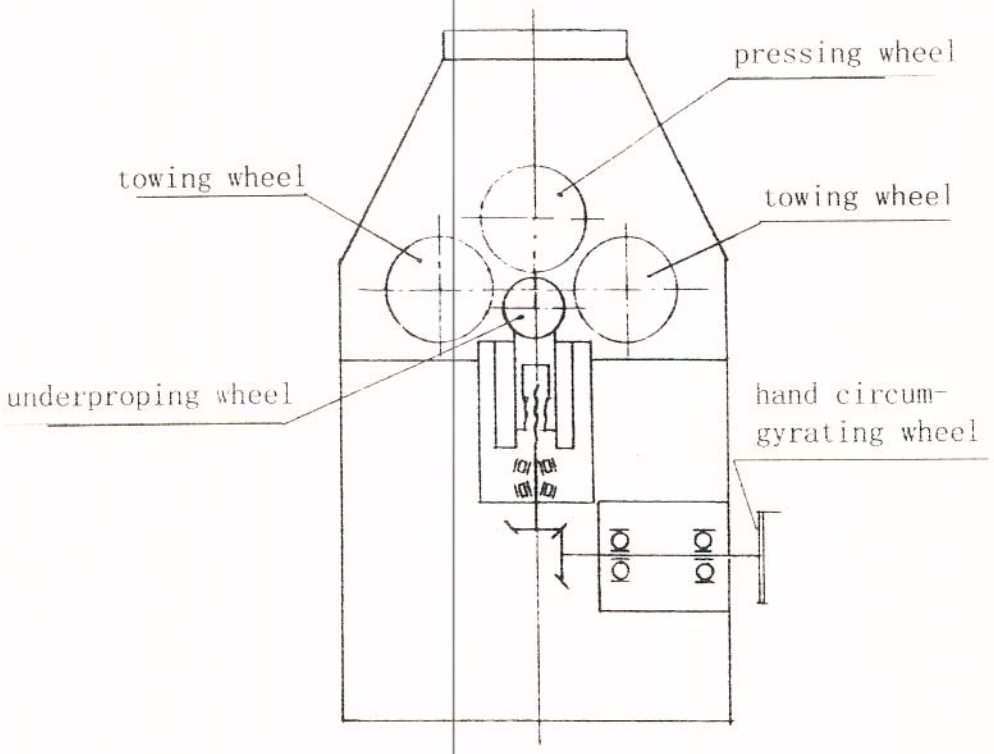


Figure 4

4.Ways to operate and things to take care :

(1)Adjust the position of the spacing collars according to the needed circular-winding diameter.

(2)Fix the towing wheels and the pressing wheel which should rightly suit to different kinds of material you are going to shape .

(3)Switch on the power , then , let it run idling for several times . Don't stop the machine until you are sure it is functioning normally.

(4)Before fixing the workpiece , clean the surface of it and don't have any ironsheet or sand remain on it .

(5)Now the workpiece is fixed . Next to do is to handle the leading screw and slide block to move the pressing wheel down , and at the same time press the workpiece down properly.

(6)Begin the circular-winding by exchanging the clockwise and anticlockwise movement to turn the towing wheels . After the whole workpiece has been shaped to the relevant curvature , move down the pressing wheel once more (the down-movement of the pressing wheel each time should be proper , never too much , especially for those big workpieces), and then turn the towing wheels again to roll it round for the second time . Repeat the same operation procedure until the workpiece reaches its curved radius .

Note : In the process of being curved , the workpiece will have a straight side about 80mm long remained at both ends . So , if the workpiece should be shaped into a whole circle , technological treatment must be dealt with very carefully .

(7)When processing angle iron of varied standards , we must use some fitting spacers , so as to guarantee that when the rolling wheels are at work , there should remain a proper clearance between the workpiece and the wheels .

When outside-winding , one rightangle side of the workpiece is inserted in the grooves of the two towing wheels .The groove width can be adjusted by spacers (which are attached to the machine). While inside-winding , one of the workpiece's right-angle sides is also inserted in the groove of the pressing wheel , and the adjustment of the groove width is just the same .

(8)The standard of the material to be shaped cannot exceed the maximum limitation in order not to have the machine run overloaded .

(9)When the machine is at work processing a workpiece , no head or hands are allowed to reach the forbidden region , for it is dangerous .

(10)The maintenance of the machine must not be done until the machine stops and the power is switched off .

5.Maintenance :

(1)Examine regularly the tightness degree of the triangle belt , and make some proper adjustment when necessary .

(2)Examine regularly the lubricating oil chamber in the decelerator of worm gear and worm to add the lubricating oil in time .

(3)Add regularly some lubricating grease to the gears and the bearings . Don't stain any oil on the surface of the pressing wheel and the towing wheels .

(4)The leading screw , the slide block and the slide way should be always kept clean . Keep any dirt such as iron sheet from remaining on them , and add lubricating oil to them frequently .

6.Parts attached to the machine :

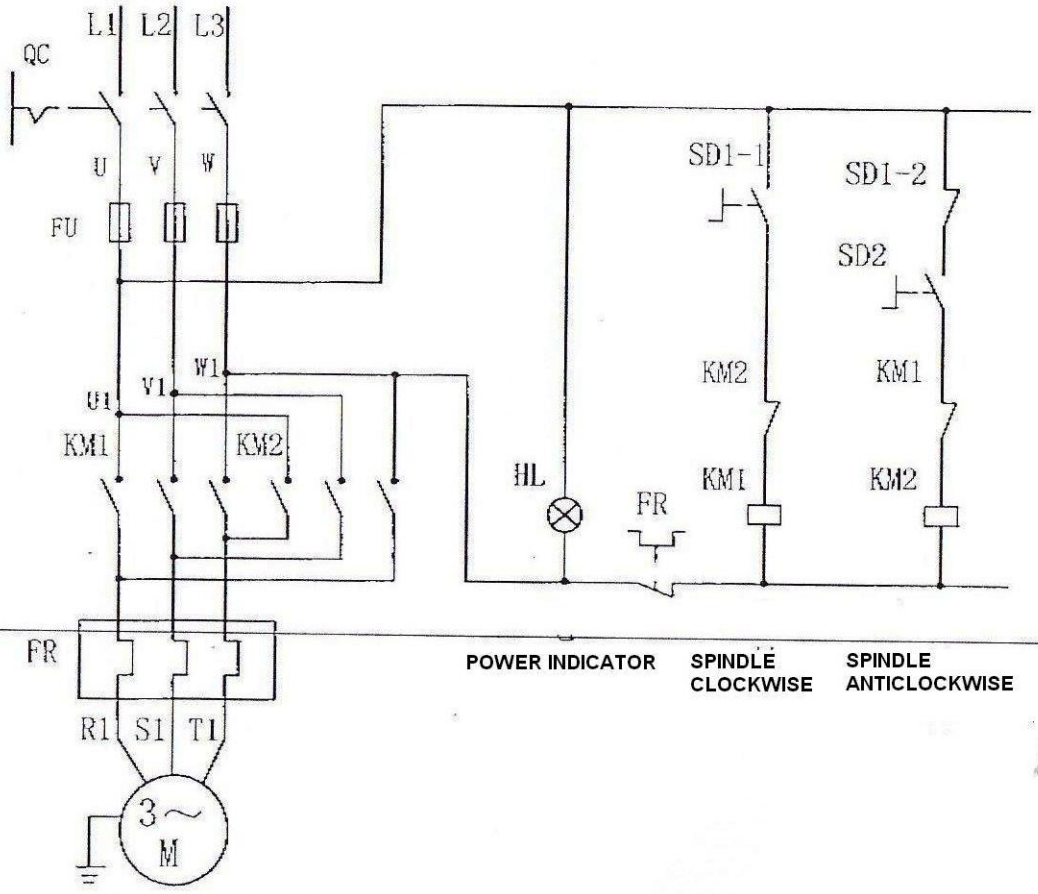
Attached to the machine is a set of rolling wheels (a pressing wheel and two towing wheels) . As usual , we offer rolling-wheels for winding angle iron . If a customer prefers the rolling wheels for shaping some other kinds of material , he can demand so . But only one set of rolling wheels are provided .

If more sets of rolling wheels are demanded , then the payment for these wheels is absolutely necessary .

7.Service for repair :

(1)We provide our clients with free service to repair the machine within half a year from the day the product is sold . But this service is carried out only on the condition that the breakdown is not artificial or man-made .

(2)If there is anything wrong with the machine in use, we will offer to repair it any time .



SPINDLE MOTOR

415V 50HZ

2.2kW 4.8A

⚠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 ellergic 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.

⚠WARNING

Section Rolling Machine Safety Instructions

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

1. **Maintenance.** Make sure the Section Rolling Machine 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. **Section Rolling Machine Condition.** A Section Rolling Machine must be maintained for a proper working condition. Never operate a Section Rolling Machine that has damaged or worn parts. Scheduled routine maintenance should performed on a scheduled basis.

3. **Roll Condition.** Never operate a Section Rolling Machine with a damaged or badly worn rolls. Replace if required. Rolls should never be greased or lubricated as rolls will slip the material and will not bend.

4. **Roll Direction.** Be aware of the correct rotational axis of the motor when a qualified electrician connects the Machine.

5. **Hand Hazard.** Keep hands and fingers clear from moving parts. Serious injury can occur if hand or finger tips get pinched by rolls and can be dragged into machine.

6. **Personal Protection.** Gloves, safety glasses and safety hat are recommended during operation.

7. **Avoiding Entanglement.** Section Rolling Machine guards must be used at all times. Tie up long hair and use the correct hair nets to avoid any entanglement with the Section Rolling Machine moving parts.

8. **Understand the machines controls.** Make sure you understand the use and operation of all controls.

9. **Trained Operator.** This machine must be operated by authorized and trained personnel.

10. **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.

11. **Work area hazards.** Keep the area around the Section Rolling Machine clean from oil, tools, chips. Pay attention to other persons in the area and know what is going on around the area to ensure unintended accidents.

12. **Guards.** Do not operate Section Rolling Machine without the correct guards in place. Necessary guards protect you from injuries by worm-type gearbox and other gears. The only other area which needs to be carefully monitored during use is the rotational area of the rolls.

13. **Material condition.** Material must be clean of oil and dry. Oily material can slip and will not bend.

14. **Material hardness.** Make sure your hardness is the same throughout the material, we recommend that you use certified material. Never bend hard steel, glass or fragile material on this machine.

15. **Feeding material.** Making a tight bend in one pass is not possible. Several passes are needed before you can achieve a certain radius. Tighter curves and full radius always need more passes.

16. **Stopping the Rolls.** Do not stop or slow the rolls with your hand or workpiece. Allow the Section Rolling Machine to stop on its own.

17. **Emergency stop.** Use the emergency stop button in case of any emergency.

18. **Hearing protection and hazards.** Always wear hearing protection as noise generated from machine and workpiece can cause permanent hearing loss over time.

19. **Call for help.** If at any time you experience difficulties, stop the machine and call you nearest branch service department for help.

PLANT SAFETY PROGRAM

NEW MACHINERY HAZARD IDENTIFICATION, ASSESSMENT & CONTROL

Section Rolling Machine

Developed in Co-operation Between A.W.I.S.A and Australia Chamber of Manufactures
This program is based upon the Australian Worksafe Standard for Plant(NOHSC:1010-1994)

Item No.	Hazard Identification	Hazard Assessment	Risk Control Strategies (Recommended for Purchase / Buyer / User)
A	ENTANGLEMENT	HIGH	Eliminate, avoid loose clothing / Long hair etc.
B	CRUSHING	LOW	Secure & support work material. Ensure machine is bolted down.
C	CUTTING, STABBING, PUNCTURING.	MEDIUM	Isolate power to machine prior to any checks or maintenance being carried out. Do not adjust or clean until the machine has fully stopped. Wear gloves to prevent cuts from material.
D	SHEARING	MEDIUM	Isolate power to machine when checks or maintenance is being carried out. Make sure all guards are secured shut when machine is on. Hands should be kept clear of moving parts such as rolls etc.
F	STRIKING	MEDIUM	Ensure area is kept clear of material being rolled.
H	ELECTRICAL	MEDIUM	All electrical enclosures should only be opened with a tool that is not to be kept with the machine. Machine should be installed & checked by a Licensed Electrician.
O	OTHER HAZARDS, NOISE.	LOW	Wear hearing protection as required.
Plant Safety Program to be read in conjunction with manufactures instructions			

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Authorised and signed by:
Safety officer: .....
Manager: .....

Revised Date: Aug-08