

SHARP

SW-126AD

Instruction Manual

Version 2 20190828

Safety rules



- It's essential to power on your bandsaw machine for at least one hour every two years, if you seldomly use the machine. (This period of power-on must be without proceeding with other operation) Otherwise the machine program may disappear due to not strictly follow this safety rule.

****The restoration-service fee for improper use will be extra charge. Please note.****



- Make sure your work area is cleared of uninvited people and obstacles every time before you start operating the machine.



- Never step or stand on the roller table. Your foot may slip or trip on the rollers and you will fall.



- Never wear gloves or loose clothing when operating the machine. It may lead to serious injury if they are caught in the running machine. Wrap or cover long hair.

- Never touch the running saw blade with gloves or not. It is dangerous if your hands, clothing or gloves are caught by the running blade.



- Make sure any use of fire is prohibited in the shop and install a fire extinguisher or other fire control device near the machine when cutting titanium, magnesium, or any other material that produces flammable chips. Never leave the machine unattended when cutting flammable materials.



- Use a water-soluble cutting fluid on this machine. Oil-based cutting fluids may emit smoke or catch fire, depending on how they are used.

Safety rules



- Never cut carbon or any other material that may produce and disperse explosive dust. It is possible that sparks from motors and other machine parts will ignite and explode the air-borne dust.



- Never adjust the wire brush or remove chips while the saw blade is still running. It is extremely dangerous if hands or clothing are caught by the running blade.

- Stop the saw blade before you clean the machine. It is dangerous if hands or clothing are caught by the running blade.

- Never start the saw blade unless the workpiece has been clamped firmly. If the workpiece is not securely clamped, it will be forced out of the vise during cutting.



- Take preventive measures when cutting thin or short pieces from the work to keep them from falling. It is dangerous if the cut pieces fall.

- Use roller tables at the front and rear sides of the machine when cutting long work. It is dangerous if the work piece falls off the machine.



- Turn off the shop circuit breaker switch before performing maintenance on the machine. Post a sign indicating the machine is under maintenance.

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SAFETY INFORMATION

SAFETY INSTRUCTIONS

SAFEGUARD DEVICES

EMERGENCY STOP

SAFETY LABELS

HEARING PROTECTION

CE COMPLIANCE

RISK ASSESSMENT

Safety is a combination of a well-designed machine, operator's knowledge about the machine and alertness at all times. Our band saw machine has incorporated many safety measures during the design process and used protective devices to prevent personal injuries and potential risks. Warning labels also serve as a reminder to the operator.

Throughout this manual, you will also see various safety-related symbols indicating important information that you should take note of prior to use of the machine or part of its functions. These important safety instructions do not cover all possible situations that might occur. It is your responsibility to take caution and follow procedures stated in this manual when installing, maintaining and operating your machine. We will not be liable for damages resulting from improper use.

SAFETY INSTRUCTIONS

What the icons and signs in this user manual mean:



This icon marks **WARNING**; hazards or unsafe practices that may result in **personal injury or damage to the machine**.



Supplementary information to the procedures described in this manual.



Call your local agent or our service center for help.



This manual has important safety information. Read through it carefully before operating this machine to prevent personal injury or machine damage. Learn the operation, limitation and the specific potential hazards peculiar to this band saw. All users must read it before performing any activity on the machine, such as replacing the saw band or doing regular maintenance.



Disconnect the power cord before making adjustment, maintenance or blade changes.



Do not operate this machine unless it is completely assembled.



Make sure the power switch is off before plugging in power cord.



Always remember to switch off the machine when the work is completed.



Use recommended accessories. Improper accessories may be hazardous.



Never hold the material by hand for cutting. Always use the vise and make sure the material is clamped securely before cutting.



When a workpiece is too long or heavy, make sure it is supported with a roller table (recommended).



Keep your work area well illuminated at minimum 500 lumen.



Remove adjusting keys, wrenches or any loose parts or items from the machine before turning on power.



Use a sharp saw blade and keep the machine in its best and safest performance by following a periodical maintenance schedule.



Wear proper apparel during operation and when servicing the machine. Some personal protective equipment is required for the safe use of the machine, e.g. protection goggles.



Moving parts should be kept in proper alignment and connection with the machine. Check for breakage, mounting and any other conditions that may affect its operation. Any damaged part or guard should be properly repaired or replaced.



It is dangerous to operate the machine when the floor is slippery. Keep the floor clean and dry. Check for ice, moisture, or grease before entering.



Do not use the machine to cut explosive material or high pressure vessels as it will generate great amount of heat during the sawing process and may ignite an explosion.



Keep your work area clean. Cluttered and slippery floors invite accidents.



Keep blade protection cover and wheel covers in place and in working order.



Never operate while under the influence of drugs, alcohol or medication.



Do not reach over or stand on any part of the machine.



Keep the work environment safe. Do not use band saw in a damp or wet location.



Keep all guards and shields in place before installing or starting up the machine.



Keep unauthorized personnel away.

SAFEGUARD DEVICES

The safeguard devices incorporated in this machine include the following two main parts:

1. Protection covers & guards
2. Safety-related switches

Protection Covers & Guards

1. Idle wheel housing cover
2. Drive wheel housing cover
3. Gear reducer cover
4. Wire brush belt cover
5. Blade guard cover (left & right)
6. Safety fence (left & right)
7. Chip conveyor cover (CE model only)



The protection devices should always be mounted on the machine whenever the machine is running.



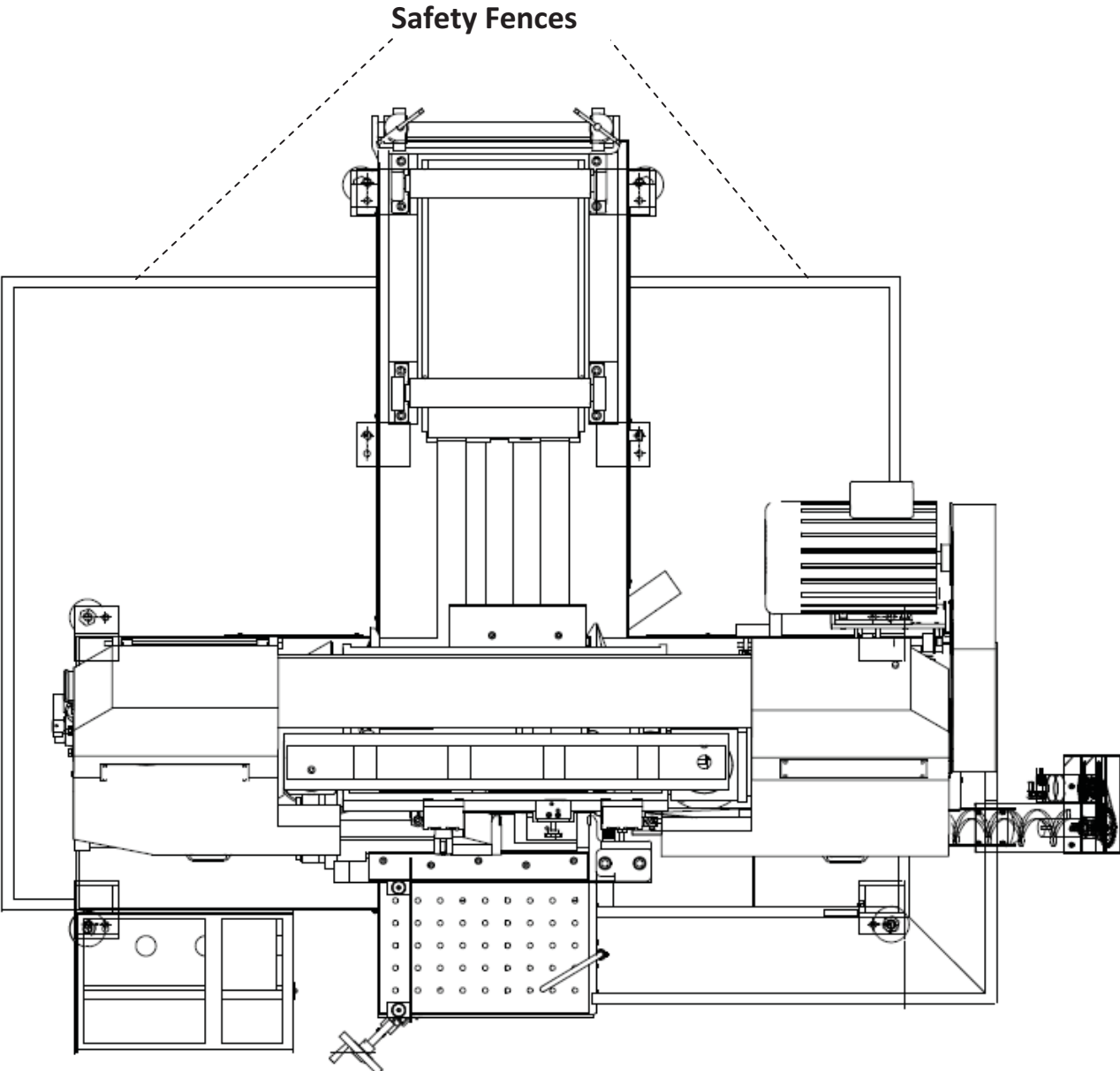
Do not remove any of these safeguard devices under any circumstances except when servicing the machine. Even skilled service technicians should still take cautions when performing repairs or service on the machine with any of these protectors removed. It is the responsibility of the user to make sure all these elements are not lost and damaged.



Take note of the following main moving parts on the machine prior to and during machine operation:

- Saw bow assembly
- Drive and idle wheels
- Blade guide arm
- Saw blade guide rollers
- Quick approach device (optional)
- Wire brush
- Chip conveyor (optional)
- Workpiece clamping vises
- Shuttle vises and workbed rollers
- Top clamps (optional)
- Gear reducer

Illustration: Safety Fence



Safety Related Switches

To protect the operator, the following safety related switches on the machine are actuated when the machine is in operation.

Wheel motion detector	This is a proximity sensor used to detect the motion of the drive wheel. Once the saw blade is broken or as soon as it starts slipping, the sensor will detect and stop the drive wheel and the machine.
Power switch	Located on the cover of electrical cabinet, the power switch controls the main power of the machine. Up to your company's internal rules, this power switch can be locked with a padlock or a luggage lock to protect the operator and the machine.
Emergency stop button	Located on the control panel, the button when pressed will stop the machine completely.
Vise clamp switch	This switch assures firm clamping of the workpiece. If the workpiece is not clamped properly, the saw blade is not allowed to run.
Wheel cover interlock switches (CE model only)	Located on the two wheel housings, these switches are used to assure that the machine will stop whenever the wheel covers are open. This device is to protect users from being cut by the running saw blades.

Among all these safety switches, some of them are used to protect the users and some of them are used to prevent damage to saw blades, the workpiece and the machine itself, etc. We have taken every precaution to prevent injury or damage and to provide safe and economical operation of the machine.

EMERGENCY STOP

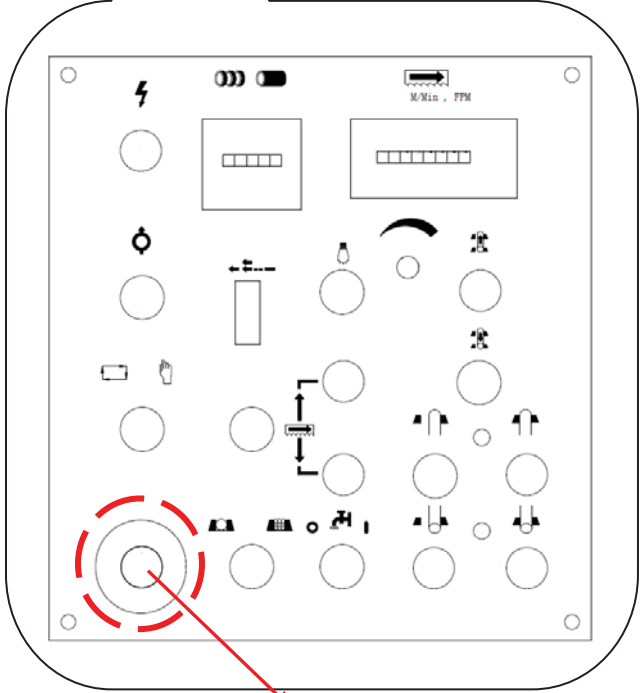
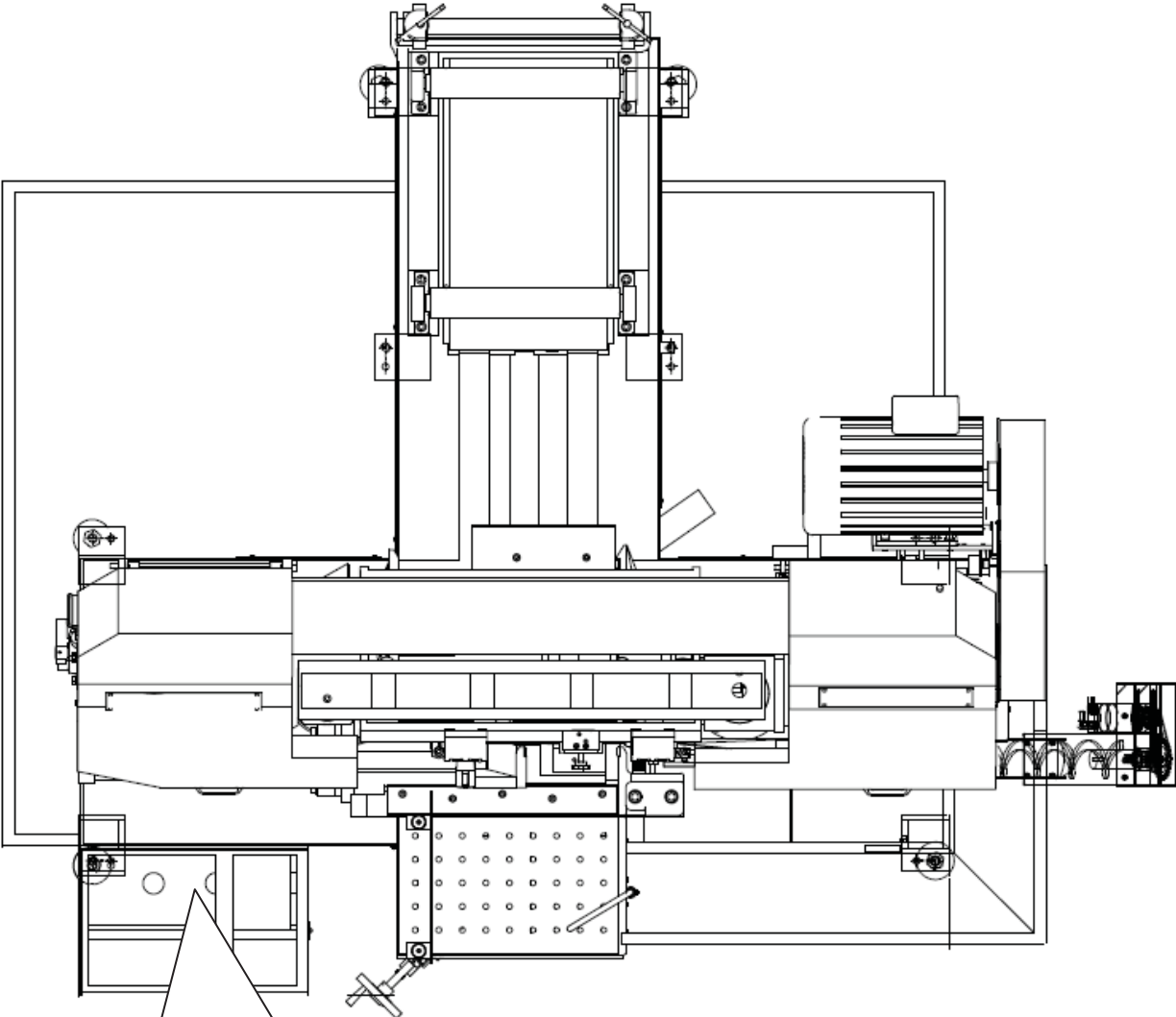
Designed to be easily accessible, the emergency stop button is located on the left bottom corner on the control panel and is made in red color and rubber material. For CE models, supplementary emergency stop button may be available at other area(s) of the machine depending on machine type. Please refer to *Illustration: Emergency Stop*.

When you press the button, the machine will immediately come to a full stop to avoid injury or damage when an accident occurs. The button will be locked when you press it. To unlock it, pull it upward.

You should press it immediately without any hesitation when observing:

- An emergency situation that would cause any injury or damage
- An abnormal situation or problem such as fire, smoke, abnormal noise and etc.

Illustration: Emergency Stop



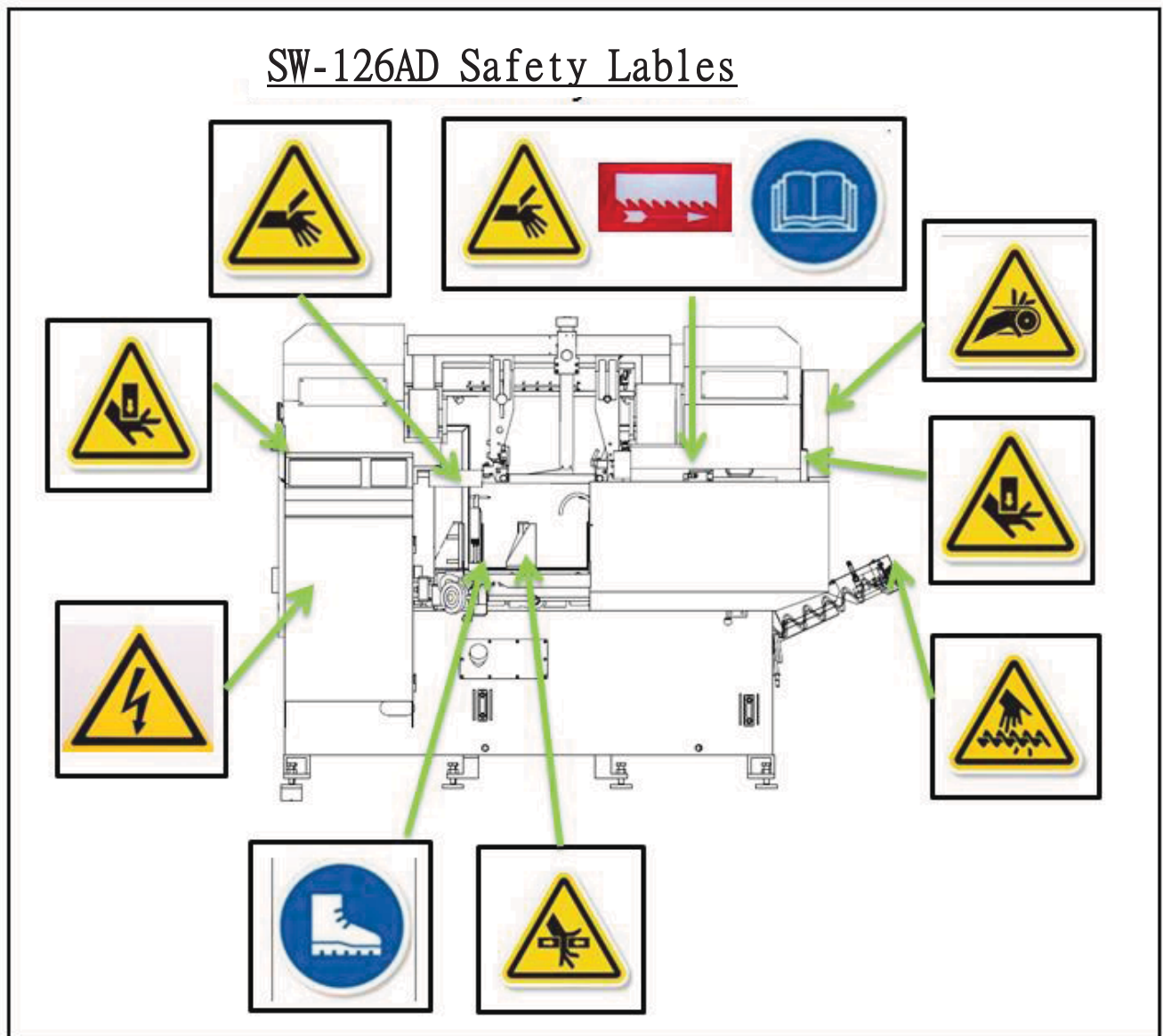
Emergency Stop

SAFETY LABELS

Please read through and understand these safety labels before operating the machine. Refer to *Illustration: Safety Labels*.

Label	Meaning	Label	Meaning
	Impact Hazard WEAR SAFETY SHOES. Do not approach dropping area during operation.		Read Operator's Manual This manual has important safety information. Read through it carefully before operating this machine to prevent personal injury or machine damage.
	Keep Unauthorized Personnel Away		Do not step. Do not stand on the machine or on the accessories!
	DANGER: Running Blade Blade runs through this area. Keep your hands away from a running blade to avoid severe injury. The arrow indicates direction of the blade.		Cutting Hazard KEEP COVER CLOSED / KEEP HAND OFF while the blade is running. Turn power off before opening cover. Failure to follow the warning can result in severe injury.
	Hazardous Voltage TURN POWER OFF before servicing. Failure to following the warning can result in severe injury.		Burn Hazard/Hot Surface
	Hand Crush/Force from Above		Crush hazard by vise
	Loose Hand Hazard KEEP HAND OFF. Do not touch chip conveyor. Failure to follow the warning can result in severe injury.		Pinch Point/Hand Entanglement
	CAUTION : Class I invisible Laser Radiation Present. Avoid direct exposure to beam.		

Illustration: Safety Labels



HEARING PROTECTION



Always use ear protection!

When your machine is running, noise generated by the machine may come from the following:

- Saw blade during cutting or material feed mechanism
- Wire brush unit
- Chip conveyor unit
- Speed reducer
- Hydraulic motor/pump
- Belt transmissions variable speed motors
- Blade motor
- Coolant pump
- Drive wheel
- Parts not assembled tightly causing mechanical vibration

Our products pass noise testing less than 78 dBA. Noise level vary according to working conditions and we recommend ear plugs or other hearing protection at all time. If your machine produces an undesirable noise while it is running, you should:

1. Make sure all maintenance tasks have been performed following the prescribed maintenance schedule (Refer to Section 8).
2. If maintenance does not seem to solve the problem, follow the troubleshooting procedures under Section 9.

CE COMPLIANCE

Our CE model is designed to satisfy regulations of the Council Directive on the approximation of the laws of the Member States relating to machinery (2006/42/EC) - Annex I Essential health and safety requirements relating to the design and construction of machinery.

RISK ASSESSMENT

Risk assessment generally takes account of intended use and foreseeable misuse, including process control and maintenance requirements. We made every effort to avoid any personal injury or equipment damage during the machine design stage. However, the operator (or other people) still needs to take precautions when handling any part of the machine that is unfamiliar and anywhere on the machine that has potential hazards (e.g. the electrical control box).

GENERAL INFORMATION

SPECIFICATION

MACHINE PARTS IDENTIFICATION

FLOOR PLAN

This band saw machine is designed by our R&D engineers to provide you the following features and advantages:

Safety

- This machine is designed to fully protect the operator from its moving parts during cutting operation.
- The machine and each component has passed strict testing (Council Directive on the approximation of the laws of the Member States relating to Machinery).
- The machine will shut off automatically when the saw blade is broken, protecting both the operator and the machine.

Convenience & High-Performance

- The machine is designed in the way that the operation and adjustment can be easily performed.
- The machine will stop automatically when out of stock.
- Dual valve system is designed to achieve optimal cutting performance with the simple setting of feed rate and perspective cutting pressure for different material.

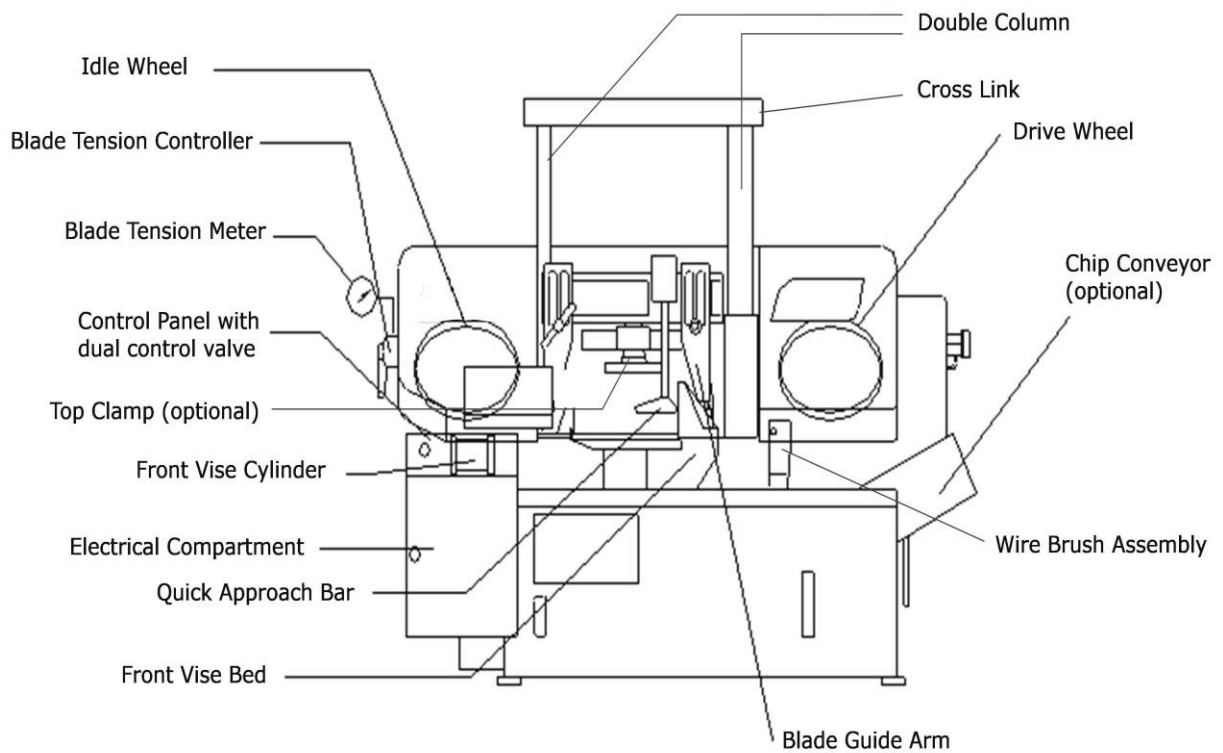
SPECIFICATION

Model		SW-126AD Automatic Horizontal Bandsaw
Capacity	Round	320 mm (12.6")
	Square	320 mm (12.6")
	Rectangular (H x W)	320 x 380 mm (12.6" x 15.0")
	Bundle Cutting	W: 190 ~ 300 mm (7.5" ~ 11.8") H: 70 ~ 140 mm (2.6" ~ 5.5")
Saw Blade	Speed	15 ~ 80 m/min (49 ~ 262 fpm)
	Size	4,240 x 34 x 1.1 mm (166.9" x 1.3" x 0.04")
	Tension	Hydraulic with automatic blade breakage detection
	Guide	Interchangeable tungsten carbide
	Cleaning	Steel wire brush with flexible drive shaft driven by main motor
Motor Output	Saw Blade	5 HP (3.75 kW)
	Hydraulic	1 HP (0.75 kW)
	Coolant Pump	1/8 HP (0.1 kW)
	Other Components	-----
Tank Capacity	Hydraulic	25 L (6.6 gal)
	Coolant	45 L (11.9 gal)
Vise Control Method	Control Method	Hydraulic with full stroke cylinder
	Minimum Clamping Capacity	0 mm
Remnant Length		-----
Feeding Length	Mode	Hydraulic, Automatic
	Speed	-----
	Single Stroke	400 mm (15.7")
	Multi Stroke (0~9 times)	Max. 3,600mm (141.7")
Workbed	Height	790 mm (31.1")
	Weight Capacity	-----
Weight	Net	2,000 kg (4,400 lb)
	Gross	2,200 kg (4,840 lb)
Floor Space (L x W x H)		2,215 x 2,103 x 1,743 mm (87.2" x 82.8" x 68.6")
Operating Environment	Temperature	5~40°C (41~104°F)
	Humidity	30%~85% (without condensation)

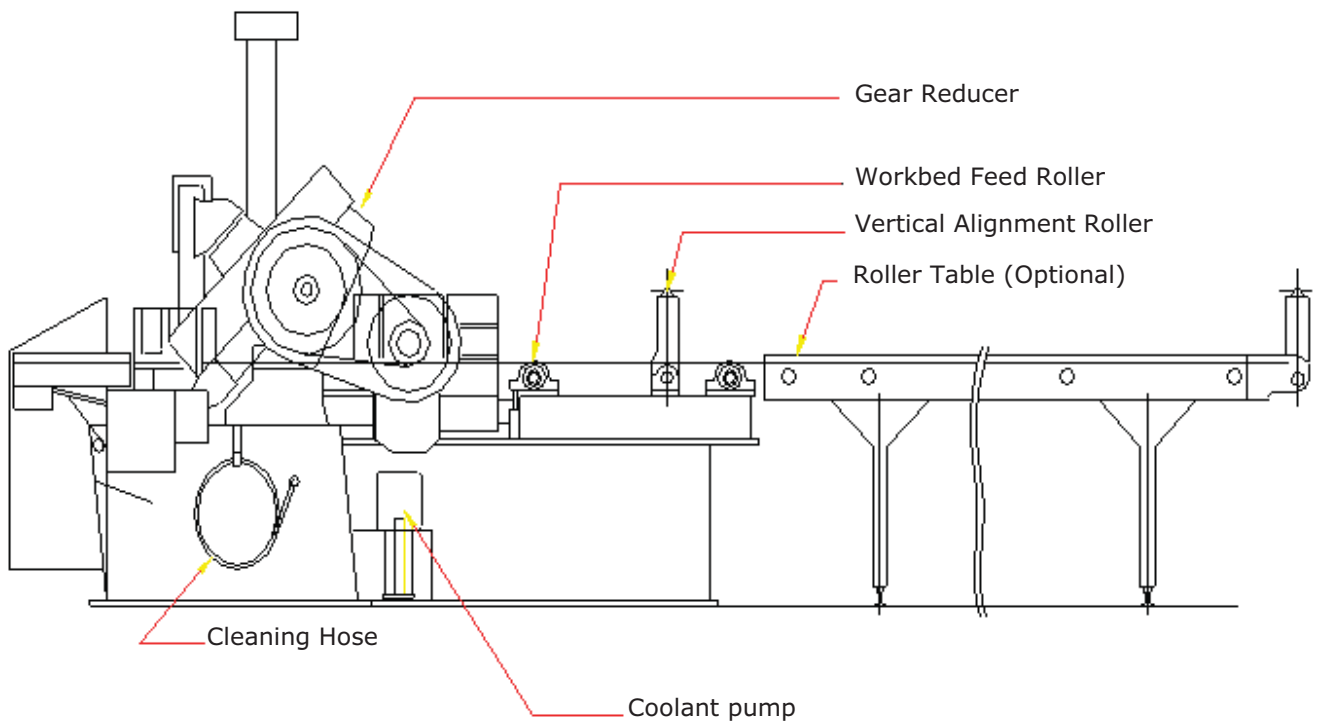
*Please refer to the formula "Watt/Voltage = Amperage" with the information above.

*Design and specification are subjected to change without notice.

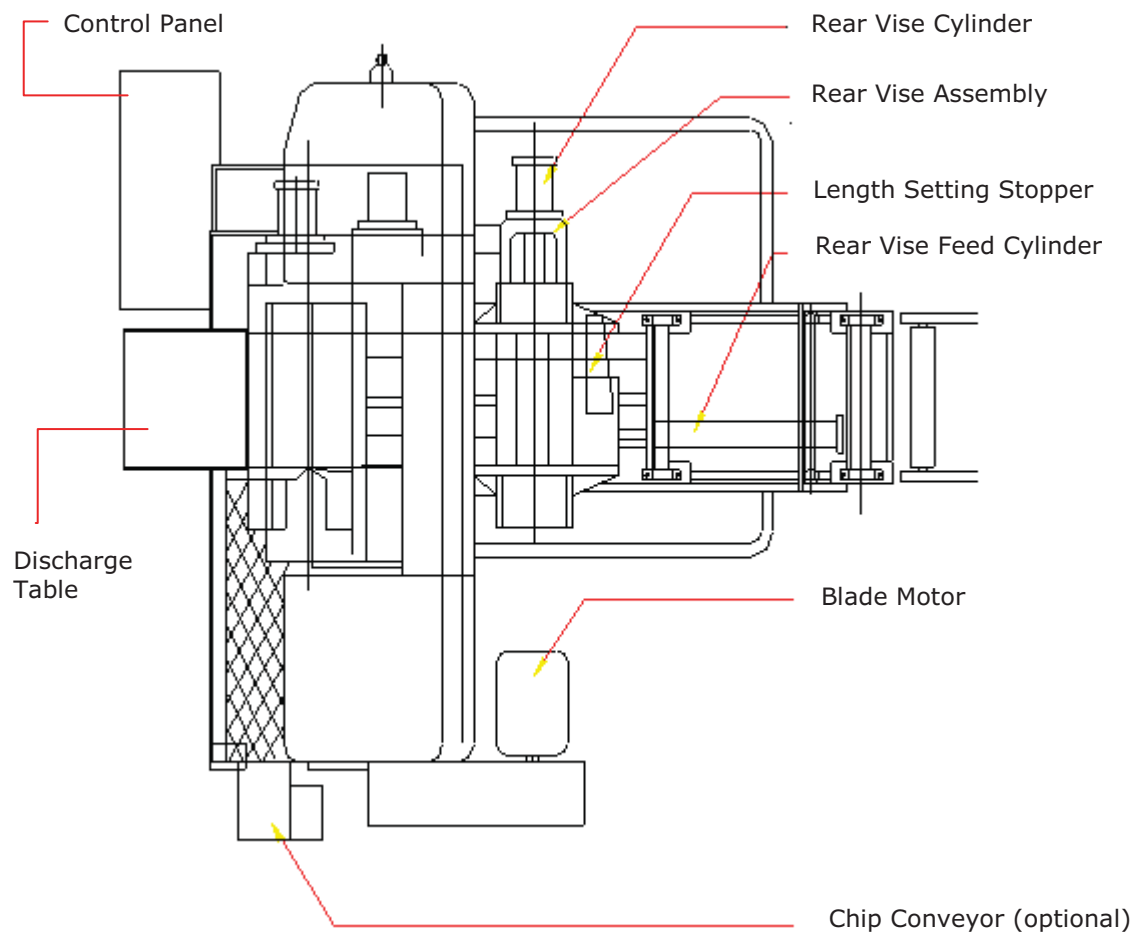
MACHINE PARTS IDENTIFICATION



Machine front view

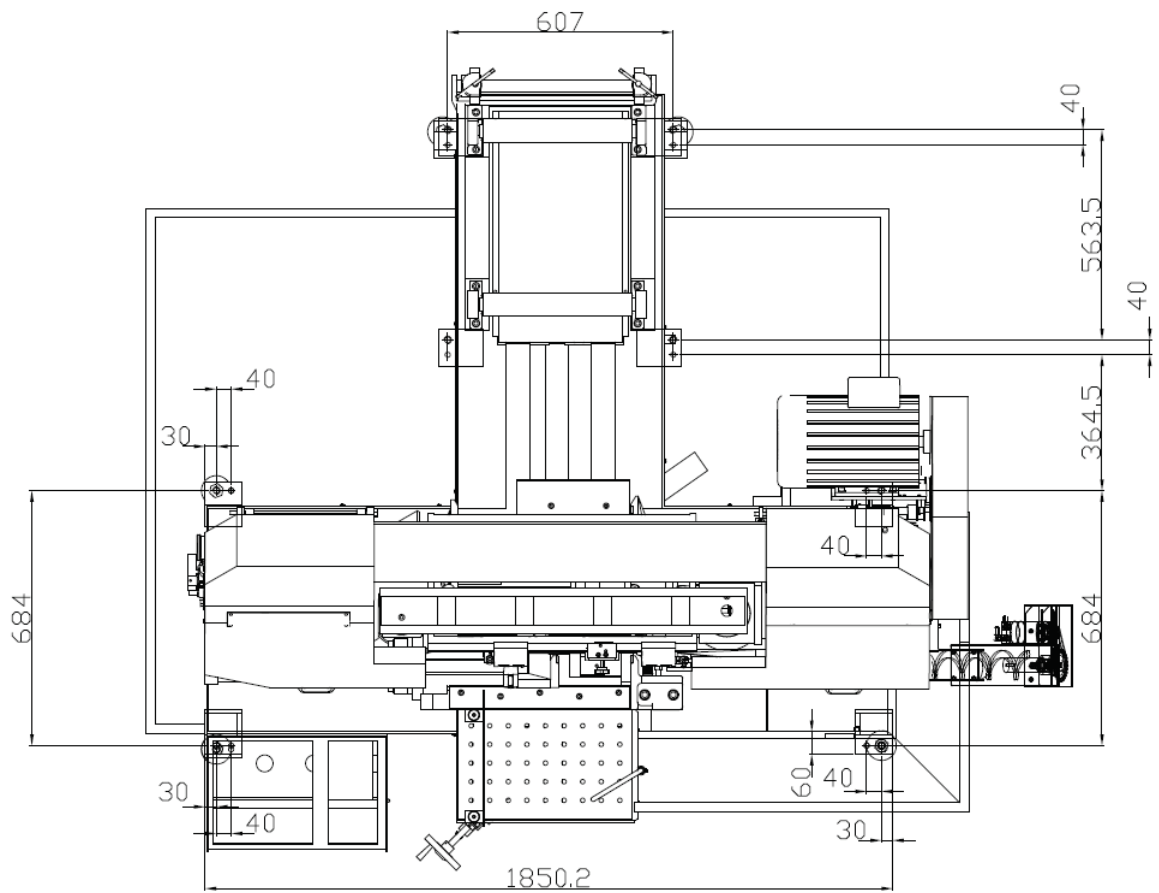
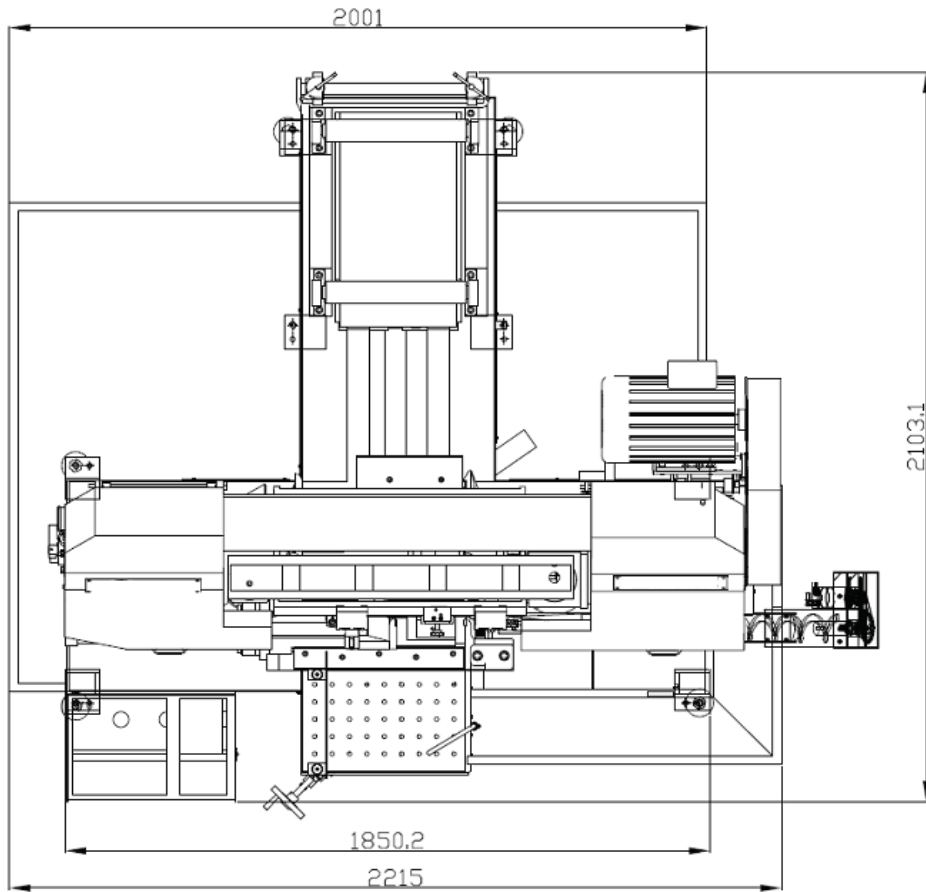


Machine side view

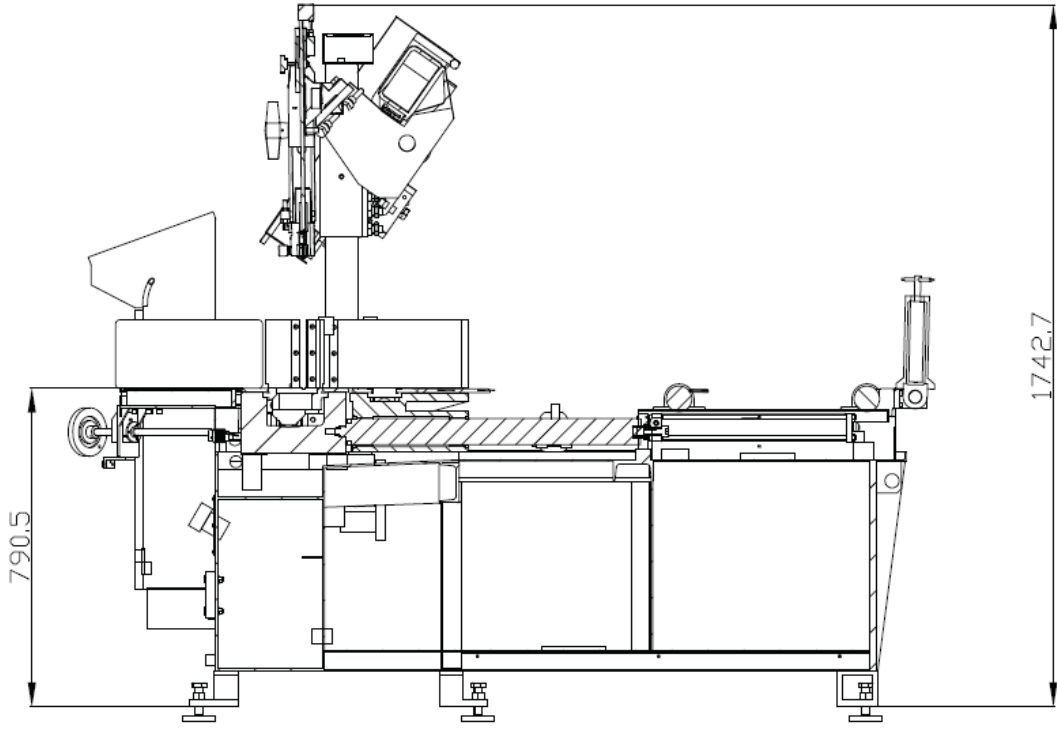


Machine top view

FLOOR PLAN



Machine top view



Machine side view

MOVING & INSTALLATION

LOCATION & ENVIRONMENT

UNPACKING & INSPECTING

LIFTING

REMOVING SHIPPING BRACKET

CLEANING

INSTALLING

RELOCATING

LOCATION & ENVIRONMENT

For your safety, please read all information regarding installation before proceeding. Install your machine in a place satisfying all of the following conditions:

Space:

- Leave enough free space around the machine for loading work and unloading cut-off pieces as well as for maintenance and inspection. Refer to *Section 2 General Information* for machine dimensions and floor space.

Environment:

- Well lighted (500 lumen at minimum).
- Floor kept dry at all times in order to prevent operators from slipping.
- Away from direct exposure to the sunlight
- Room temperature between 5°C to 40°C.
- Humidity level kept at 30%~85%“(without condensation) to avoid dew on electric installation and machine.
- Away from vibration of other machines
- Away from powders or dusts emitted from other machines
- Avoid uneven ground. Choose a solid level concrete floor which can sustain weight of both machine and material.
- Limit the operation area of the machine to staff only.

UNPACKING & INSPECTING

- Unpack your machine carefully to avoid damage to machine parts or surfaces.
- Upon arrival of your new band saw, please confirm that your machine is the correct model and it comes in the same specification you ordered by checking the model plate on the machine base.
- It is also imperative that a thorough inspection be undertaken to check for any damage that could have occurred during shipping. Pay special attention to machine surface, equipments furnished and the electrical and hydraulic systems for damaged cords, hoses and fluid leaks.
- In the event of damage caused during shipping, please contact your dealer and consult about filing a damage claim with the carrier.
- Your machine comes in with a set of tools for you to maintain the machine. The accessories furnished are as follows:

1.	Tool box	1 pc
2.	Grease gun	1 pc
3.	Screwdriver (+, -)	2 pcs
4.	Open-ended spanner	3 pcs
5.	Hexagon wrench	1 set
6.	Chip spade (only for manual models)	1 pc
7.	Operation manual	1 pc



Should you find any missing accessories, please contact your local agent immediately.

LIFTING

When moving the machine, we strongly suggest you choose any one of the methods described below to move your machine.



1. (Only applies to the machine with the design of the hanging point.)

Move the machine to its location by using a crane and a wire rope sling that can fully withstand the weight of the machine (refer to machine specification under Section 2 *General Information*).



Machine hanging with a crane should be done strictly according to the hanging points designated by the original manufacturer. If there is any doubt on missing hanging points on your machine, please consult with the original manufacturer or its qualified agent before hanging the machine.

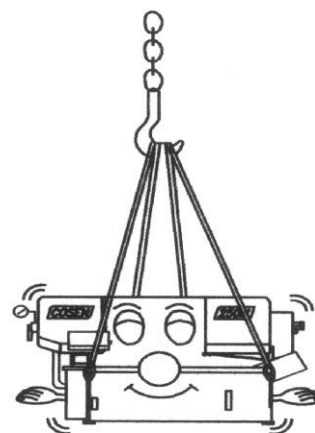
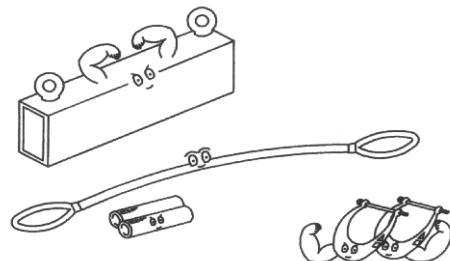
- Machine lifting is likely to damage the machine if not performed properly.



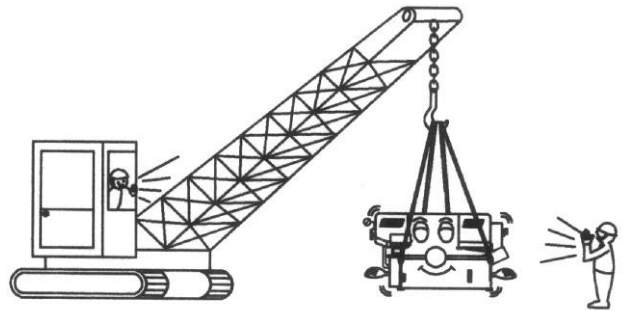
Warning: You must have a qualified crane operator to perform the job.



- You must use tools and equipment with the proper tensile strength and use proper method when moving your machine.
- Apply the wire rope sling to the lifting hooks on the four ends of the machine. Refer to *Illustration: Lifting Points for exact locations*.
- Slowly lift the machine. Be sure to protect the machine from impact or shock during this procedure. Also watch out your own fingers and feet to avoid injuries.
- Keep the machine well balanced during lifting process and make sure the wire rope does not interfere with the saw frame.



- When you work together with more than two people, it is best to keep constant verbal communication with each other.



2. **Use a forklift (Only applies to the machine with the design of the lifting point.)**

Make sure that the lifting rod can fully withstand the weight of the machine. (Refer to *Section 2 – General Information for Specifications.*)



Machine lifting with a forklift should be done strictly according to the lifting points designated by the original manufacturer. If there is any doubt on missing lifting points on your machine, please consult with the original manufacturer or its qualified agent before lifting the machine.

- Machine lifting is likely to damage the machine if not performed properly.



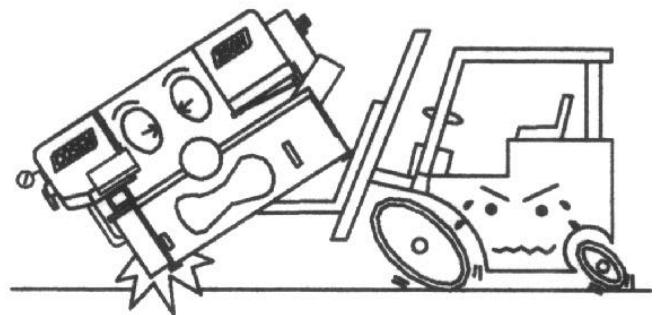
You must have a qualified forklift operator to perform the job.



- You must apply proper forklift technique to avoid damage to the machine.



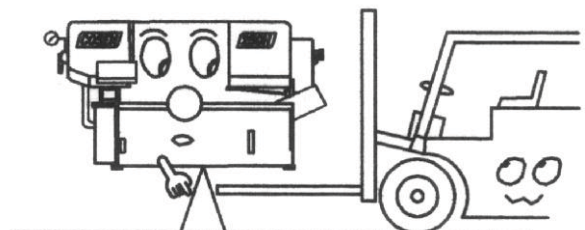
Make sure the forks are able to reach in at least 2/3 of the machine depth.



- You must keep the machine balanced at all times.



Make sure the forks are centered before use.

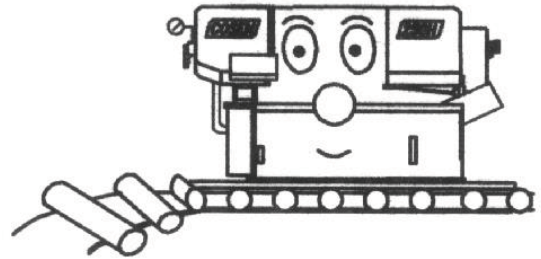


(Illustration only. Please follow user guide of your forklift.)

3. Use rolling cylinders

You can use rolling cylinders to move your machine in a small machine shop environment.

- You must use rolling cylinders made in material of proper compressive strength.

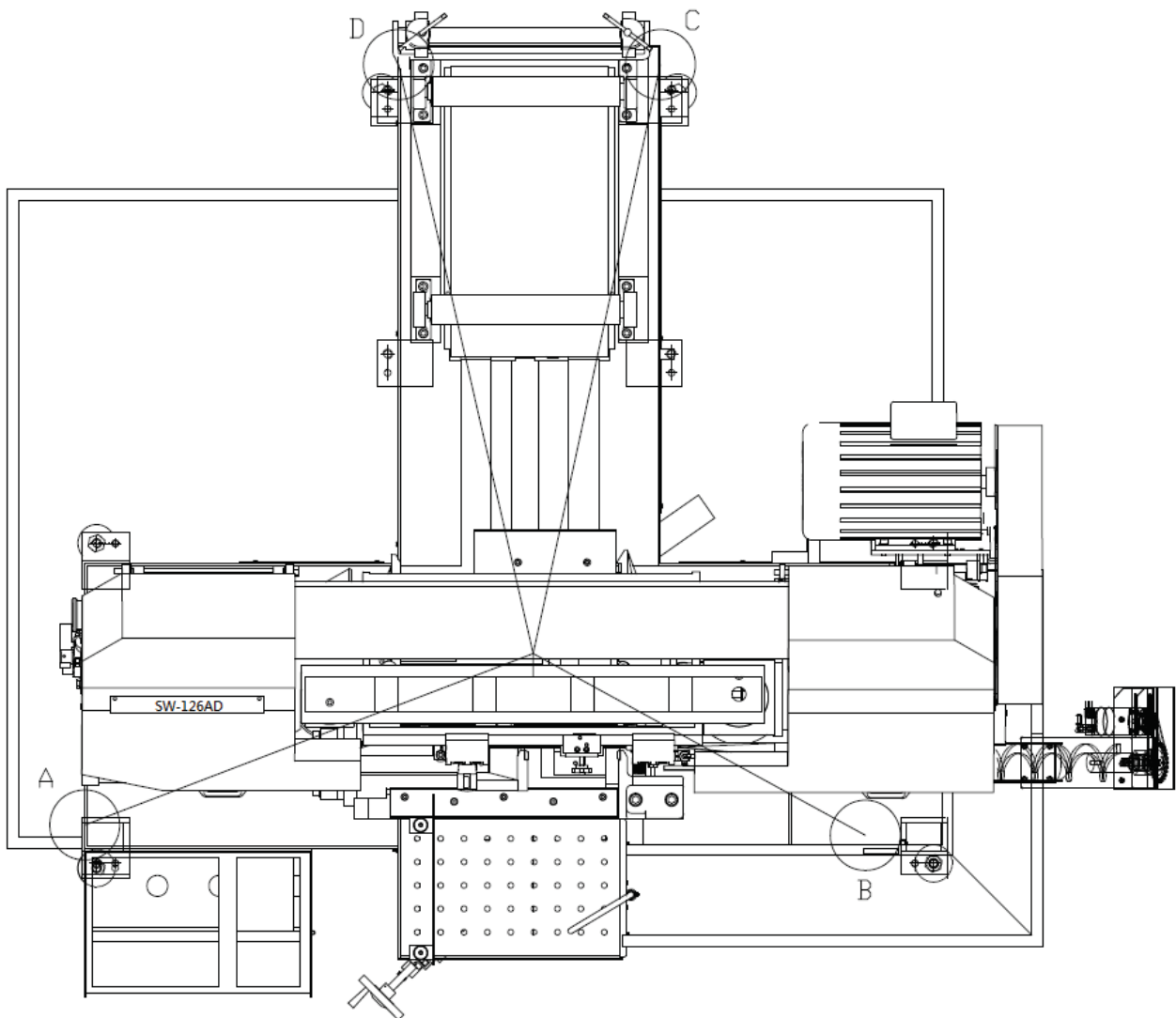


4. Other ways to move



If the machine does not have  or  stickers, please contact your local agent immediately.

Illustration: Lifting Points

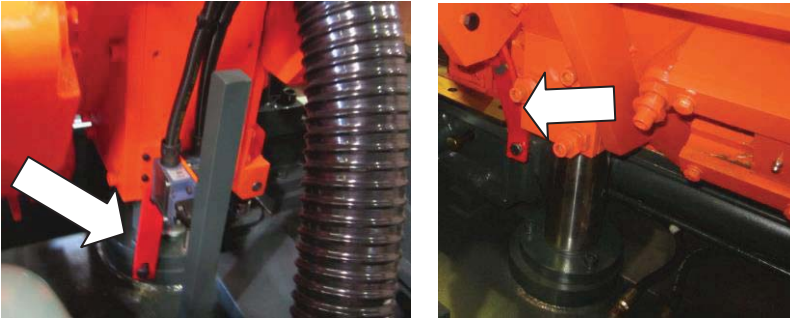


Minimum weight capacity for each wire rope: **2.5 ton**

Total number of wire ropes required: **4**

REMOVING SHIPPING BRACKET

- After the machine has been properly positioned, remove the shipping bracket that is used to lock the saw frame and the saw bed.
Retain this bracket so that it can be used again in the event that your machine must be relocated.



CLEANING

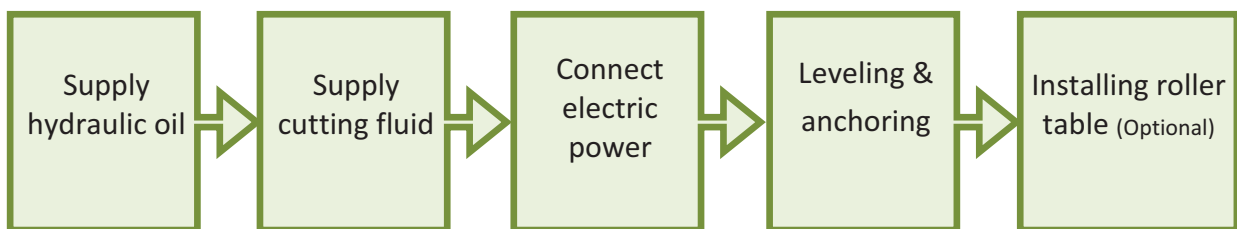
After the machine has been placed at the designated position, remove the rust-preventive grease with wiping cloth dampened with cleaning oil or kerosene. Apply machine oil to machine surfaces that are prone to rust.



Do not remove the rust-preventive grease with a metal scraper and do not wipe the painted surfaces with solvent as doing so would damage surface paint.

INSTALLING

Our bandsaw machine is relatively easy to install. Follow these six easy steps to install your machine.



Supplying hydraulic oil

Open the filler cap and fill the hydraulic oil tank to above 2/3 or full level.

Check the sight gauge to make sure the oil level in the tank.



Refer to specification chart under Section 2 for tank capacity.



Oil tank should be full already if it is a new machine that operates for the first time.



Supplying coolant

Fill the coolant tank to the middle level of the sight gauge by pouring the coolant from above the chip conveyor.

Use the sight gauge to check the coolant level remaining in the tank.



Always check the coolant supply before starting the machine. If the coolant pump is started without enough coolant supply in the tank, the pump and its drive motor may be damaged.



Refer to specification chart under Section 2 *General Information* for tank capacity.




Consult your coolant supplier for bandsaw use regarding coolant type and mix ratio.

Connecting electric power



Have a qualified electrician make the electrical connections.



If the power supply voltage is different from the transformer and motor connection voltage shown on the label attached to the electrical compartment of the machine, contact us or your agent immediately. 



Connect to power supply independently and directly. Avoid using the same power supply with electric spark machines such as electric welder. Unstable electric tension may affect your machine's electric installation from working properly.



Ground the machine with an independent grounding conductor.



Supply voltage: 90% - 110 % of nominal supply voltage.



Source frequency: 99% - 101 % of nominal frequency.



Refer to the specification chart under Section 2 for total electric power consumption of the motors and make sure your shop circuit breaker is capable of this consumption amount. Also use a power supply cable of proper size to suit the power supply voltage.

1. Turn off the shop circuit breaker.
2. Make sure the machine circuit breaker switch on the electrical compartment door is turned to OFF.
3. Remove the screw securing the electrical compartment and then open the door.
4. Pull the power supply cable and grounding conductor through the power supply inlet into the electrical compartment. (Shown right)
5. Connect the power supply cable to the circuit breaker (N.F.B.) to the R, S and T terminals, and connect the ground cable to the E terminal.
6. Close the compartment door and fasten the screw back.
7. Turn on the shop circuit breaker and then turn the machine circuit breaker switch to ON. The *Power Indicator* on the control panel will come on.
8. Pull to unlock the *Emergency Stop* button and press the *hydraulic ON* button to start the hydraulic motor.
9. Make sure the sawing area is clear of any objects. Start the blade and check the blade rotation. If the electrical connections are made correctly, the blade should run in a counterclockwise direction. If not, shut the hydraulics off, turn off the machine as well as the shop circuit breaker. Then swap the power the power cable conductors connected to R and T terminals.
10. Repeat step 6 to 9 to ensure the electrical connections are in the right order.

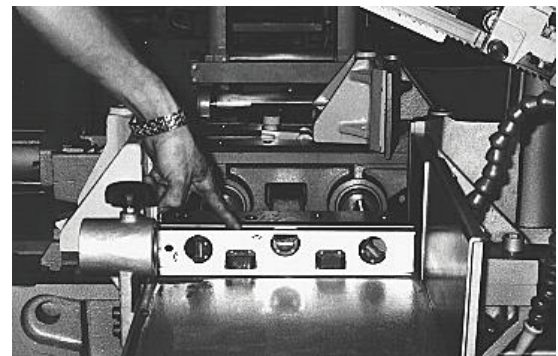


Power Supply Inlet

Leveling

Place spirit level on the vise slide plates and the work feed table.

Level the machine in both directions i.e. along and across the machine. Adjust the level of the machine by turning the leveling bolts.



Make sure all leveling bolts evenly support the machine weight.

Anchoring the machine

Normally there is no need to anchor the machine. If the machine is likely to vibrate, fix the machine to the floor with anchor bolts.

Shock absorption steel plates are provided and can be placed under each leveling bolt to prevent their sinking into the concrete floor.

Installing roller table (optional)

The roller table is used to support long material at the rear and/or the front of the machine.

If you have ordered the optional roller table for cutting long material, position it before or behind the machine.

Level the roller table and the stand with the machine by adjusting the leveling bolts.



Installing Fire Control Device

Install a fire extinguisher or any other fire control device in the shop in case a fire breaks out.

RELOCATING

We recommend you follow these procedures when relocating or shipping your machine to other place:

1. Descend the saw frame to its lowest position then turn off the power.
2. Fix the saw frame using the shipping bracket that originally came with the machine.
3. If you are shipping the machine, pack the machine carefully with industrial plastic wraps to protect it from dust.
4. Use a crane or forklift to raise it. If a crane is used to lift the machine, ensure that the lifting cable is properly attached to the machine.
5. Do not forget to include the equipments originally furnished including the shock absorption steel plates and the instruction manual.

OPERATING INSTRUCTION

SAFETY PRECAUTIONS

BEFORE OPERATING

CONTROL PANEL

STANDARD ACCESSORIES

OPTIONAL ACCESSORIES

UNROLLING & INSTALLING THE BLADE

ADJUSTING WIRE BRUSH

PLACING WORKPIECE ONTO WORKBED

POSITIONING WORKPIECE FOR CUTTING

ADJUSTING BLADE SPEED

ADJUSTING COOLANT FLOW

BREAKING-IN THE BLADE

TEST-RUNNING THE MACHINE

CUTTING OPERATION

STARTING AN AUTOMATIC OPERATION

USING TOP CLAMP FOR BUNDLE CUTTING

TERMINATING A CUTTING OPERATION

SAFETY PRECAUTIONS

For your safety, please read and understand the instruction manual before you operate the machine. The operator should always follow these safety guidelines:



- The machine should only be used for its designated purpose.
- Do not wear gloves, neckties, jewelry or loose clothing/hair while operating the machine.



- For eye protection, always wear protective safety glasses.



- Check the blade tension and adjust blade guides before starting the machine.
- Use auxiliary clamping or supporting devices to fix material in place before cutting long workpieces. Always make sure the material is clamped firmly in place before starting to cut.
- Do not remove jammed or cut-off pieces until the blade has come to a full stop.
- Keep fingers away from the path of the blade.



- Protection devices should be in place at all times. For your own safety, never remove these devices.
- Disconnect machine from the power source before making repairs or adjustments.



- Wear protection gloves only when changing the blade.



- Do not operate the machine while under the influence of drugs, alcohol or medication.



- Do not take your eyes off the machine while in operation.
- Do place warning signs to mark out machine work zone and restrict entry to be staff-only.

BEFORE OPERATING

Choosing an appropriate saw blade and using the right cutting method is essential to your cutting efficiency and safety. Select a suitable saw blade and cutting method based on your work material and job requirements e.g. cutting accuracy, cutting speed, economic concern, and safety control.

Wet cutting

If you choose dry cutting or low-speed cutting, the chips may accumulate in machine parts and may cause operation failure or insulation malfunction. We suggest you choose wet cutting to avoid machine damage.

Cutting unknown materials

Before cutting an unknown material, consult the material supplier, burn a small amount of chips from the material in a safe place, or follow any other procedure to check if the material is flammable.



Never take your eyes off the machine while in operation.

Cutting fluid

For cooling and lubrication purpose, we recommend you use water-soluble cutting fluids. The following table lists out its pros and cons for your reference.

Pro	Con
<ul style="list-style-type: none">• Have a high cooling effect• Not flammable• Economical• Does not require cleaning of the cut products	<ul style="list-style-type: none">• Remove machine paint• Lose its rust protection effect if deteriorated• Tend to create foam• Subject to decay• Decline in performance, depending on the quality of the water used for dilution



Never use water as your coolant.



Always add coolant into water for better mix result.



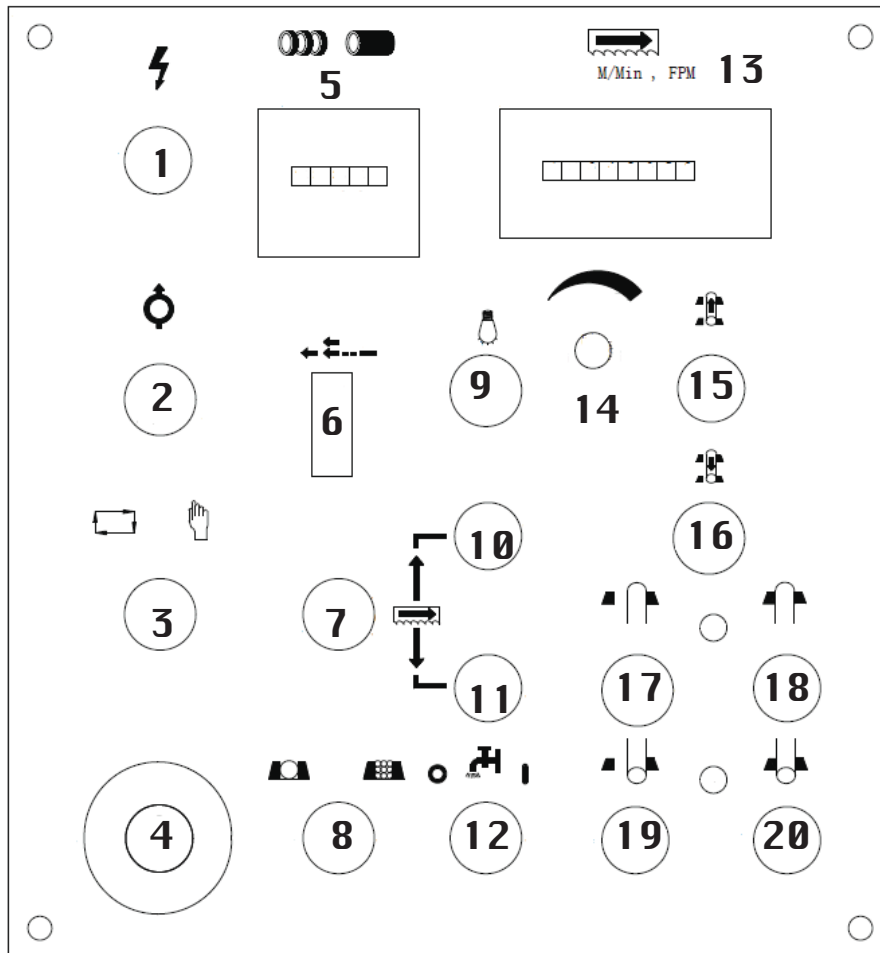
Consult your coolant supplier for bandsaw use regarding coolant type and mix ratio.



Before starting a cutting job, make sure there is sufficient amount of coolant in the tank. Check the fluid level through the sight gauge. Please refer to machine specifications in this manual (Section 2) for tank capacity.

CONTROL PANEL

The control panel is located on the top of the electrical box. It includes the following function: power system, hydraulic system, cooling system and the human-machine-interface (HMI). The operator must fully understand the function of each switch and button before operating the machine.




No.	Name	No.	Name
1	Power indicator lamp	11	Saw bow down button
2	Hydraulic start button with built-in lamp	12	Coolant ON/OFF switch
3	AUTO/Manual mode switch	13	Blade speed indicator
4	Emergency stop button	14	Blade speed control knob
5	Cutting piece counter	15	Feed backward button
6	Feeding times selector	16	Feed forward button
7	Blade start button with built-in light	17	Front vise clamp button
8	Single/Bundle cutting mode switch	18	Rear vise clamp button
9	Work light on button (cancelled)	19	Front vise open button
10	Saw bow up button	20	Rear vise open button

Control Buttons

1. Power indicator lamp

When the lamp is on, it indicates the power to the machine is turned on.

2. Hydraulic start button with built-in-lamp

- When the button is pressed, the built-in-lamp will come on and the hydraulic motor starts to operate.
- This button only works when the machine is switched to manual mode .





Press Emergency Stop Button to stop the hydraulic motor.



When the hydraulic motor is ON, the chip conveyor will run at the same time, please keep your hands away from the chip conveyor.

3. AUTO/Manual mode switch

Use this switch to select between automatic and manual mode.

- AUTO mode : used to automatically perform continuous cutting jobs. When switched to this mode, the machine will automatically operate according to the preset parameters.
- Manual mode : used to perform individual cutting job. When switched to the Manual mode, you can execute each individual function.



Trim Cut - When the machine is switched from the Manual mode to the AUTO mode, the first cut (trim cut) will not be counted into finished cuts and the machine will continue to operate according to the preset parameter. This function allows the machine to finish the trim cut and directly proceed into automatic cutting till the last cutting job.



If you switch to manual mode while cutting is already in action under AUTO mode, the machine will stop after the individual cut is finished. Switching to manual mode at any time other than cutting, the machine will proceed with the next cut until it is finished.

4. Emergency stop button

Press this button to stop the machine in an emergency. When the button is pressed, it brings the machine to a full stop. The button locks when pressed. In order to unlock it, please turn the button clockwise.

5. Cutting piece counter

This counter is used to preset the number of cuts required under automatic mode. When the counter reaches the preset number, the machine stops automatically. You can turn cab screw

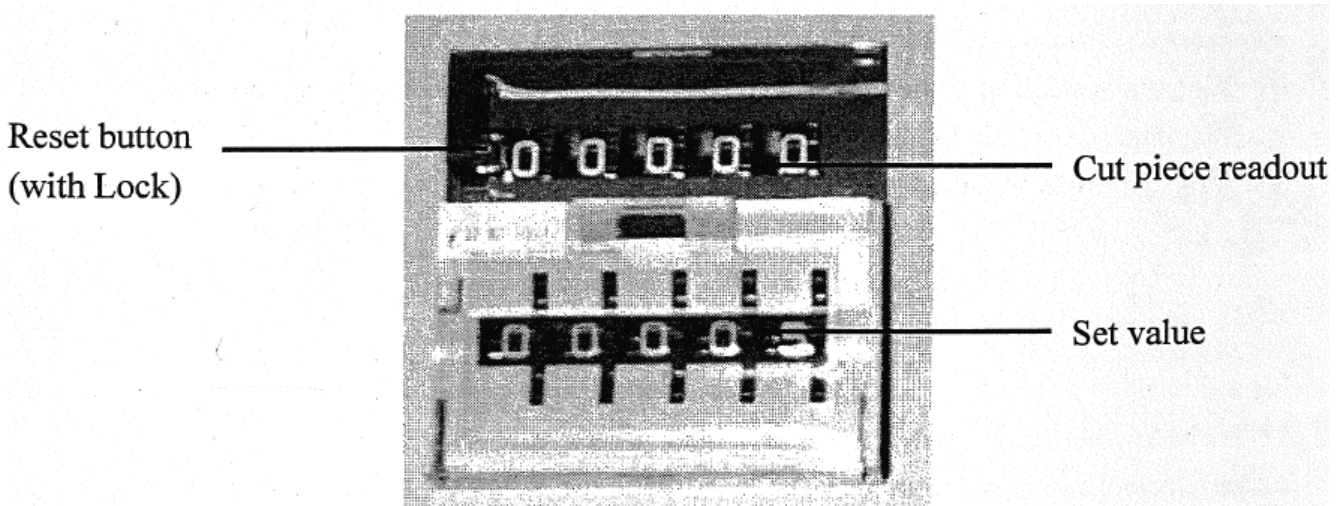
counterclockwise to open plastic protection cover. To activate the counter set according to the following steps:

Preset readout (yellow color digital number):

- Indicates the number of pieces to be cut under AUTO mode. The setup range is 1~99999.
- You can press “=” type button at top side to change count.

Count readout (white color digital number):

- Automatically counts and indicates the number of pieces already cut under AUTO mode. The count range is 1~99999.
- Press reset button to return zero.



6. Feeding times selector

Press “-” type button at top or at bottom side to change number. When this selector is pressed to “2”, the rear vise will feed the workpiece twice. On this selector, the maximum cutting length is 3600mm(141.7”). The maximum feeding times are “9”.

7. Blade start button with built-in lamp

When the button is pressed, the built-in-lamp will come on and the blade motor starts to operate.



The saw bow must be at the top position to start the saw blade or the circulation under automatic cutting will be affected.



Under manual mode, front vise must be clamped before the blade can start running.



When under manual and bundle cutting mode, the feeding vise must be touching the front limit switch for the blade to be able to start.

8. Single/Bundle cutting mode switch

This button is used to switch between single or bundle cutting mode.

- Switch to single cutting model () to cut a single work piece.

- Switch to bundle cutting mode () to cut a stack of work pieces.



When under manual and bundle cutting mode, the feeding vise must be touching the front limit switch for the blade to be able to start.

9. Work light on button (cancelled)

Flip the switch on the work light to turn on/off the work light.

10. Saw bow up

When this button is pressed, the saw bow rises until the operator lets go of the button or until the saw bow touches the upper limit switch.



While pressing the saw bow up button can stop the running blade, please still make use of the emergency stop button in an emergency.

11. Saw bow down

When this button is pressed, the saw bow descends.



Before lowering the saw bow, the guide arm must be positioned outside the vise in order to avoid hitting the vise and causing damages.

12. Coolant ON/OFF switch

Turn the switch to the “I” mode to start the coolant. Turn the switch to the “O” mode to stop the coolant.

13. Blade speed indicator

Blade speed is shown here in predetermined unit (M/min or fpm).




All parameter settings have been done by our factory before shipment. Please do not make any random change to the parameter as it may affect the accuracy of the blade speed reading. Please consult your agent shall there be any need to reset machine parameters.

14. Blade speed control knob

Blade speed is controlled by the inverter located under the workbed. Turning the knob clockwise increases the blade speed.

15. Feed backward


- When this button is pressed, the feeding workbed will move backward. Press and hold the button to feed backward. As soon as the button is released, the feeding workbed will stop moving backward.

- This button only works when the machine is switched to manual mode .
- This button is only in function when the quick approach bar is touching the upper limit switch AND when either of the front and rear vises are unclamped.



After the blade motor starts running, the function of rear vise is disabled due to safety concerns.

16. Feed forward

- When this button is pressed, the feeding workbed will move forward. Press and hold the button to feed forward. As soon as the button is released, the feeding workbed will stop moving forward.
- This button only works when the machine is switched to manual mode .
- This button is only in function when the quick approach bar is touching the upper limit switch AND when either of the front and rear vises are unclamped.




After the blade motor starts running, the function of rear vise is disabled due to safety concerns.

17. Rear vise open button

This button only works when the machine is switched to manual mode .

18. Rear vise clamp button

This button only works when the machine is switched to manual mode .

19. Front vise open button

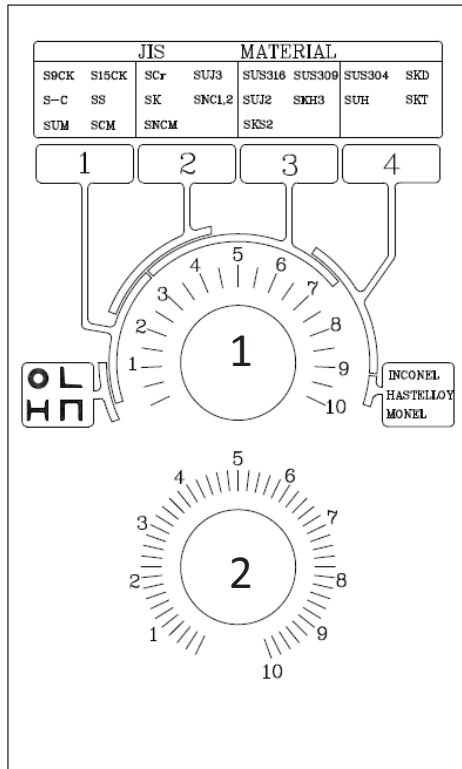
This button only works when the machine is switched to manual mode .

20. Front vise clamp button

This button only works when the machine is switched to manual mode .

Blade Descend Pressure and Speed

The part of control panel is where cutting pressure and saw bow descend speed can be adjusted.



Cutting pressure and speed control panel

1. Cutting pressure control knob

- This pressure control knob is used to adjust the cutting pressure of the blade.
- Turning the knob clockwise increases the cutting pressure.
- To obtain a good cutting result, choose the right cutting pressure by turning the knob until it points to your material on the color chart.




2. Blade descend speed control knob

- This knob is used to adjust the descend speed of the saw blade.
- Turning the knob clockwise increases the blade descend speed.
- Blade descend speed is a determining factor to a good cutting time and quality cutoff surface.
- Set the blade descend speed in accordance with the *cutting pressure control* knob.
- Also commonly known as the flow control valve

STANDARD ACCESSORIES

Blade tension device

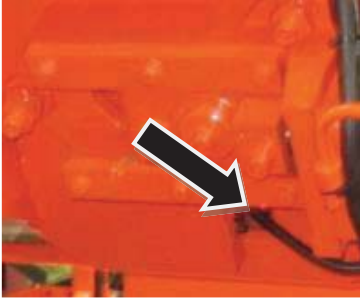


- This blade tension device equipped with hydraulic cylinder provides appropriate tension to the saw blade.
- To tighten the saw blade, turn the selector to .
- Upon saw blade breakage, the safety device will activate and automatically stop all machine operation.
- The limit switch of the safety device can be reset by turning the blade tension selector to .
- To change the blade, turn the handle to  to release saw blade tension.



Never adjust blade tension while the blade is running.

Blade speed/motion detector



- Besides detecting the blade speed, the speed/motion detector also functions as a safety device.
- The speed/motion detector protects operators and the machine by preventing blade overloads and consequent damages if a saw blade breaks or skids.
- Once blade breakage or slippage is detected, the drive wheel will stop in 10 seconds.

Inverter



- This inverter is installed inside the machine base. It is used to control and stabilize the saw blade speed during cutting.
- To adjust blade speed, use the blade speed control knob on the control panel.



Note:

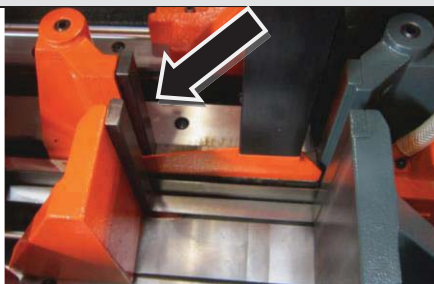
1. Make sure the terminal points are connected.
2. Make sure the ambient temperature is within acceptable range and keep the surroundings well ventilated.
3. Keep the inverter away from dust.
4. For repair or maintenance, please contact your local agent.

Quick approach device



This device allows the blade to quickly descend to just right above the material to save you operation time.

Split front vises



The split vises are a clever design to make sure your workpiece is tightly clamped by the two vises from both sides of the blade, maximizing stability and cutting precision.

Gear reducer



The specially designed gear reducer can work toward your preset blade speed and torque.



Please refer to Section 8 for information on maintenance.

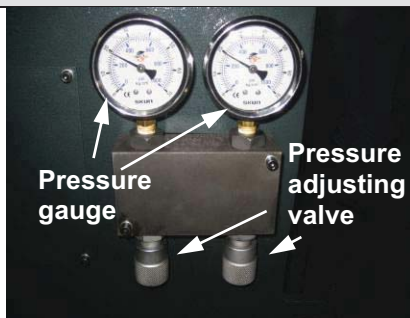
Coolant pump



When the hydraulic system is turned on, the coolant pump can be operated individually from the control panel. Coolant can be used to wash off chips as well as providing cooling during cutting.

OPTIONAL ACCESSORIES

Vise pressure regulator



- This adjustment valve is used to control vise pressure.
- Adjust vise pressure based on the material of your workpiece.
- When cutting pipes or soft materials, reduce vise pressure to prevent exerted pressure from damaging the workpiece shape or exterior.



Vise pressure should never be lower than 8 kg/cm².

Chip conveyor

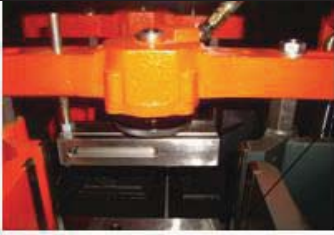


Chip conveyor is a spiral device to bring chips out during cutting.



As a regular maintenance, remove the chip conveyor and clean all chip deposits inside.

Hydraulic top clamps

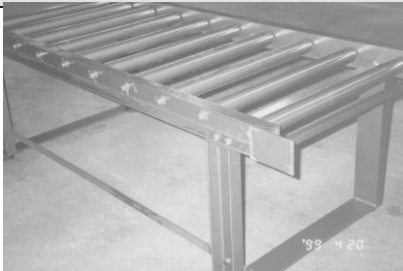


Multi Vise connector



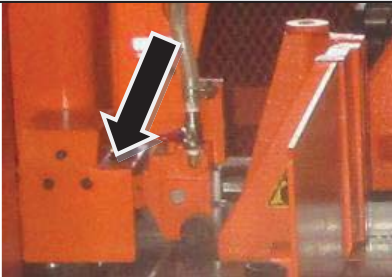
- The top clamp device composed of two clamps is installed on top of the front and rear vises before executing bundle cutting.
- Refer to *Using Top Clamp for Bundle Cutting* for operating procedure on bundle cutting.

2M roller table



- The optional 2M roller table supports the work material and ensures the material be fed in smoothly.
- Refer to Section 9 for further information on adjusting the roller table.

Vibration damper



The vibration damper can be assembled to the left saw arm. This optional accessory is extremely useful in reducing the high-frequency noise produced when cutting large-sized material.

Blade Deviation Detector & Calibration Procedure (Optional)



Blade Deviation Detector

This device detects blade deviation. If the blade deviates out of the tolerance range, the machine will stop automatically.

※ [Remark] When this device is installed, the cutting width will be reduced.

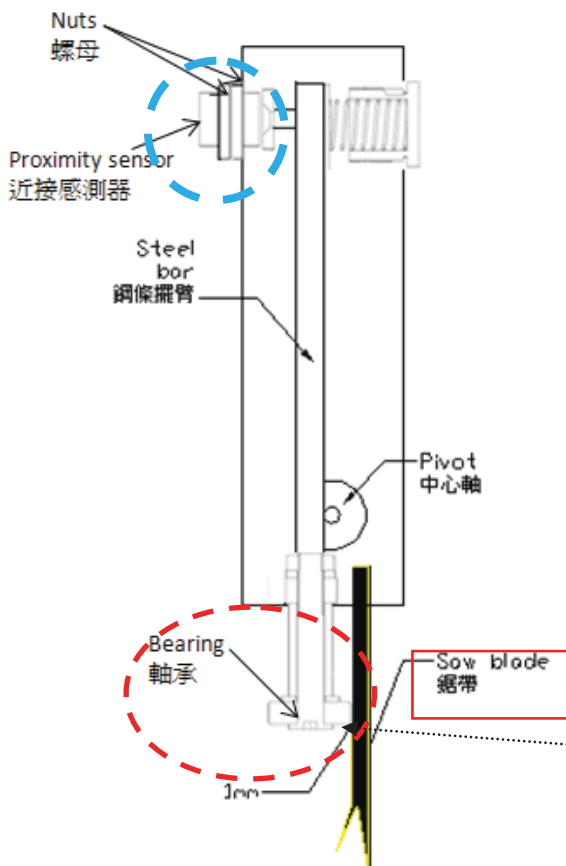
The blade deviation detected value and present values are displayed on the HMI screen.

Before cutting, please make sure if the deviation value is “Zero”. If not, please calibrate the deviation detector before proceeding to cutting.

Deviation Tolerance (Recommended):

$\pm 0.1 \sim 0.5 \text{ mm}$ ($\pm 0.004'' \sim 0.02''$) °

***Set up according to the tolerance range the users need.**



Deviation Detector Side Section

How to Adjust

1. Loosen the nuts.
2. Adjust the proximity sensor until the blade deviation value shown the display returns to zero.
3. Tighten the nuts.

(Please refer to the next page.)

How to Check

Put a thick ruler (0.1mm) between saw blade and deviation roller for measurement. Also, check the deviation tilt value; it should be 0.1mm.

- Adjust the proximity sensor until the blade deviation displayed on the control panel is zero.
- If the deviation value not changed when adjusting the proximity sensor or **bearing**, it means the deviation detector with malfunction. Need to replace a new one.
- Please clean the internal shell of deviation detector sometimes for keeping dry and clean.

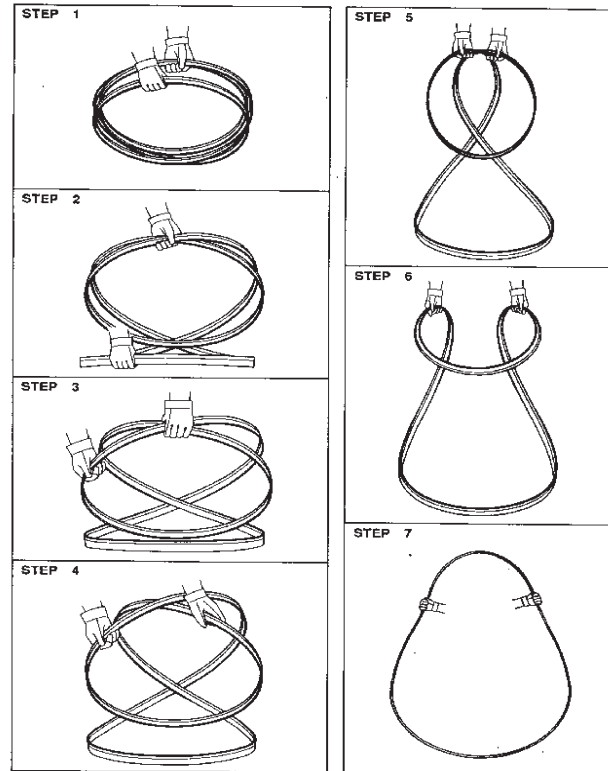
UNROLLING & INSTALLING THE BLADE



Always wear leather gloves and protection glasses when handling a blade.

Unrolling the blade

Please follow the procedures illustrated below.



Unroll and roll the blade

Installing a new blade

Step 1 - Select the most suitable saw blade for your workpiece considering the size, shape and material.

Step 2 - Turn on the machine power by switching to *ON* and turn on the hydraulic system.

Step 3 - Switch to *manual* (🖱️) mode.

Step 4 - Press the *saw bow up* button and elevate the saw bow until the right insert holder completely

Step 5 - Turn the tension controller handle from “○○○” to “○○○” position to release tension. The idle wheel will then move slightly toward the direction of the drive wheel.



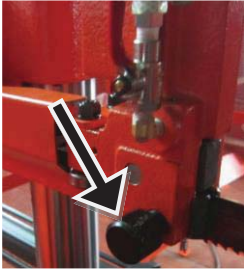
Step 6 - Open the idle and drive wheel covers.

Step 7 - Press the *Blade Clip* device to hold onto the blade. This device makes blade changing easy and feasible even with only one operator available.

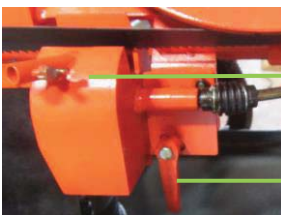


Easy Blade Replacement Device

Step 8 - Loosen the left and right carbide inserts by **loosening the “lock nut”** shown below.



Step 9 - Open the wire brush cover. Loosen the lock lever and lower the wire brush.



Wire Brush Cover

Lock Lever

Step 10 - Remove the old blade. If necessary, clean the carbide inserts before installing a new saw blade.

Step 11 - Place the new blade around the idle wheel and the drive wheel.

Step 12 - Insert the blade into the left and right tungsten carbide inserts. The back and the sides of the blade need to be touching the inserts as well as the adjacent rollers.

Step 13 - Place the blade to the drive wheel and press the back of the blade against the flange of the drive wheel. Use the *Blade Clip* device to tightly hold the blade from falling out of the drive wheel.



When saw blade begins to rotate, the blade holder will automatically release the blade and fall back to its original position.

Step 14 - Make sure the back of the blade is also pressed against the flange of the idle wheel.

Step 15 - Turn the tension controller handle to [] position to obtain blade tension.

Step 16 - Make sure the sides of the blade are in close contact with the carbide inserts and then tighten the left and right carbide inserts by tightening the “lock nut.”

Step 17 - Gently close the idle and drive wheel covers.

Step 18 - Press the *saw blade start* button to start the blade. Allow the blade to run for a few rotations then press the *saw bow up* button to elevate the saw bow. Open the wheel

covers and make sure the blade has not fallen off the drive and idle wheels. If the blade has shifted, follow the same procedure to reinstall the blade again.

Step 19 - Adjust wire brush to a proper position. Refer to *Adjusting Wire Brush* in this section.

ADJUSTING WIRE BRUSH

Follow these steps to adjust wire brush to appropriate position:

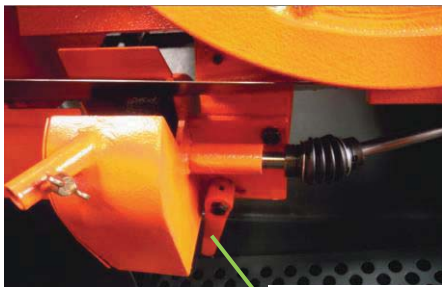
Step 1 - Open the wheel cover.

Step 2 - Loosen the lock lever and the wire brush cover.

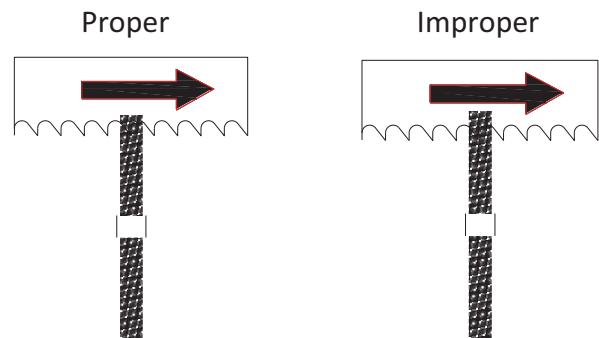
Step 3 - Adjust the screw to make brush move up / down until it makes proper contact with the saw blade (see below illustration).

Step 4 - Tighten the wire brush cover and the lock lever.

Step 5 - Close the wheel cover.



Lock Lever



ADJUSTING SAW ARM

Adjust the blade guide (guide arm) position based on the size of your workpiece:

Step 1 - Loosen the inserts by unlocking the lock nut.

Step 2 - Loosen the blade guide locking lever. Then adjust the guide arm to a position suitable for your workpiece size.

Step 3 - After adjustment is made, tighten the blade guide locking lever.

Step 4 - Clamp the inserts back by tightening the lock nut.



Locking Lever

Inserts Lock Nut

ADJUSTING COOLANT FLOW

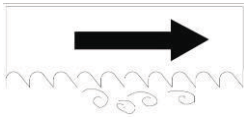
Step 1 – Press the *saw blade start* button to start the saw blade drive motor.

Step 2 – Press the *saw bow down* button to lower the saw bow.

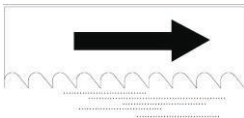
Step 3 – Use the flow control valve (shown below) to adjust the amount of fluid flowing to the cutting area.



Adjust the flow amount if you observe the following changes to the chips generated from cutting.



If the chips are sharp and curved, increase the coolant flow amount.



If the chips are granulated, decrease the coolant flow amount.

PLACING WORKPIECE ONTO WORKBED

Step 1 – Press the *saw bow up* button and elevate the saw bow until it reaches to its highest point.

Step 2 – Press the *front vise open* and *rear vise open* buttons to open vises.

Step 3 – Loosen the vertical roller lock handles and fully open the vertical rollers.


Step 4 – Carefully place the workpiece onto the work feed table to where it extends approximately 30mm(1.2 inch) beyond the rear vise toward the front vise.



Vertical Roller

POSITIONING WORKPIECE FOR CUTTING

Follow these steps to position your workpiece:

Step	Action
rear vises clamp material	1 Press the <i>rear vise clamp</i> button until the workpiece is securely clamped.
align vertical rollers	2 Move the vertical alignment rollers toward workpiece until it stands against the workpiece. Lock the vertical alignment rollers by tightening the lock handles
feed material forward	3 Press the <i>feed forward</i> button until the rear vise touches the front limit switch.
front vises clamp material	4 Press the <i>front vise clamp</i> button until the workpiece is securely clamped.
rear vises retract to clamp material again	5 Press the <i>rear vise open</i> button.
	6 Press the <i>feed backward</i> button until the rear vises reach back limit switch.
	7 Press the <i>rear vise clamp</i> button until the workpiece is securely clamped again.
front vises open; prepare for precision position	8 Simultaneously press the <i>front vise open</i> button and the <i>rear vise clamp</i> button again to make sure the material is clamped.
confirm cutoff point	9 Press the <i>saw bow down</i> button to lower the saw bow until the quick approach bar descends to just about 10mm (0.4 inch) above the workpiece.  Under no circumstances should the quick approach bar be lowered below the height of the workpiece.
precision position	10 Press the <i>feed forward</i> button (and the <i>feed backward</i> button if necessary) until the cutoff point on the workpiece aligns with the blade line.
front vises clamp material; ready to cut	11 After the workpiece is correctly positioned, press the <i>front vise clamp</i> button so the workpiece is securely clamped.

ADJUSTING BLADE SPEED

Step 1 – Set the flow control to “0” position.

Step 2 – Press the *saw blade start* button to start the blade.

Step 3 – Turn the *blade speed control knob* to adjust the blade speed. The blade speed should be adjusted based on the size and the material of the workpiece.

BREAKING-IN THE BLADE

When a new saw blade is used, be sure to first break in the blade before using it for actual, extended operation. Failure to break in the blade will result in less than optimum efficiency. To perform this break-in operation, the following instructions should be followed:

Step 1 - Reduce the blade speed to one-half of its normal setting.

Step 2 - Lengthen the cutting time to 2-3 times of what is normally required.

Step 3 - The complete break-in operation requires cutting on a 645 mm² (25.4 square inches) section for 5 times.

Step 4- After the break-in operation is completed, set all parameters back to normal settings.

TEST-RUNNING THE MACHINE

Test-running this machine can ensure good machine performance in the future. We suggest you run the following tests on the machine before first use:

Testing machine performance:

Turn on the power and run a basic performance test after you finish installing the machine. Follow these steps to test machine performance:

Step 1 – Disassemble shipping brackets and bolts.

Step 2 – Install roller table (optional).

Step 3 – Turn on the relay switch in the control box.

Step 4 – Elevate the saw bow. (If your coolant pump is in reverse and the machine cannot run, please change the electrical phase.)

Step 5 – After the saw bow ascends, extend the quick approach device.

Step 6 – Remove the rust-prevention grease with cleaning oil or kerosene.

Step 7 – Start the coolant pump.

Step 8 – Test these functions under manual mode:

- vise clamping/unclamping
- saw bow ascending/descending
- feeding forward and backward

CUTTING OPERATION

Step 1 – Check before you cut

- **Power:** Check the voltage and frequency of your power source.
- **Coolant:** Check if you have sufficient coolant in the tank.
- **Hydraulic:** Check if you have sufficient (at least two-thirds or higher) hydraulic oil.
- **Workbed:** Check if there is any object on the feeding bed that may cause interference.
- **Blade:** Check the blade teeth and make sure there is no worn out teeth along the blade.
- **Light:** Check the work lamp or laser light (optional) and make sure there is sufficient lighting.
- **Roller:** Check all the rollers on the front and rear workbed can roll smoothly.
- **Saw bow:** Check the saw bow to see if it can be elevated and lowered smoothly.

Step 2 – Place your workpiece onto the workbed manually or by using a lifting tool e.g. a crane.



Before loading, make sure the vises are opened to at least wider than the width of the workpiece.

Step 3 – Position your workpiece.

Step 4 – Clamp the workpiece.

Step 5 – Turn the *cutting pressure control* knob to adjust cutting pressure according to the material.

Step 6 – Adjust *blade descend speed control* knob to obtain a suitable blade descend speed for your material.

Step 7 – Start running the blade.



Before you start cutting, check again that there is no other object in the cutting area.

Step 8 – While the blade descends, adjust the blade speed if necessary. You can do so by turning the *blade speed control* knob, clockwise to speed up and counterclockwise to slow down. The blade speed is displayed in the HMI touch screen.

Step 9 – Select the proper cutting condition according to different material.

Step 10 – After the entire cutting job is completed, elevate the saw bow to the top and open the vises to remove the workpiece.

Step 11 – Clean the workbed by removing chips and cutting fluids.

Step 12 – Lower the saw bow to a proper position then turn off the power.

STARTING AN AUTOMATIC OPERATION

Step 1 – Use manual mode and cut the edge of the workpiece by using the same procedures as those described under manual operation.

Step 2 – After the trim cut is completed and the saw blade has stopped at the lower limit position, press the *saw blade up* button to raise the saw bow until the quick approach bar is approximately 10mm (0.4inch) above the workpiece.

Step 3 - Turn the *Auto / manual* switch to manual.

Step 4 – Open the front vise.

Step 5 – Feed the workpiece forward to the required cutting position.

Step 6 – Clamp the front vise.

Step 7 – Set the required cutting length on the cutting length preset counter using the following procedures:

- 1) Loosen the lock screw.
- 2) Turn the handwheel to set the required cutting length which was determined in step 4 above on the counter. When setting the required cutting length, be sure to turn the handwheel clockwise to prevent setting error due to backlash.
- 3) Tighten the lock screw.

Step 8 - If the required cutting length is more than 400mm (15.7"). Feed the workpiece twice by turning the feeding times button.

To determining the value to be set on the cutting length preset counter, be sure to sue the following

$$C = \frac{l - t(n - 1)}{n}$$

equation:

where C = Value set on counter (mm)

l = Required cutting length (mm)

t = set with 1.6mm

n = feeding times

For example, when the required cutting length is 600mm, $C = (600 - 1.6 \times (2 - 1)) / 2 = 299.2\text{mm}$

Step 9 – Turn the *Auto / manual* switch to Auto.

Step 10 – Press the *saw blade start* button and press the *saw bow down* button to start automatic cutting.

USING TOP CLAMP FOR BUNDLE CUTTING



Before Cutting , Make sure that the bundle is properly tightly clamped but not being distorted by clamp force.

Any improper bundle cutting can cause damage to the blade, reduce the blade life.

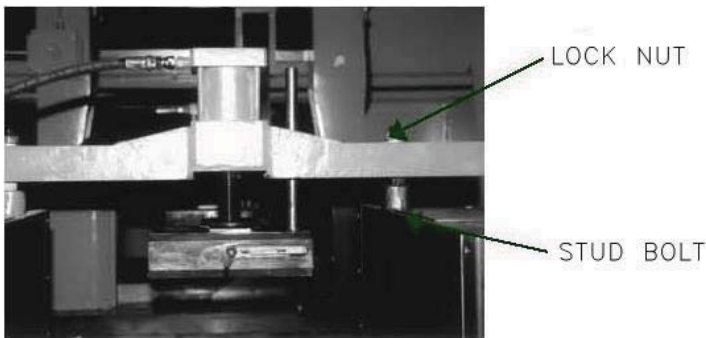
Notice: There are several factors to makes bundle cutting more difficult and unstable, such as vibration, wide guide spacing, coolant getting to the teeth and cutting through work hardened chips.

1. Each bar of the bundle is suggested to be the same size for being firmly clamped in the bundle.
2. Make sure that the bundle is properly placed (before cutting) to refrain from vibration, spinning and changing length position during cutting.
3. Tack welding ends of bars will prevent spinning but not vibration.

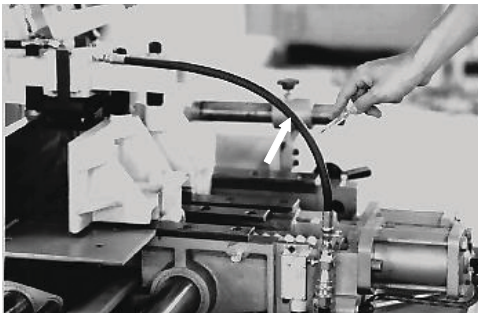
Installing top clamp

To perform bundle cutting, use the top clamps and take the following installation procedures.

Step 1 – Install stud bolts on the front and rear vises and position the top clamp.



Step 2 – Connect the top clamp hoses to the pressure joints on the vise hydraulic cylinders.

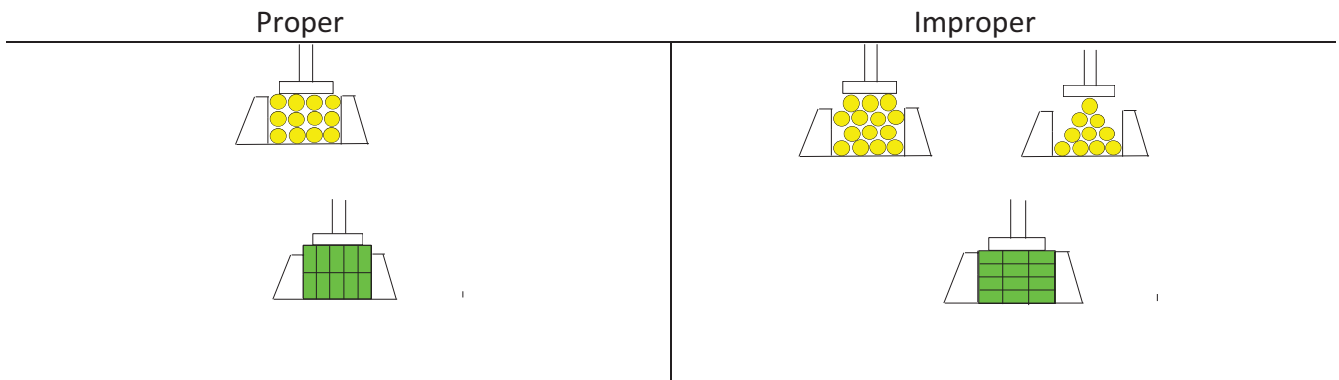


Step 3 – Position the workpiece for bundle cutting.



Note the allowable clamping width 190~300mm and height 70~140mm.

Proper and improper stacking of workpieces



- Step 4 – Align the top clamp cylinders with the center of the workpiece and tighten the lock nuts.
- Step 5 – Turn the top clamp handles so that the clearance between the top clamp jaw and the top of the bundled workpiece is within 5 to 10 mm (0.2 ~ 0.4 in).
- Step 6 – Install the bundle-cutting fence to the work tray. The fence is designed to prevent cut pieces from scattering across the work tray. Adjust the width of the fence to be slightly larger than the width of the bundle.
- Step 7 – Press *Single/Bundle cutting mode* button and switch to bundle cutting mode.
- Step 8 – For subsequent cutting procedures, refer to the instructions under manual operation and automatic operation.

Uninstalling top clamp

Follow these steps to uninstall top clamp for cutting single material:

- Step 1 – Disconnect the top clamp hoses.
- Step 2 – Loosen the lock nuts and remove the top clamp.
- Step 3 – Remove the stud bolts.



TERMINATING A CUTTING OPERATION

- To terminate a cutting operation, press either the *saw bow up* button or the *emergency stop* button.
- The saw blade will stop running when the *saw bow up* button is pressed.
- Both the saw blade and hydraulic pump motors will stop running when the *emergency stop* button is pressed.
- The machine will stop automatically when an error occurs. The error message will be shown on the screen.

Section 5

ELECTRICAL SYSTEM

ELECTRICAL CIRCUIT DIAGRAMS

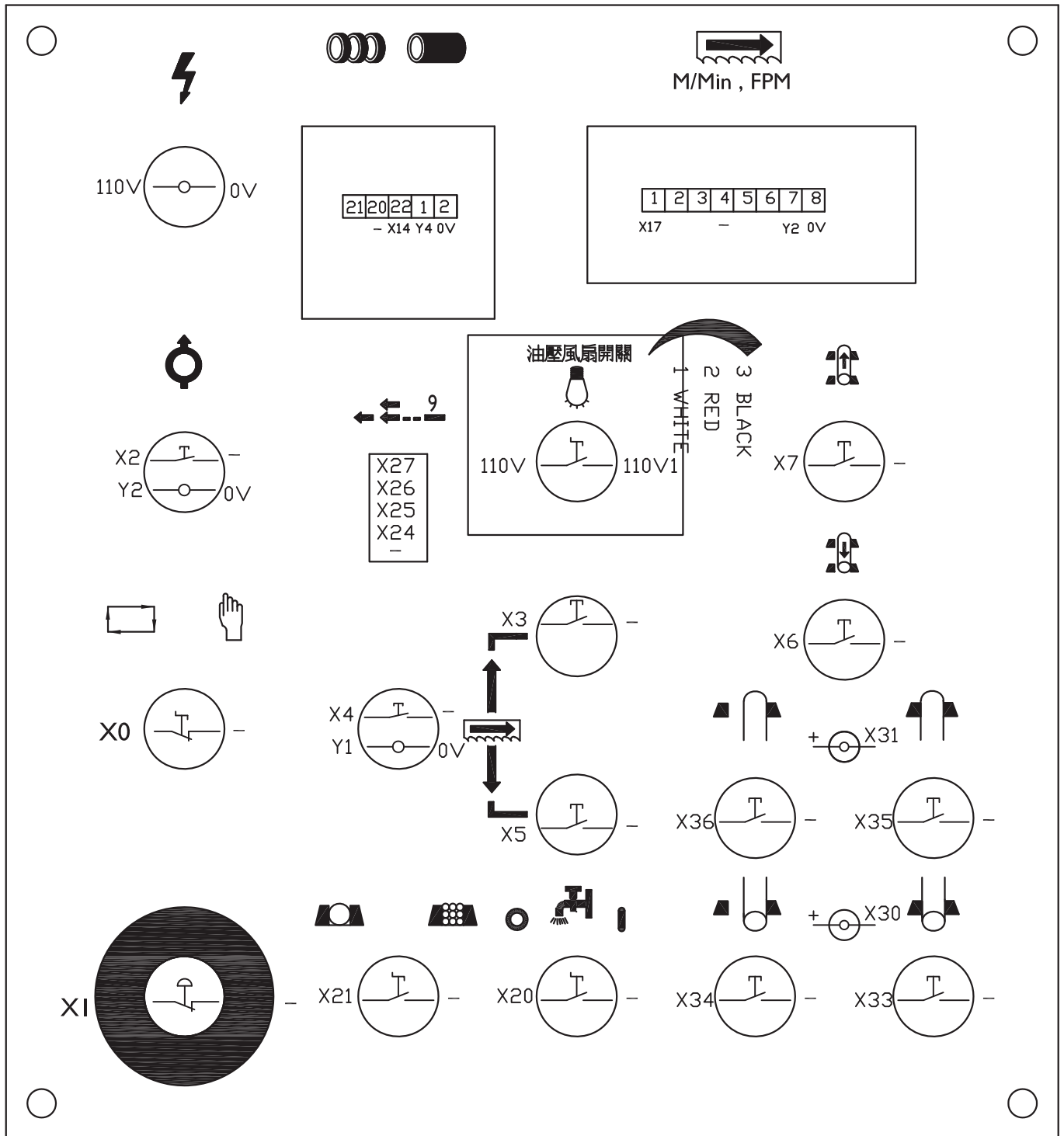
5-2 Control Panel Layout

5-3 Circuit Board Layout

5-4 Power Supply Layout

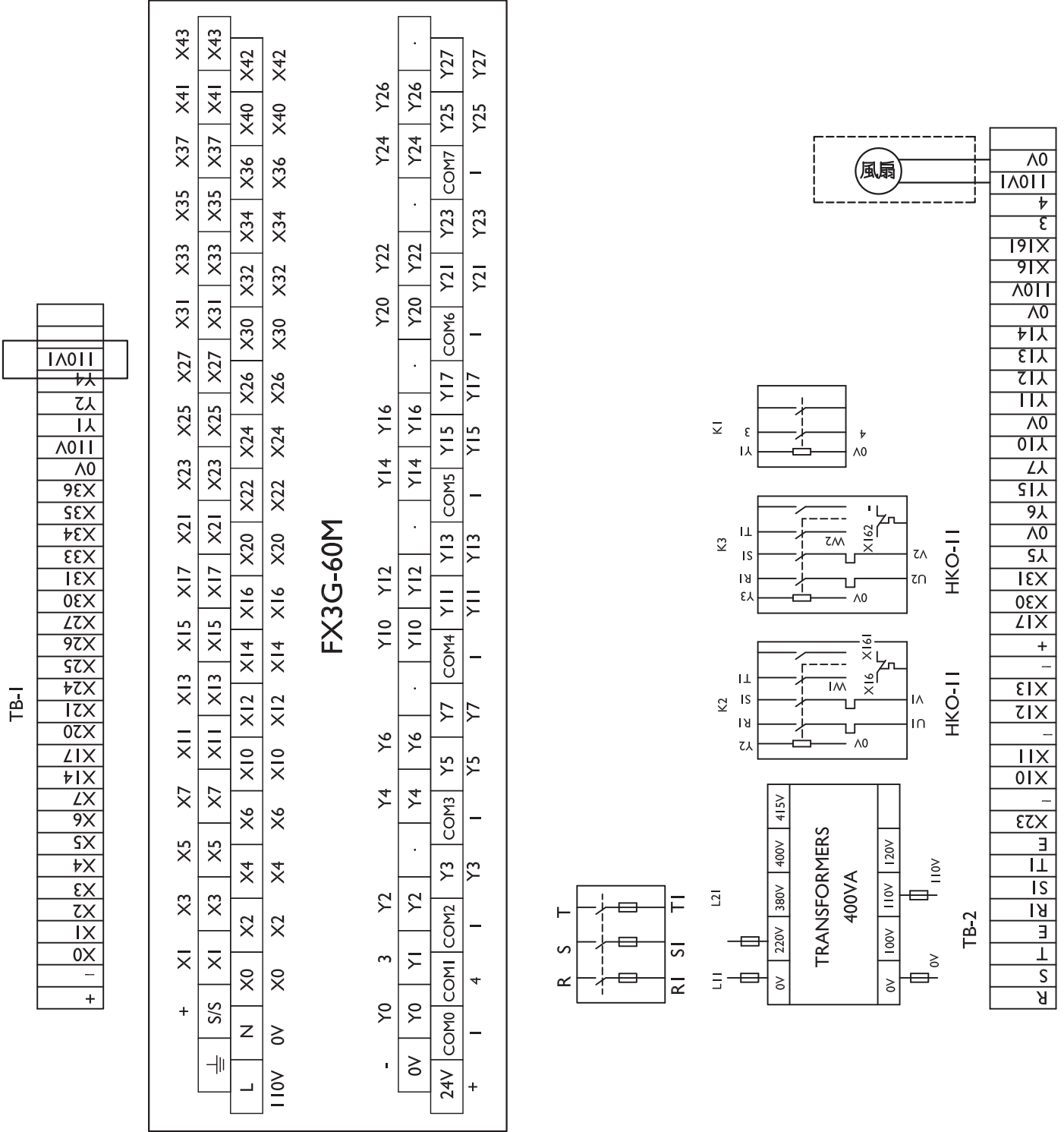
5-5 PLC Input/Output Layout

SW-126AD



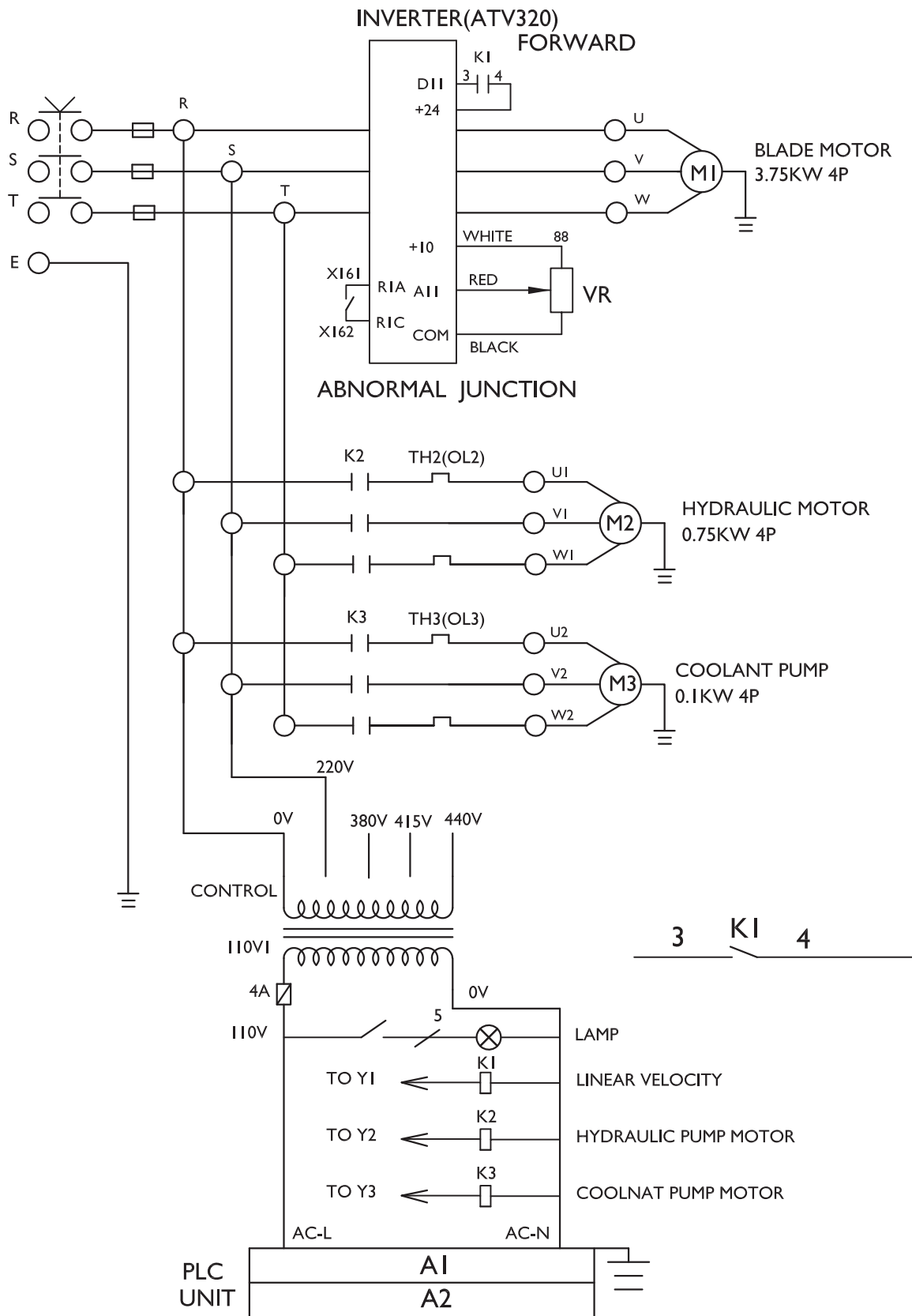
Control Panel Layout

SW-126AD



Power Supply Layout

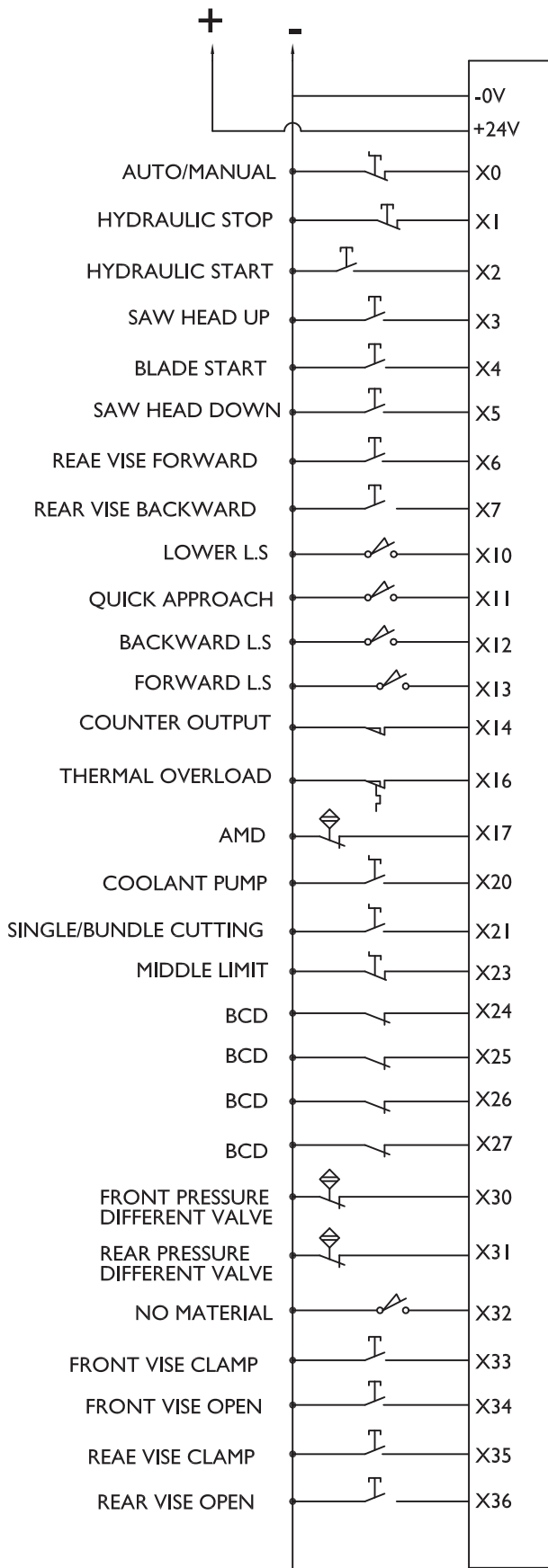
SW-126AD



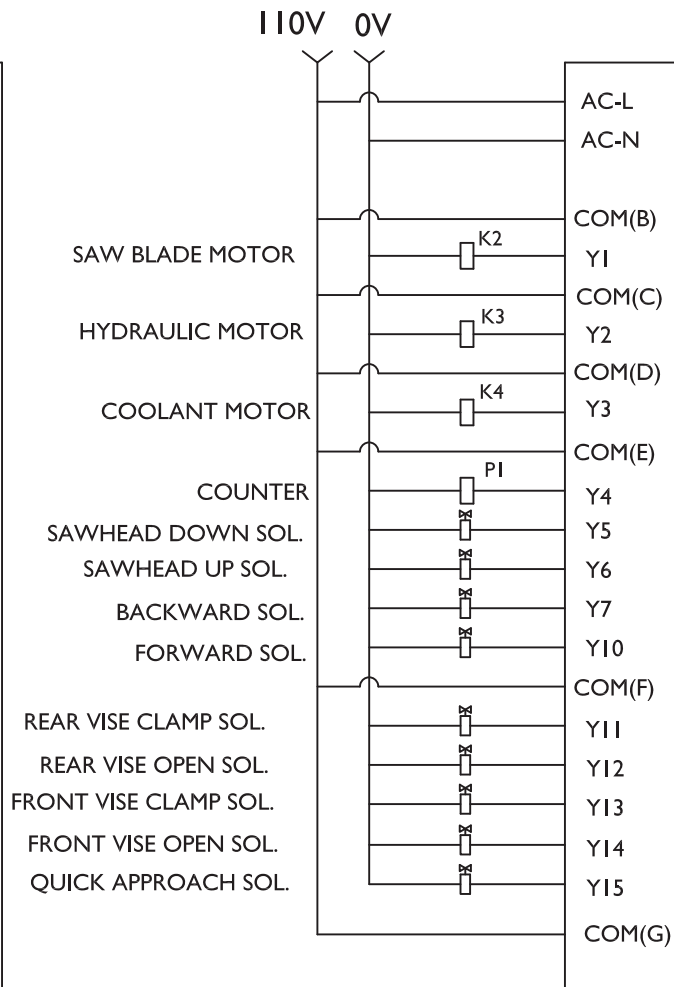
Circuit Board Layout

SW-126AD

PLC INPUT MODULE A1



PLC OUTPUT MODULE A2



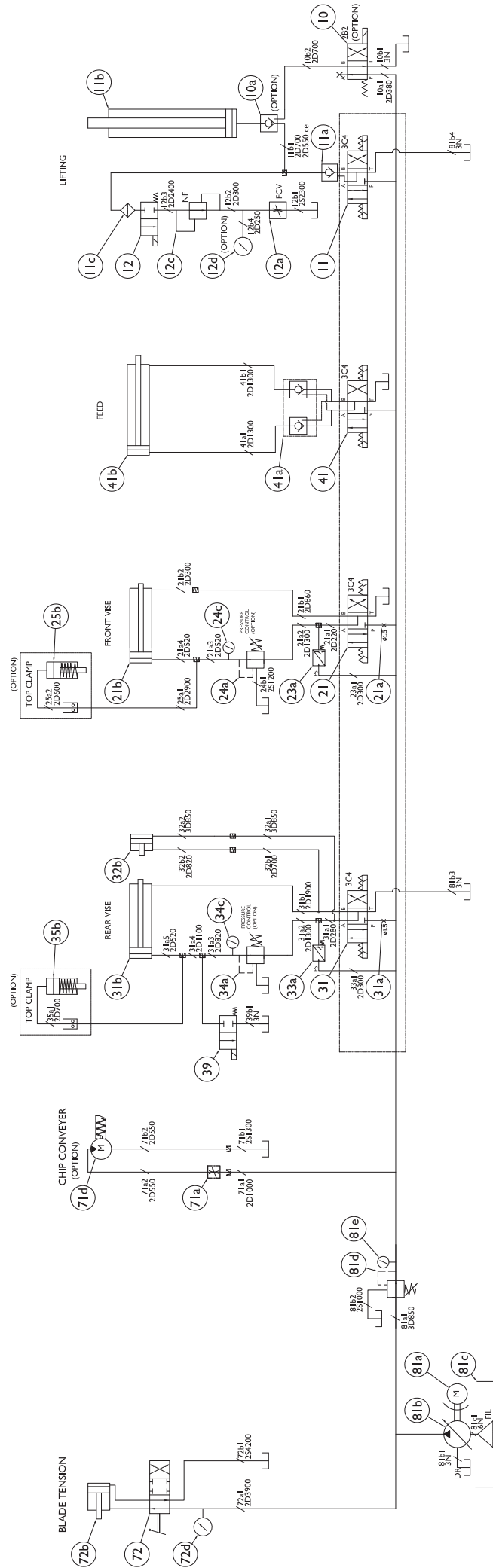
PLC Input/Output Layout

Section 6

HYDRAULIC SYSTEM

HYDRAULIC DIAGRAMS

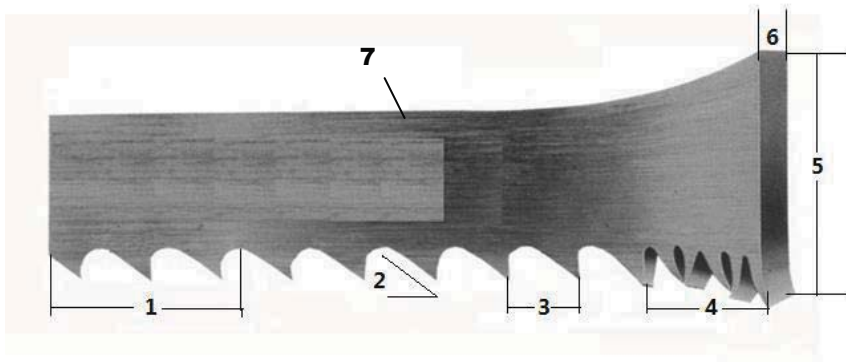
HYDRAULIC CIRCUIT



BANDSAW CUTTING: A PRACTICAL GUIDE

**INTRODUCTION
SAW BLADE SELECTION
VISE LOADING
BLADE BREAK-IN**

INTRODUCTION



- 1. TPI:** The number of teeth per inch as measured from gullet to gullet.
- 2. Tooth Rake Angle:** The angle of the tooth face measured with respect to a line perpendicular to the cutting direction of the saw.
- 3. Tooth Pitch:** Tooth pitch refers to the number of teeth per inch (tpi). 1 inch equates to 25.4 mm.

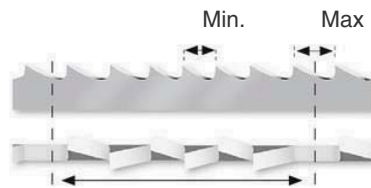
A distinction is made between constant tooth pitches with a uniform tooth distance, 2 tpi for example, and variable tooth pitches with different tooth distances within one toothing interval.

Variable tooth pitches, for instance 2-3 tpi, can be characterized by two measures: 2 tpi stands for the maximum tooth distance and 3 tpi stands for the minimum tooth distance in the toothing interval.

Constant



Variable



- 4. Set:** The bending of teeth to right or left to allow clearance of the back of the blade through the cut.
- 5. Width:** The nominal dimension of a saw blade as measured from the tip of the tooth to the back of the band.
- 6. Thickness:** The dimension from side to side on the blade.
- 7. Gullet:** The curved area at the base of the tooth. The tooth tip to the bottom of the gullet is the gullet depth.

SAW BLADE SELECTION

1. Band length

The dimensions of the band will depend on the band saw machine that has been installed.

Please refer to Section 2 – General Information

2. Band width

Band width: the wider the band saw blade, the more stability it will have.

3. Cutting edge material

The machinability of the material to be cut determines what cutting material you should choose.

4. Tooth pitch

The main factor here is the contact length of the blade in the workpiece.

If it is 4P, $25.4 \div 4 P = 6.35$ mm, that is, one tooth is 6.35 mm.

If it is 3P, $25.4 \div 3 P = 8.46$ mm If the number is small, it means that the tooth is large.

What is written as 3/4 is that it is a variable pitch of large (3) / small (4).

The saw blade must contact the cutting material at least two pitches. In the case of a thickness of 15 mm, 4P = OK, 3P = NG.

- The surface conditions will also affect the cutting rate. If there are places on the surface on the material which are hard, a slower blade speed will be required or blade damage may result.
- It will be slower to cut tubing than to cut solids, because the blade must enter the material twice, and because coolant will not follow the blade as well.
- Tough or abrasive materials are much harder to cut than their machinability rating would indicate.
- Tooth spacing is determined by the hardness of the material and its thickness in cross section.
- Tooth set prevents the blade from binding in the cut. It may be either a "regular set" (also called a "raker set") or a "wavy set".
- The regular or raker set is most common and consists of a pattern of one tooth to the left, one tooth to the right, and one which is straight, or unset. This type of set is generally used where the material to be cut is uniform in size and for contour cutting.
- Wavy set has groups of teeth set alternately to right and left, forming a wave-like pattern. This reduces the stress on each individual tooth, making it suitable for cutting thin material or a variety of materials where blade changing is impractical. Wavy set is often used where tooth breakage is a problem. This is shown in Fig. 7.2 as follows:

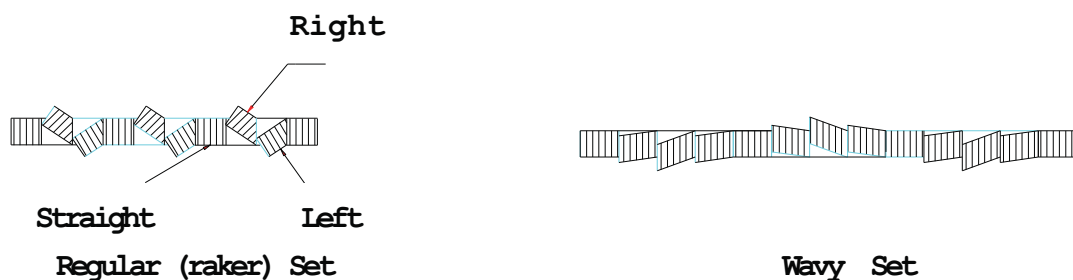


Fig. 7.2 The Saw Set

WISE LOADING

The position in which material is placed in the vise can have a significant impact on the cost per cut.

Often, loading smaller bundles can mean greater sawing efficiency.



When it comes to cutting odd-shaped material, such as angles, I-beams, channel, and tubing, the main point is to arrange the materials in such a way that the blade cuts through as uniform a width as possible throughout the entire distance of cut.

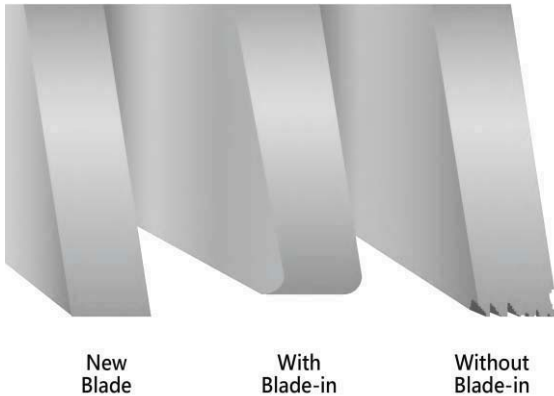
The following diagrams suggest some costeffective ways of loading and fixturing. Be sure, regardless of the arrangement selected, that the work can be firmly secured to avoid damage to the machine or injury to the operator.



BLADE BREAK-IN

Completing a proper break-in on a new band saw blade will dramatically increase its life.

1. Select the proper band speed for the material to be cut.



2. Reduce the feed force/rate to achieve a cutting rate 20% to 50% of normal (soft materials require a larger feed rate reduction than harder materials).

3. Begin the first cut at the reduced rate. Make sure the teeth are forming a chip. Small adjustments to the band speed may be made in the event of excessive noise/vibration. During the first cut, **increase feed rate/force** slightly once the blade fully enters the workpiece. With each following cut, **gradually increase feed rate/force** until normal cutting rate is reached.

MAINTENANCE & SERVICE

INTRODUCTION

BASIC MAINTENANCE

MAINTENANCE SCHEDULE

BEFORE BEGINNING A DAY'S WORK

AFTER ENDING A DAY'S WORK

Every 2 weeks

First 600hrs for new machine, then every 1200hrs **for routine change**

EVERY SIX MONTHS

STORAGE CONDITIONS

TERMINATING THE USE OF MACHINE

OIL RECOMMENDATION FOR MAINTENANCE

INTRODUCTION

For the best performance and longer life of the band saw machine, a maintenance schedule is necessary. Some of the daily maintenance usually takes just a little time but will give remarkable results for the efficient and proper operation of cutting.

BASIC MAINTENANCE

It is always easy and takes just a little effort to do the basic maintenance. But it always turns out to be a very essential process to assure the long life and efficient operation of the machine. Most of the basic maintenance requires the operator to perform it regularly.

MAINTENANCE SCHEDULE

We suggest you do the maintenance on schedule.

Before beginning a day's work

1. Please check the hydraulic oil level. If oil level volume is below 1/2, please add oil as necessary. (Filling up to 2/3 level is better for system operation.)
2. Please check the cutting fluid level, adding fluid as necessary. If the fluid appears contaminated or deteriorated, drain and replace it.
3. Please check the saw blade to ensure that it is properly positioned on both the drive and idle wheels.
4. Please make sure that the saw blade is properly clamped by the left and right inserts.
5. Please check the wire brush for proper contact with the saw blade. Replace the wire brush if it is worn out.

After ending a day's work

Please remove saw chips and clean the machine with discharging the cutting fluid when work has been completed.



Do not discharge cutting fluid while the saw blade is operating because it will cause severe injury on operator's hand.



Be sure the saw blade is fully stop, it will be performed after working inspection.

Every 2 weeks

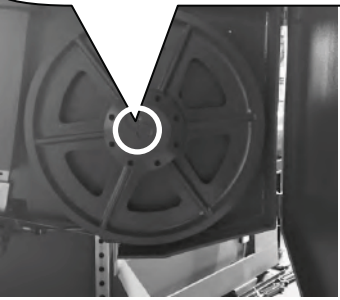

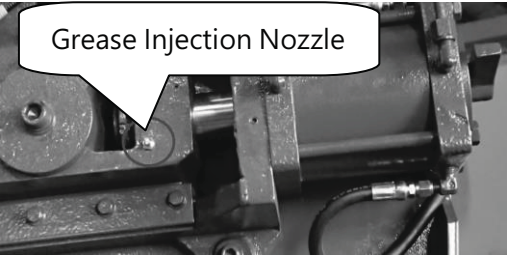

Please apply grease to the following points:

1. Idle wheel
2. Drive wheel
3. Blade tension device

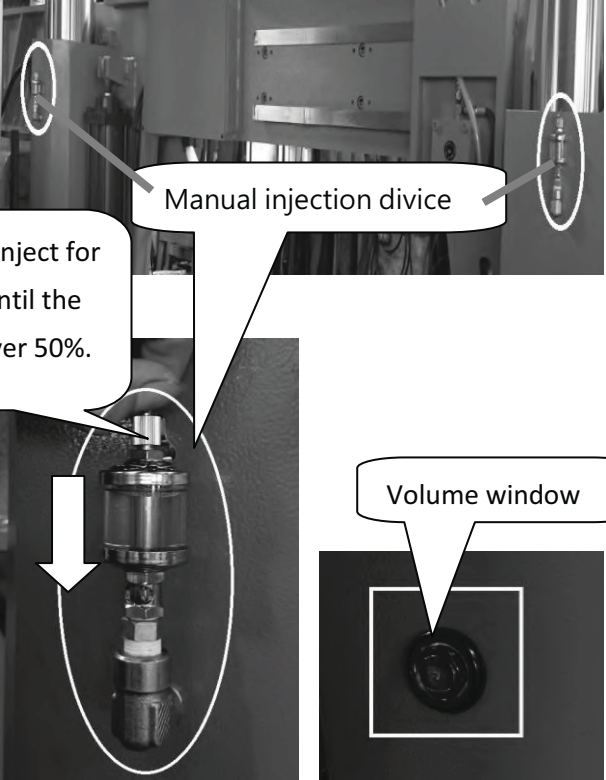

Recommended Grease:

- Shell Alvania EP Grease 2
- Mobil Mobilplex 48

Grease Injection Hole:

	<ol style="list-style-type: none"> Grease Injection Nozzles at the middle of drive wheel and idle wheel; (You need to rotate the wheel until you see the Grease injection nozzle.)  : The position of injection indicating. <ol style="list-style-type: none"> Please inject the grease into the Nozzle.
	<ol style="list-style-type: none"> Grease Injection Nozzle on the blade tension device.  : The position of injection indicating. <ol style="list-style-type: none"> Please inject the grease into the Nozzle.

Grease Injection for Main shaft (double column) (if applicable):

	<ol style="list-style-type: none"> Two manual injection device for two main shafts (double column)  : The position of injection indicating. <ol style="list-style-type: none"> Pull up & inject grease for seconds Recommend always keeping the volume over 50% inside the vessel of volume window. °
---	---

First 600hrs for new machine, then every 1200hrs **for routine change**

Replace the transmission oil after operating for first 600hrs for new machine, then every 1200hrs

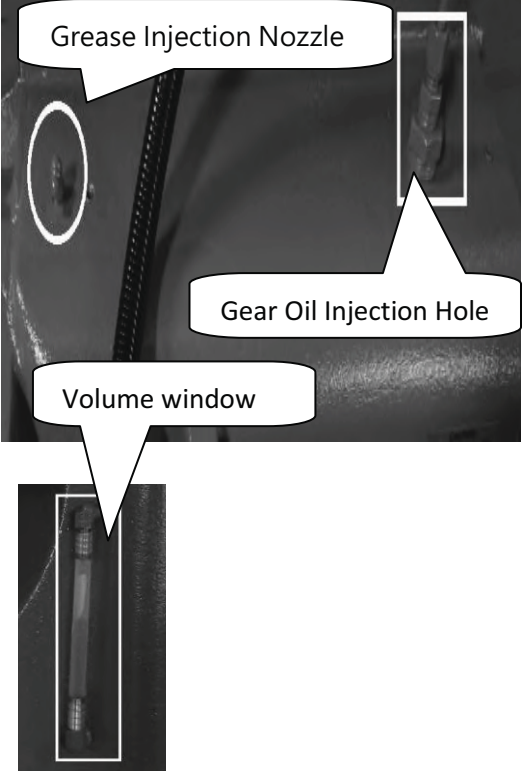

Recommended gear oil

- Shell Omala oil HD220
- Mobil gear 630

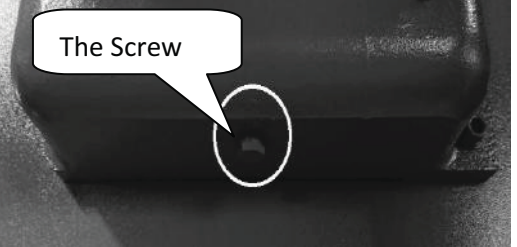
Recommended hydraulic oil

- ShellTellus 32
- Mobil DTE Oil Light Hydraulic 24

Gear Oil & Grease Injection Hole:

	<p>4. A grease injection hole and a gear oil injection hole on the top of gear reducer.</p>  <p>: The position of injection indicating.</p> <p>5. Recommend keeping the volume over 50% inside the vessel of volume window. °</p>
--	--

To unload the waste fluid:

	<ol style="list-style-type: none">1. Put the waste oil container in the bottom of the reducer for unloading waste fluid2. Use the wrench to open the screw for unloading the waste fluid.3. Make sure the screw bolted tightly after unloading completed,
---	---

Bottom of Gear reducer

Every six months

1. Clean the filter of the cutting fluid.
2. Replace the transmission oil for every half of a year (or 1200 hours).
Check the sight gauge to ascertain the transmission level.

Recommended TRANSMISSION OIL

- Omala oil HD220
- Mobil comp 632 600W Cylinder oil

3. Replace the hydraulic oil.

Recommended HYDRAULIC OIL

- ShellTellus 32
- Mobil DTE Oil Light Hydraulic 24

STORAGE CONDITIONS

Generally, this machine will be stored on the following conditions in future:

- (1) Turn off the power.
- (2) Ambient temperature: 5°C ~ 40°C
- (3) Relative humidity: 30%~85% (without condensation)
- (4) Atmosphere: use a plastic canvas to cover machine to avoid excessive dust, acid fume, corrosive gases and salt.
- (5) Avoid exposing to direct sunlight or heat rays which can change the environmental temperature.
- (6) Avoid exposing to abnormal vibration.
- (7) Must be connected to earth.

TERMINATING THE USE OF THE MACHINE

Waste disposal:

When your machine can not work anymore, you should **drain** the oil from machine body. Please **store** the oil in safe place with bottom **tray**. Ask a environment specialist to handle the oil. It can avoid soil pollution. The oil list in machine:

- Hydraulic oil
- Cutting fluid
- Drive wheel gear oil

OIL RECOMMENDATION FOR MAINTENANCE

Item	Method	Revolution	Suggest oil
Dovetail guide	Keep grease covered. Antirust.	Daily	Shell R2
Roller bearing	Sweep clean and oil with lubricant.	Daily	SEA #10
Bed roller / surface	Sweep clean and oil with lubricant.	Daily	SEA #10
Nipples of bearing	Use grease gun, but not excess.	Monthly	Shell R2
Blade tension device	Use grease gun, but not excess.	Monthly	Shell Alvania EP Grease 2, Mobil Mobilplex 48
Reducer	Inspect once a week. Change oil of 600 hours of using. Change it every year.	Regularly	Omala oil HD220 Mobil Gear 630
Hydraulic system	Inspect half a year. Change oil every year.	Regularly	Shell Tellus 32 Mobil DTE oil Light Hydraulic 24
Bearing	Inserts	Oil with lubricant, but not excess.	Daily
	Band wheel	Oil with lubricant, but not excess.	Weekly
	Cylinder	Oil with lubricant, but not excess.	6 Monthly
	Wire brush	Oil with lubricant, but not excess.	6 Monthly



1. Turn off the stop circuit breaker switch before servicing the machine.
2. Then post a sign to inform people that the machine is under maintenance.
3. Drain all of the cutting fluid and oil off and carefully treat them to avoid pollution.
4. The machine must be either **LOCKED OUT OR TAGGED OUT** while under maintenance.

TROUBLESHOOTING

INTRODUCTION

PRECAUTIONS

GENERAL TROUBLES & SOLUTIONS

MINOR TROUBLES & SOLUTIONS

MOTOR TROUBLES & SOLUTIONS

BLADE TROUBLES & SOLUTIONS

SAWING PROBLEMS & SOLUTIONS

RE-ADJUSTING THE ROLLER TABLE

INTRODUCTION

All the machines manufactured by us pass a 48 hours continuously running test before shipping out and we are responsible for the after sales service problems during the warranty period if the machines are used normally. However, there still exist the some unpredictable problems which may disable the machine from operating.

Generally speaking, the system troubles in this machine model can be classified into three types, namely GENERAL TROUBLES, MOTOR TROUBLES and BLADE TROUBLES. Although you may have other troubles which can not be recognized in advance, such as malfunctions due to the limited life-span of mechanical, electric or hydraulic parts of the machine.

We have accumulated enough experiences and technical data to handle all of the regular system troubles. Meanwhile, our engineering department had been continuously improving the machines to prevent all possible troubles.

It is hoped that you will give us your maintenance experience and ideas so that both sides can achieve the best performance.

PRECAUTIONS

When an abnormality occurs in the machine during operation, you can do it yourself safely. If you have to stop machine motion immediately for parts exchanging, you should do so according to the following procedures:

- Press HYDRAULIC MOTOR OFF button or EMERGENCY STOP button.
- Open the electrical enclosure door.
- Turn off breaker.



BEFORE ANY ADJUSTMENT OR MAINTENANCE OF THE MACHINE, PLEASE MAKE SURE TO TURN OFF THE MACHINE AND DISCONNECT THE POWER SUPPLY.

GENERAL TROUBLES AND SOLUTIONS



DISCONNECT POWER CORD TO MOTOR BEFORE ATTEMPTING ANY REPAIR OR INSPECTION.

TROUBLE	PROBABLE CAUSE	SUGGESTED REMEDY
Motor stalls	Excessive belt tension	Adjust belt tension so that belt does not slip on drive pulley while cutting (1/2" Min. deflection of belt under moderate pressure.)
	Excessive head pressure	Reduce head pressure. Refer to Operating Instructions "Adjusting Feed".
	Excessive blade speed	Refer to Operating Instructions "Speed Selection".
	Improper blade selection	Refer to Operating Instructions "Blade Selection".
Cannot make square cut	Dull blade	Replace blade.
	Guide rollers not adjusted properly	Refer to Adjustments.
	Rear vise jaw not adjusted properly	Set fixed vise jaw 90° to blade.
	Excessive head pressure	Reduce head pressure. Refer to operating instructions "Adjusting Feed."
Increased cutting time	Dull blade	Replace blade
	Insufficient head pressure	Increase head pressure. Refer to Operating Instructions "Adjusting Feed."
	Reduce blade speed	Refer to Operating Instructions "Speed Selection."
Will not cut	Motor running in wrong direction	Reverse rotation of motor. (Motor rotation C.C.W. pulley end.)
	Blade teeth pointing in wrong direction	Remove blade, turn blade inside out. Re-install blade. (Teeth must point in direction of travel.)
	Hardened material	Use special alloy blades. (Consult your industrial distributor for recommendation on type of blade required.)

MINOR TROUBLES & SOLUTIONS

TROUBLE	PROBABLE CAUSE	SUGGESTED REMEDY
Saw blade motor does not run even though blade drive button is pressed.	Overload relay activated	Reset
	Saw blade is not at forward limit position.	Press SAW FRAME FORWARD button

MOTOR TROUBLES & SOLUTIONS

TROUBLE	PROBABLE CAUSE	SUGGESTED REMEDY
Motor will not start	Magnetic switch open, or protector open.	Reset protector by pushing red button (inside electric box.)
	Low voltage	Check power line for proper voltage.
	Open circuit in motor or loose connections.	Inspect all lead terminations on motor for loose or open connections.
Motor will not start, fuse or circuit breakers "blow".	Short circuit in line, cord or plug.	Inspect line, cord and plug for damaged insulation and shorted wire.
	Short circuit in motor or loose connections	Inspect all lead terminations on motor for loose or shorted terminals or worn insulation on wires.
	Incorrect fuses or circuit breakers in power line.	Install correct fuses or circuit breakers.
Motor fail to develop full power. (Power output of motor decreases rapidly with decrease in voltage at motor terminals.)	Power line overloaded with lights, appliances and other motors.	Reduce the load on the power line.
	Undersize wires or circuit too long.	Increase wire sizes, or reduce length of wiring
	General overloading of power company's facilities.	Request a voltage check from the power company
Motor overheat	Motor overloaded.	Reduce load on motor
	Air circulation through the motor restricted.	Clean out motor to provide normal air circulation through motor.
Motor stalls (Resulting in blown fuses or tripped circuit breakers)	Short circuit in motor or loose connections.	Inspect terminals in motor for loose or shorted terminals or worn insulation on lead wires.
	Low voltage	Correct the low line voltage conditions.
	Incorrect fuses or circuit breakers in power line.	Install correct fuses circuit breakers.
	Motor overloaded	Reduce motor load.
Frequent opening of fuses or circuit breakers.	Motor overloaded	Reduce motor load
	Incorrect fuses or circuit breakers.	Install correct fuses or circuit breakers.

BLADE TROUBLES AND SOLUTIONS



DISCONNECT POWER CORD TO MOTOR BEFORE ATTEMPTING ANY REPAIR OR INSPECTION.

TROUBLE	PROBABLE CAUSE	SUGGESTED REMEDY
Teeth strippage	Too few teeth per inch	Use finer tooth blade
	Loading of gullets	Use coarse tooth blade or cutting lubricant.
	Excessive feed	Decrease feed
	Work not secured in vise	Clamp material securely
Blade breakage	Teeth too coarse	Use a finer tooth blade
	Misalignment of guides	Adjust saw guides
	Dry cutting	Use cutting lubricant
	Excessive speed	Lower speed. See Operating Instructions "Speed selection."
	Excessive speed	Reduce feed pressure. Refer to Operating Instructions "Adjusting Feed."
	Excessive tension	Tension blade to prevent slippage on drive wheel while cutting.
Blade line Run-out or Run-in	Wheels out of line	Adjust wheels
	Guides out of line	For a straight and true cut, realign guides, check bearings for wear.
	Excessive pressure	Conservative pressure assures long blade life and clean straight cuts.
	Support of blade insufficient	Move saw guides as close to work as possible.
	Material not properly secured in vise	Clamp material in vise, level and securely.
Blade twisting	Blade tension improper	Loosen or tighten tension on blade.
	Blade not in line with guide bearings	Check bearings for wear and alignment.
	Excessive blade pressure	Decrease pressure and blade tension
Premature tooth wear	Blade binding in cut	Decrease feed pressure
	Dry cutting	Use lubricant on all materials, except cast iron
	Blade too coarse	Use finer tooth blade
	Not enough feed	Increase feed so that blade does not ride in cut
	Excessive speed	Decrease speed

SAWING PROBLEMS AND SOLUTIONS

Other than this manual, the manufacturer also provides some related technical documents listed as follows:

Sawing Problems and Solutions

					Vibration during cutting	Failure to cut	Short life of saw blade	Curved cutting	Broken blade		
✓	✓	✓	✓	✓						Use of blade with incorrect pitch	Use blade with correct pitch suited to workpiece width
✓	✓	✓	✓	✓						Failure to break-in saw blade	Perform break-in operation
✓	✓	✓								Excessive saw blade speed	Reduce speed
			✓	✓						Insufficient saw blade speed	Increase speed
✓		✓	✓	✓						Excessive saw head descending speed	Reduce speed
✓		✓	✓							Insufficient saw head descending speed	Increase speed
		✓	✓							Insufficient saw blade tension	Increase tension
✓		✓	✓	✓						Wire brush improperly positioned	Relocate
✓		✓	✓							Blade improperly clamped by insert	Check and correct
✓	✓	✓	✓	✓						Improperly clamped workpiece	Check and correct
	✓	✓	✓							Excessively hard material surface	Soften material surface
		✓	✓	✓						Excessive cutting rate	Reduce cutting rate
	✓	✓								Non-annealed workpiece	Replace with suitable workpiece
✓		✓	✓	✓						Insufficient or lean cutting fluid	Add fluid or replace
✓		✓	✓	✓						Vibration near machine	Relocate machine
		✓	✓							Non-water soluble cutting fluid used	Replace
✓		✓	✓							Air in cylinder	Bleed air
✓		✓		✓						Broken back-up roller	Replace
✓	✓	✓	✓	✓						Use of non-specified saw blade	Replace
✓	✓	✓	✓	✓						Fluctuation of line voltage	Stabilize
✓		✓	✓							Adjustable blade guide too far from workpiece	Bring blade guide close to workpiece
✓		✓	✓	✓						Loose blade guide	Tighten
		✓		✓						Blue or purple saw chips	Reduce cutting rate
✓		✓		✓						Accumulation of chips at inserts	Clean
	✓									Reverse positioning of blade on machine	Reinstall
✓		✓	✓							Workpieces are not bundled properly	Re-bundle
✓		✓		✓						Back edge of blade touching wheel flange	Adjust wheel to obtain clearance
✓	✓	✓								Workpiece of insufficient diameter	Use other machine, suited for diameter of workpiece
	✓	✓	✓							Saw blade teeth worn	Replace

SOLUTIONS TO SAWING PROBLEMS

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#1. Heavy Even Wear On Tips and Corners Of Teeth



Probable Cause :

- A.** Improper break-in procedure.
- B.** Excessive band speed for the type of material being cut. This generates a high tooth tip temperature resulting in accelerated tooth wear.
- C.** Low feed rate causes teeth to rub instead of penetrate. This is most common on work hardened materials such as stainless and toolsteels.
- D.** Hard materials being cut such as "Flame Cut Edge" or abrasive materials such as " Fiber Reinforced Composites".
- E.** Insufficient sawing fluid due to inadequate supply, improper ratio, and/or improper application

#2. Wear On Both Sides Of Teeth



Probable Cause :

- A. Broken, worn or missing back-up guides allowing teeth to contact side guides.
- B. Improper side guides for band width.
- C. Backing the band out of an incomplete cut.

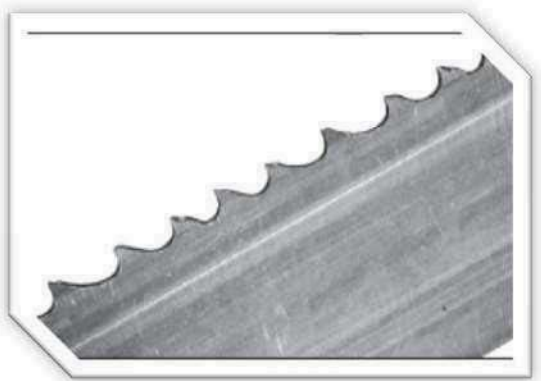
#3. Wear On One Side Of Teeth



Probable Cause :

- A. Worn wheel flange, allowing side of teeth to contact wheel surface or improper tracking on flangeless wheel.
- B. Loose or improperly positioned side guides.
- C. Blade not perpendicular to cut.
- D. Blade rubbing against cut surface on return stroke of machine head.
- E. The teeth rubbing against a part of machine such as chip brush assembly, guards, etc.

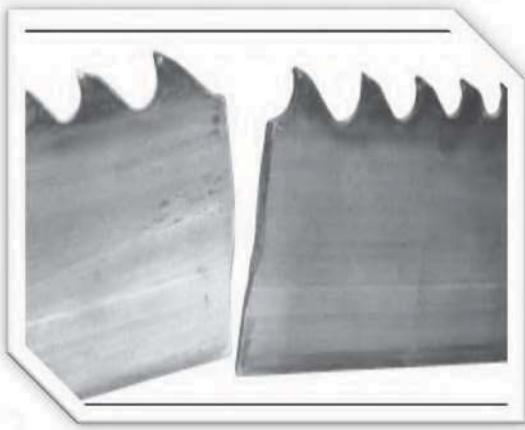
#4. Chipped Or Broken Teeth



Probable Cause :

- A. Improper break-in procedure.
- B. Improper blade selection for application.
- C. Handling damage due to improper opening of folded band.
- D. Improper positioning or clamping of material.
- E. Excessive feeding rate or feed pressure.
- F. Hitting hard spots or hard scale in material

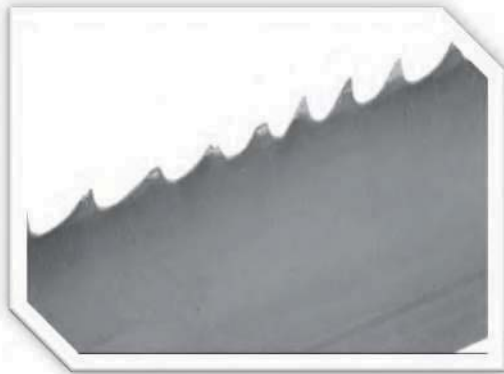
#5. Body Breakage Or Cracks From Back Edge



Probable Cause :

- A. Excessive back-up guide "preload" will cause back edge to work harden which results in cracking.
- B. Excessive feed rate.
- C. Improper band tracking – back edge rubbing heavy on wheel flange.
- D. Worn or defective back-up guides.
- E. Improper band tension.
- F. Notches in back edge from handling damage

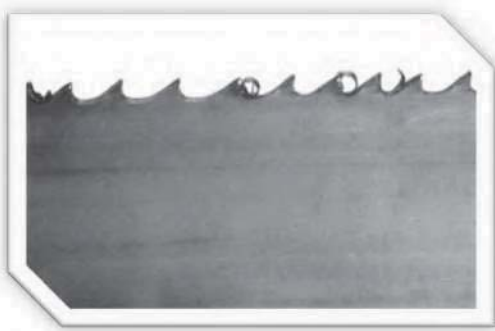
#6. Tooth Strippage



Probable Cause :

- A. Improper or lack of break-in procedure.
- B. Worn, missing or improperly positioned chip brush.
- C. Excessive feeding rate or feed pressure.
- D. Movement or vibration of material being cut.
- E. Improper tooth pitch for cross sectional size of material being cut.
- F. Improper positioning of material being cut.
- G. Insufficient sawing fluid due to inadequate supply, improper ratio and/or improper application.
- H. Hard spots in material being cut.
- I. Band speed too slow for grade of material being cut.

#7. Chips Welded To Tooth Tips



Probable Cause :

- A. Insufficient sawing fluid due to inadequate supply, improper ratio and/or improper application.
- B. Worn, missing or improperly positioned chip brush.
- C. Improper band speed.
- D. Improper feeding rate.

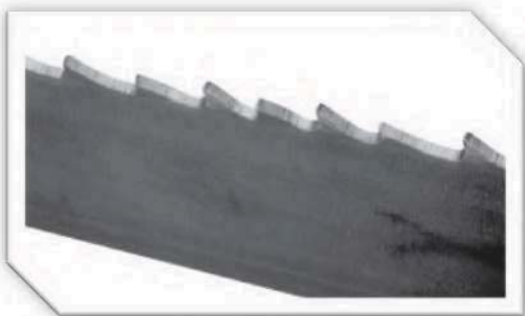
#8. Gullets Loading Up With Material



Probable Cause :

- A. Too fine of a tooth pitch – insufficient gullet capacity.
- B. Excessive feeding rate producing too large of a chip.
- C. Worn, missing or improperly positioned chip brush.
- D. Insufficient sawing fluid due to inadequate supply, improper ratio and/or improper application.

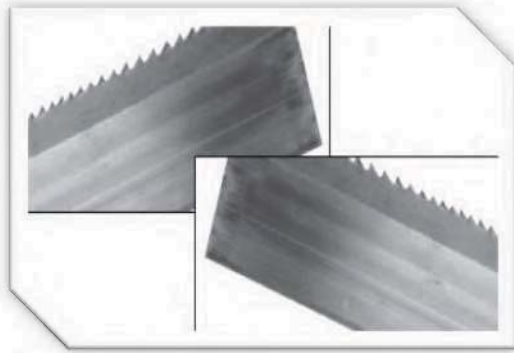
#9. Discolored Tips Of Teeth Due To Excessive Frictional Heat



Probable Cause :

- A. Insufficient sawing fluid due to inadequate supply, improper ratio and/or improper application.
- B. Excessive band speed.
- C. Improper feeding rate.
- D. Band installed backwards.

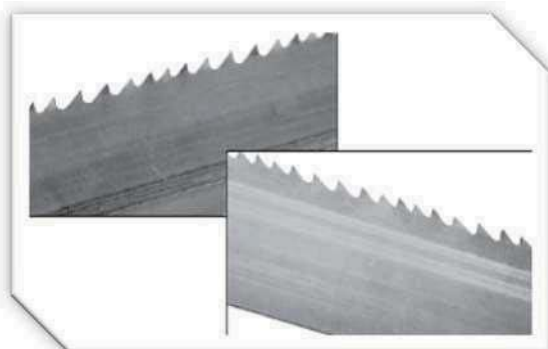
10. Heavy Wear On Both Sides Of Band



Probable Cause :

- A. Chipped or broken side guides.
- B. Side guide adjustment may be too tight.
- C. Insufficient flow of sawing fluid through the side guides.
- D. Insufficient sawing fluid due to inadequate supply, improper ratio and/or improper application.

#11. Uneven Wear Or Scoring On The Sides Of Band



Probable Cause :

- A. Loose side guides.
- B. Chipped, worn or defective side guides.
- C. Band is rubbing on part of the machine.
- D. Guide arms spread to maximum capacity.
- E. Accumulation of chips in side guides.

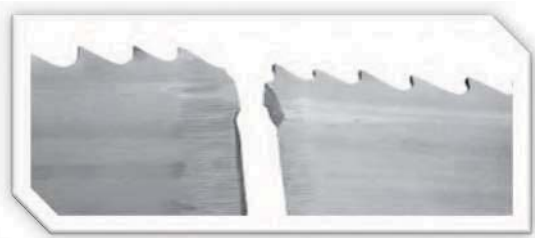
#12. Heavy Wear And/Or Swagging On Back Edge



Probable Cause :

- A. Excessive feed rate.
- B. Excessive back-up guide "preload".
- C. Improper band tracking – back edge rubbing heavy on wheel flange.
- D. Worn or defective back-up guides.

#13. Butt Weld Breakage



Probable Cause :

- A. Any of the factors that cause body breaks can also cause butt weld breaks.

(See Observations #5, #15 and #16)

#14. Heavy Wear In Only The Smallest Gullets



Probable Cause :

- A. Excessive feeding rate.
- B. Too slow of band speed.
- C. Using too fine of a tooth pitch for the size of material being cut.

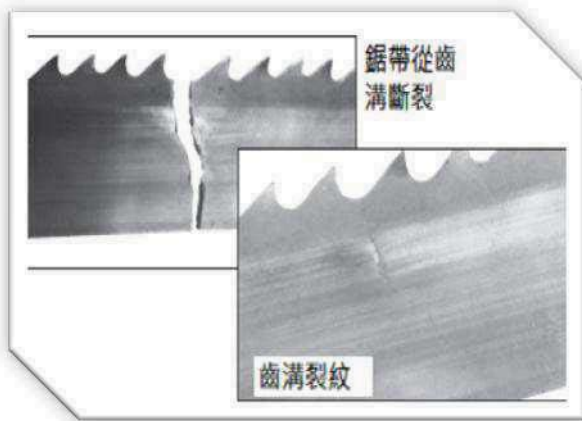
#15. Body Breaking – Fracture Traveling In An Angular Direction



Probable Cause :

- A. An excessive twist type of stress existed.
- B. Guide arms spread to capacity causing excessive twist from band wheel to guides.
- C. Guide arms spread too wide while cutting small cross sections.
- D. Excessive back-up guide "preload".

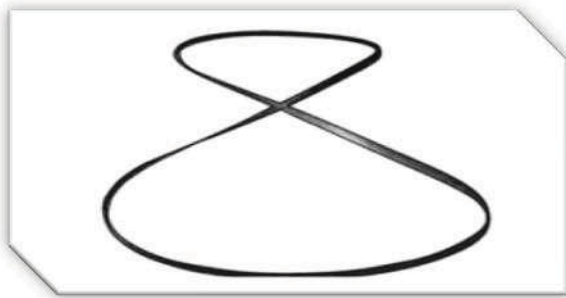
#16. Body Breakage Or Cracks From Gullets



Probable Cause :

- A. Excessive back-up guide "preload".
- B. Improper band tension.
- C. Guide arms spread to maximum capacity.
- D. Improper beam bar alignment.
- E. Side guide adjustment is too tight.
- F. Excessively worn teeth.

#17. Band is Twisted Into A Figure "8" Configuration



Probable Cause :

- A. Excessive band tension.
- B. Any of the band conditions which cause the band to be long (#18) or short (#19) on tooth edge.
- C. Cutting a tight radius.

#18. Used Band Is "Long" On The Tooth Edge



Probable Cause :

- A. Side guides are too tight – rubbing near gullets.
- B. Excessive "preload" – band riding heavily against back-up guides.
- C. Worn band wheels causing uneven tension.
- D. Excessive feeding rate.
- E. Guide arms are spread to maximum capacity.
- F. Improper band tracking – back edge rubbing heavy on wheel flange.

#19. Used Band Is "Short" On The Tooth Edge



Probable Cause :

- A. Side guides are too tight – rubbing near back edge.
- B. Worn band wheels causing uneven tension.
- C. Guide arms are spread too far apart.
- D. Excessive feeding rate.

#20. Broken Band Shows A Twist In Band Length



Probable Cause :

- A. Excessive band tension
- B. Any of the band conditions which cause the band to be long (#18) or short (#19) on tooth edge.
- C. Cutting a tight radius.

RE-ADJUSTING THE ROLLER TABLE

If the feeding table suffers the huge stroke and the alignment is effected, follow the below procedure to adjust.

TOOL, measuring

Measurement, Horizontal balance

Procedure

1. Screw or loosen the adjusting bolt to attain the horizontal balance (leveling) between the roller table and the machine frame.
2. Ensure that the machine frame is not struck by the loaded material on the feeding table.
3. Check the leveling by the measuring tool.
4. After finished the adjusting, fix the roller table.



If the feeding table and the machine frame are not positioned under the horizontal balance, the loaded material may be going up gradually and affect the cutting effect.

PARTS

SPARE PARTS RECOMMENDATIONS

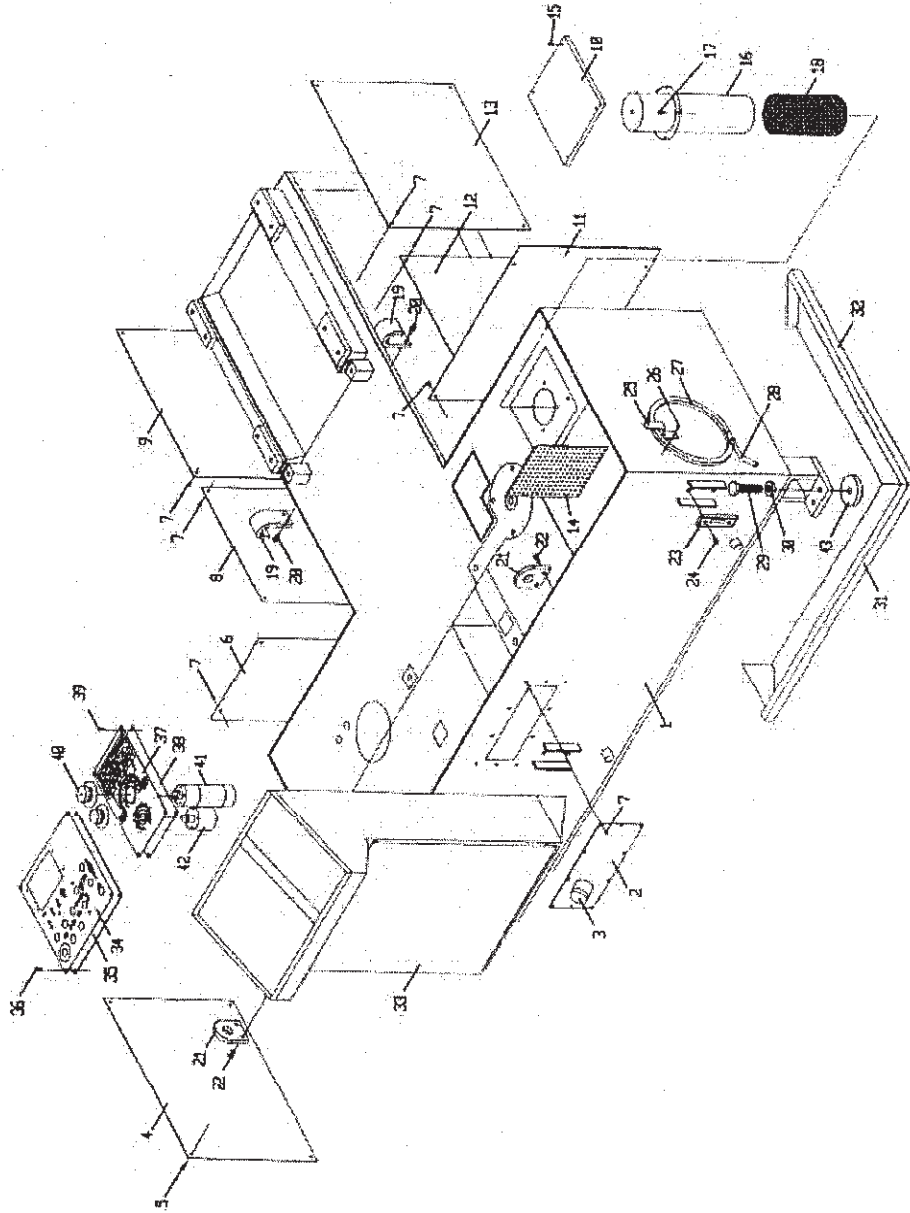
PART LIST

SPARE PARTS RECOMMENDATIONS

The following table lists the common spare parts we suggest you purchase in advance:

Part Name	Part Name
Saw blade	Coolant tank filter
Wire brush	Steel plates
Carbide inserts	Rollers
Bearings	Coolant pump
Hydraulic tank leak-proof gasket	Belt
Rubber washer	Duster seal
Gear reducer	Oil seal
O-ring	Snap ring
Drive wheel	Idle wheel

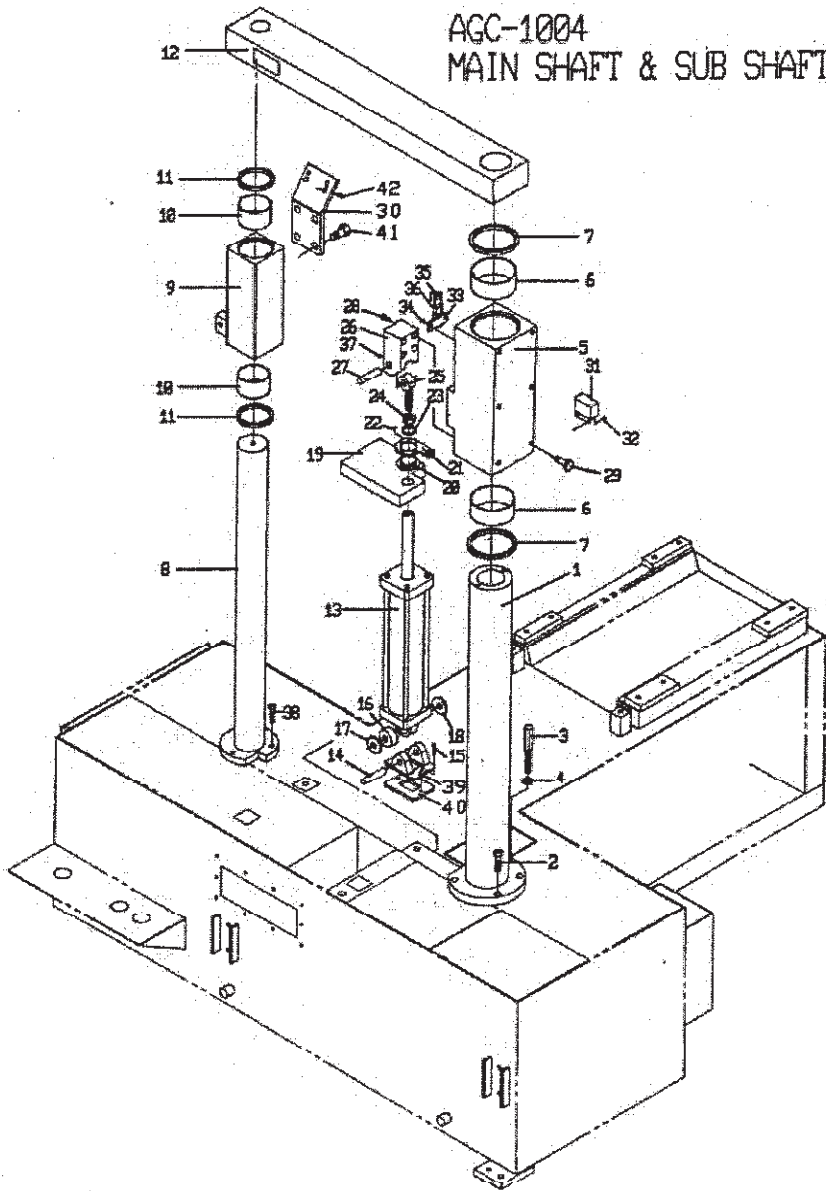
AGC-1001
MACHINE BODY ASSEMBLY



AGC-1001 MACHINE BODY ASSEMBLY

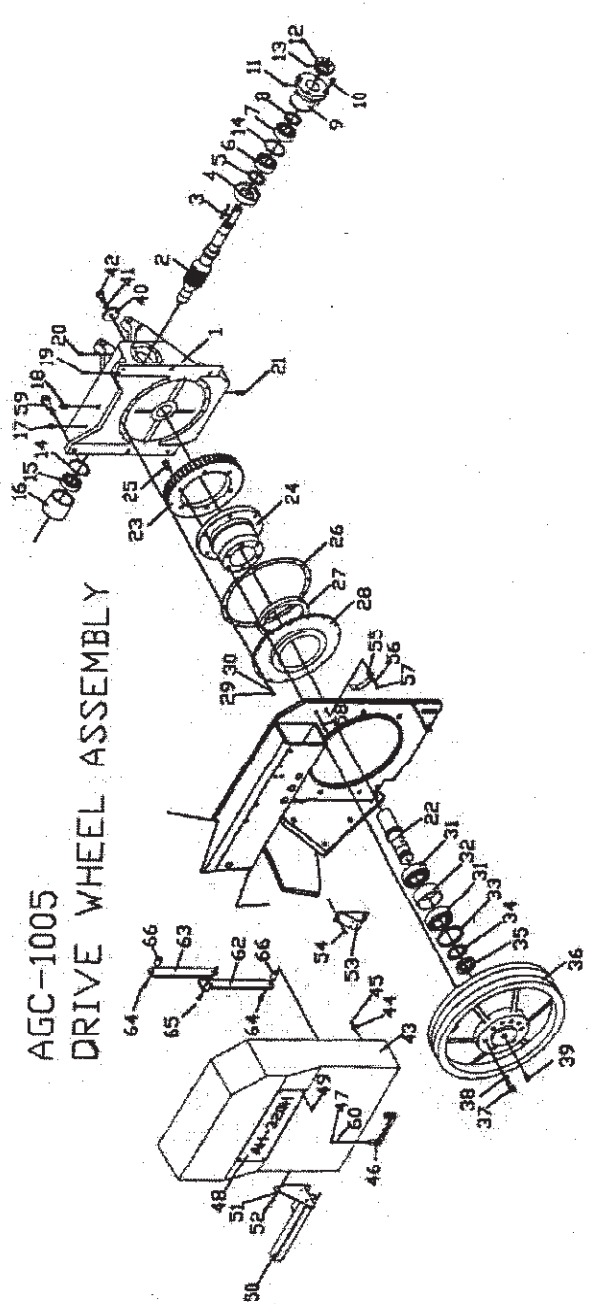
NO.	PART NO.	PART NAME	PART NAME IN CHINESE	PART SPEC.	QTY
1-1	AGC-1001	base seat	底座		1
1-2	AHA-0102	oil tank cover	油箱蓋		1
1-3	PP-90857	cap	油箱蓋螺帽		1
1-4	AGC-1057A	left elec.box cover	左電氣箱蓋		1
1-5		screw	丸頭螺絲	M6*6L	4
1-6	AGC-1054	left rear cover	底座左後蓋		1
1-7		screw	丸頭螺絲	M6*5L	34
1-8	AGC-1052	left cover	底座左蓋		1
1-9	AGC-1053	side cover	底座邊蓋		1
1-10	AGC-1059	coolnat pump cover	水邦浦護蓋		1
1-11	AGC-1050A	right rear cover	底座右後蓋		1
1-12	AGC-1051	right cover	底座右蓋		1
1-13	AGC-1053	side cover	底座邊蓋		1
1-14	AHA-0138	filter	水箱通道濾網		1
1-15		bolt	內六角螺絲	M5*5L	4
1-16	PP-32081	pump	浸水泵浦	1/8HP*210L	1
1-17		bolt	外六角螺絲	M6*10L	4
1-18	AHA-0131	filter	浸水泵浦濾網		1
1-19	AHC-0160	hanger	吊耳(三)		2
1-20		bolt	外六角螺絲	M10*20L	4
1-21	AHC-0161	hanger	吊耳(四)		2
1-22		bolt	外六角螺絲	M10*20L	4
1-23	PP-21030	oil level gauge	油面計	3"	2
1-24		bolt	螺絲		4
1-25	AHA-1309	bracket	軟管架		1
1-26		bolt	內六角螺絲	M6*6L	2
1-27		cable duct	護管	3/8*1000L	1
1-28	AHA-1313	nozzle	噴嘴		1
1-29	AHC-0153	adjusting bolt	底座調整螺絲		6
1-30		nut	螺帽	M20	6
1-31	AHC-1503-NC	right front plate	右前擋板		1
1-32	AHC-1504-NC	right side plate	右側擋板		1
1-33	AHC-0131-CE	elec.box	電氣箱		1
1-34	AHC-0132-CE	elec.data plate	控制面板		1
1-35	AHC-0133-CE	control plate	控制底板		1
1-36		screw	丸頭螺絲	M8*8L	4
1-37	AHC-0134-CE	elec.data plate	控制面板		1
1-38	AHC-0135-CE	control plate	控制底板		1
1-39		screw	丸頭螺絲	M8*8L	4
1-40	AHA-1806	vernier dial	流量閥旋鈕		2
1-41	AHA-10289	regulator set	調壓閥		1
1-42	AHA-6100	folw control valve	流量控制閥		1
1-43	AHR-1055	base support	底座墊塊		6
1-44					
1-45					
1-46					

AGC-1004
MAIN SHAFT & SUB SHAFT ASSEMBLY



AGC-1004 MAIN SHAFT & SUB SHAFT ASSEMBLY

NO.	PART NO.	PART NAME	PART NAME IN CHINESE	PART SPEC.	QTY
4-1	AGC-1010	main shaft	大主軸		1
4-2		bolt	內六角螺絲	M16*50L	3
4-3	AGC-1030	bolt	下限定位支桿		1
4-4		nut	螺帽	M16	1
4-5	AGC-3009	main shaft sleeve	大軸套		1
4-6	PP-13310	du bushing	乾式軸承	11050	2
4-7	PP-51140	dust seal	防塵套	110*126*9	2
4-8	AGC-1011	sub shaft	小主軸		1
4-9	AGC-3010	sub shaft sleeve	小軸套		1
4-10	PP-13281	du bushing	乾式軸承	8050	2
4-11	PP-51196	dust seal	防塵套	80*94*8	2
4-12	AGC-1012	cross link	主軸樑		1
4-13	AGC-10200	housing yoke cylinder	鋸弓油壓缸		1
4-14	AGB-70304B	pin	鋸弓油缸下插銷		1
4-15		bolt	內六角螺絲	M8*15L	2
4-16	PP-14510	bearing	軸承	2303	1
4-17	AHA-1105A	washer	活動軸墊圈		1
4-18	AHA-1105	washer	橡膠墊圈		1
4-19	AGC-1018A	cover	鋸弓油缸護罩		1
4-20	AGC-1022	conceal ring	鋸弓油缸遮環		1
4-21	AGC-1029	fixed plate	底座油封固定板		1
4-22		bolt	內六角螺絲	M4*15L	4
4-23	PP-51018	oil seal	油封	30*40*5	1
4-24		nut	螺帽	M18	1
4-25	PP-14480	link bearing	連桿軸承	POS 18	1
4-26	AGC-3011	cylinder upper ear	鋸弓油缸上耳		1
4-27	AGB-70304A	pin	鋸弓油缸上插銷		1
4-28		bolt	內六角螺絲	M10*35L	4
4-29	AGC-1013	bolt	大軸套定位螺絲		2
4-30	AGC-3012	bracket	小軸套固定板		1
4-31		limit switch	限動開關	ZCK-M	1
4-32		bolt	內六角螺絲	M5*12L	2
4-33	AGB-70220	coolant bracket	冷卻水管固定板		1
4-34		bolt	內六角螺絲	M5*12L	2
4-35	AHA-1932	dust seal	母防塵套		1
4-36	PP-21099	connect	快速接頭	1/4"	1
4-37		set screw	止付螺絲	M6*6L	1
4-38		bolt	內六角螺絲	M12*40L	3
4-39	AGC-1031	hydraulic holder	油壓缸固定座		1
4-40	AGC-1032	hydraulic holder plate	油壓缸固定座板		1
4-41		bolt	內六角螺絲	M22*30L	4
4-42		bolt	內六角螺絲	M8*20L	4
4-43					
4-44					
4-45					
4-46					



AGC-1005
DRIVE WHEEL ASSEMBLY

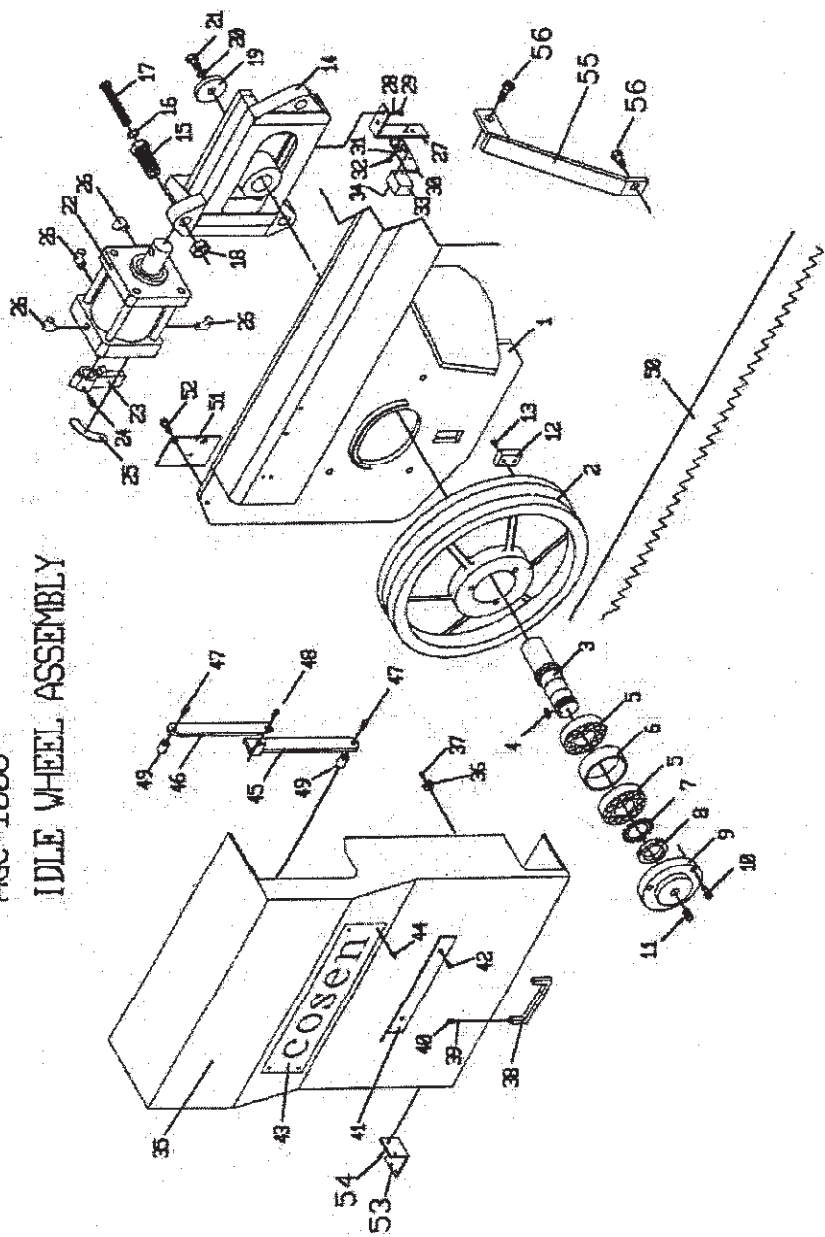
AGC-1005 DRIVE WHEEL ASSEMBLY

NO.	PART NO.	PART NAME	PART NAME IN CHINESE	PART SPEC.	Q'TY
5-1	AGC-3008	hinge bracket	減速機本體		1
5-2	AHA-0305	worm	蝸桿		1
5-3		key	方鍵	4*7*50L	1
5-4	AHA-0314	bearing support	軸承座蓋		1
5-5	PP-51080	oil seal	油封	E9	1
5-6	PP-14652	taoer roller bearing	滾錐軸承	30306D	1
5-7	PP-14691	taoer roller bearing	滾錐軸承	32206	1
5-8	PP-51070	oil seal	油封	V38*50*5	1
5-9	AHA-0319	bracket	軸承座(一)		1
5-10		bolt	內六角螺絲	M8*25L	4
5-11		grease nipple	油嘴	1/16"	1
5-12	AHA-0320	wire brush pulley	鋼刷普利		1
5-13		set screw	止付螺絲	M5*8L	2
5-14	PP-58103	snap ring	內鎖	R62	2
5-15	PP-14131	bearing	軸承	6206Z	1
5-16	AHA-0326	bracket	軸承座(二)		1
5-17		bolt	內六角螺絲	M8*20L	1
5-18		soc.hd.plug	管塞	1/2"	1
5-19		set screw	止付螺絲	M8*20L	1
5-20		grease nipple	油嘴	1/4"	1
5-21		soc.hd.plug	管塞	1/2"	1
5-22	AHA-0407	wheel shaft	下輪軸		1
5-23	AHA-0404	worm wheel	蝸輪		1
5-24	AHA-0406	housing	蝸輪固定座		1
5-25		bolt	內六角螺絲	M10*35L	6
5-26	AHA-0454	rubber wahser	橡膠墊圈		1
5-27	PP-51090	oil seal	油封	130*160*14	1
5-28	AHA-0433	fixed ring	油封固定盤		1
5-29		bolt	內六角螺絲	M6*16L	14
5-30		spring washer	彈簧華司	M6	14
5-31	PP-14693	taoer roller bearing	滾錐軸承	32208	1
5-32	AHA-0431	distance roller	軸承墊圈		1
5-33	AHA-0429	adjusting collar	調整環		1
5-34	PP-14958	toothed washer	止動環	AW08	1
5-35	PP-14908	toothed nut	固定螺母	AN08	1
5-36	AHA-0416B	drive wheel	下輪		1
5-37		bolt	外六角螺絲	M12*40L	6
5-38		spring washer	彈簧華司	M12	6
5-39		grease nipple	油嘴	1/16"	1
5-40	AHA-0403	lock washer	鎖緊墊圈		1
5-41		spring washer	彈簧華司	M12	1
5-42		bolt	內六角螺絲	M12*35L	1
5-43	AGC-3003	housing cover	下輪箱蓋		1
5-44	AHA-0434	rubber wahser	橡皮墊圈		2
5-45		screw	丸頭螺絲	M4*12L	2
5-46	PP-52080	handle	輪箱把手		1

AGC-1005 DRIVE WHEEL ASSEMBLY

NO.	PART NO.	PART NAME	PART NAME IN CHINESE	PART SPEC.	QTY
5-47		screw	丸頭螺絲	M5*8L	2
5-48	AGC-3019	modle plate	機型銘牌		1
5-49		screw	丸頭螺絲	M4*5L	4
5-50	AGC-3021	blade saw cover	固定鋸片護蓋		1
5-51		washer	墊圈	M5	1
5-52		bolt	內六角螺絲	M5*6L	3
5-53	AHN-1519-CE	L.S bracket	右輪箱開關座		1
5-54		bolt	內六角螺絲	M5*10L	2
5-55	AHA-0414	plate	鋸片安裝輔助板		1
5-56		washer	墊圈	M6	1
5-57		bolt	內六角螺絲	M6*60L	1
5-58		spring pin	彈簧銷	φ 5*60L	1
5-59	AHA-0309	fixed bolt	固定螺絲		2
5-60		spring washer	彈簧華司	M5	2
5-61	PP-91804	lamp	工作燈		1
5-62	AHB-0726A	right cover bracket	右箱蓋定位板		1
5-63	AHB-0726C	cover bracket	箱蓋定位板		1
5-64		bolt	內六角螺絲	M6*25L	2
5-65		fix screw	鉚釘	φ 6	1
5-66	AHB-0822	lock washer	固定圈		2
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AGC-1006
 IDLE WHEEL ASSEMBLY



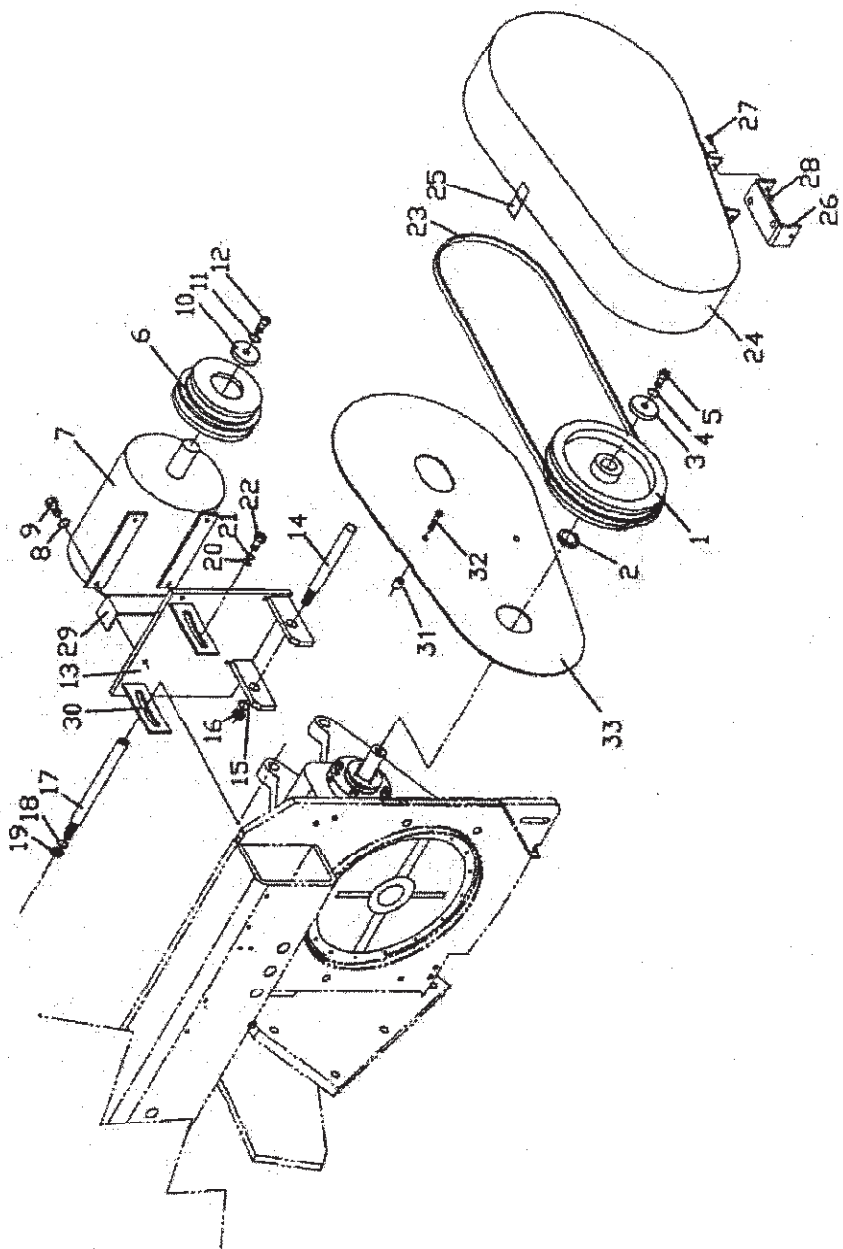
AGC-1006 IDLE WHEEL ASSEMBLY

NO.	PART NO.	PART NAME	PART NAME IN CHINESE	PART SPEC.	QTY
6-1	AGC-3001	housing yoke	鋸弓		1
6-2	AHA-0634B	idle wheel	上輪		1
6-3	AHA-0635	wheel shaft	上輪軸		1
6-4		key	方鍵	3*6*15L	1
6-5	PP-14613	bearing	軸承	30207	2
6-6	AHA-0637	bearing collar	上輪軸承墊圈		1
6-7	PP-14957	toothed ring	止動環	AW07	1
6-8	PP-14907	toothed nut	固定螺母	AN07	1
6-9	SHA-04140	bearing cap	上輪軸蓋		1
6-10		bolt	內六角螺絲	M8*35L	3
6-11		grease nipple	油嘴	1/16"	1
6-12	AHA-0633-CE	proximity switch plate	上輪感測塊		1
6-13		bolt	內六角螺絲	M5*16L	2
6-14	AHA-06029	tension ass'y	張力滑座組		1
6-15	AHA-0610	adjusting bolt	調整螺絲		3
6-16		spring washer	彈簧華司	M12	3
6-17		bolt	內六角螺絲	M12*80L	3
6-18	AHA-0611	adjusting nut	調整螺母		3
6-19	AHA-0403	lock washer	鎖緊墊圈		1
6-20		washer	墊圈	M12	1
6-21		bolt	內六角螺絲	M12*35L	1
6-22	AHA-06189-1	tension cylinder	張力油壓缸		1
6-23	AHB-0653	valve lever	切換把手		1
6-24		set screw	止付螺絲	M6*10L	1
6-25	AHB-0660	legend plate	銘牌		1
6-26		plug	彎管接頭	PT 1/8"*1/4"	4
6-27	AHA-0670A	bracket	感應器底板座		1
6-28		spring washer	彈簧華司	M5	2
6-29		bolt	內六角螺絲	M5*6L	2
6-30	AHA-0672	proximity switch mounting plate	感應器底板		1
6-31		spring washer	彈簧華司	M5	2
6-32		bolt	內六角螺絲	M5*8L	2
6-33		limit switch	限動開關	ZCK-M	1
6-34		bolt	內六角螺絲	M3*15L	2
6-35	AHA-0665-CE	housing cover	上輪箱蓋		1
6-36	AHA-0434	rubber washer	橡皮墊圈		2
6-37		screw	丸頭螺絲	M4*12L	2
6-38	PP-52080	handle	輪箱把手		1
6-39		spring washer	彈簧華司	M5	2
6-40		screw	丸頭螺絲	M5*8L	2
6-41	AHA-0668	cover bracket	鋸片護蓋座板		1
6-42		bolt	內六角螺絲	M5*5L	2
6-43	AHA-0666	name plate	公司銘牌		1
6-44		screw	丸頭螺絲	M4*5L	4
6-45	AHB-0726B	left cover bracket	左箱蓋定位板		1
6-46	AHB-0726C	cover bracket	箱蓋定位板		1

AGC-1006 IDLE WHEEL ASSEMBLY

NO.	PART NO.	PART NAME	PART NAME IN CHINESE	PART SPEC.	QTY
6-47		bolt	內六角螺絲	M6*25L	2
6-48		fix screw	鉚釘	φ6	1
6-49	AHB-0822	lock washer	固定圈		2
6-50	PP-18027	saw blade	鋸帶	HS 4242*34*1.1	1
6-51	AGC-3017	L.S bracket	感應器固定板		1
6-52		bolt	內六角螺絲	M8*8L	2
6-53	AGC-3016	L.S bracket	輪箱開關座		1
6-54		bolt	內六角螺絲	M4*6L	2
6-55	AGC-3029	fixed plate	出車固定板		1
6-56		bolt	內六角螺絲	M12*15L	2
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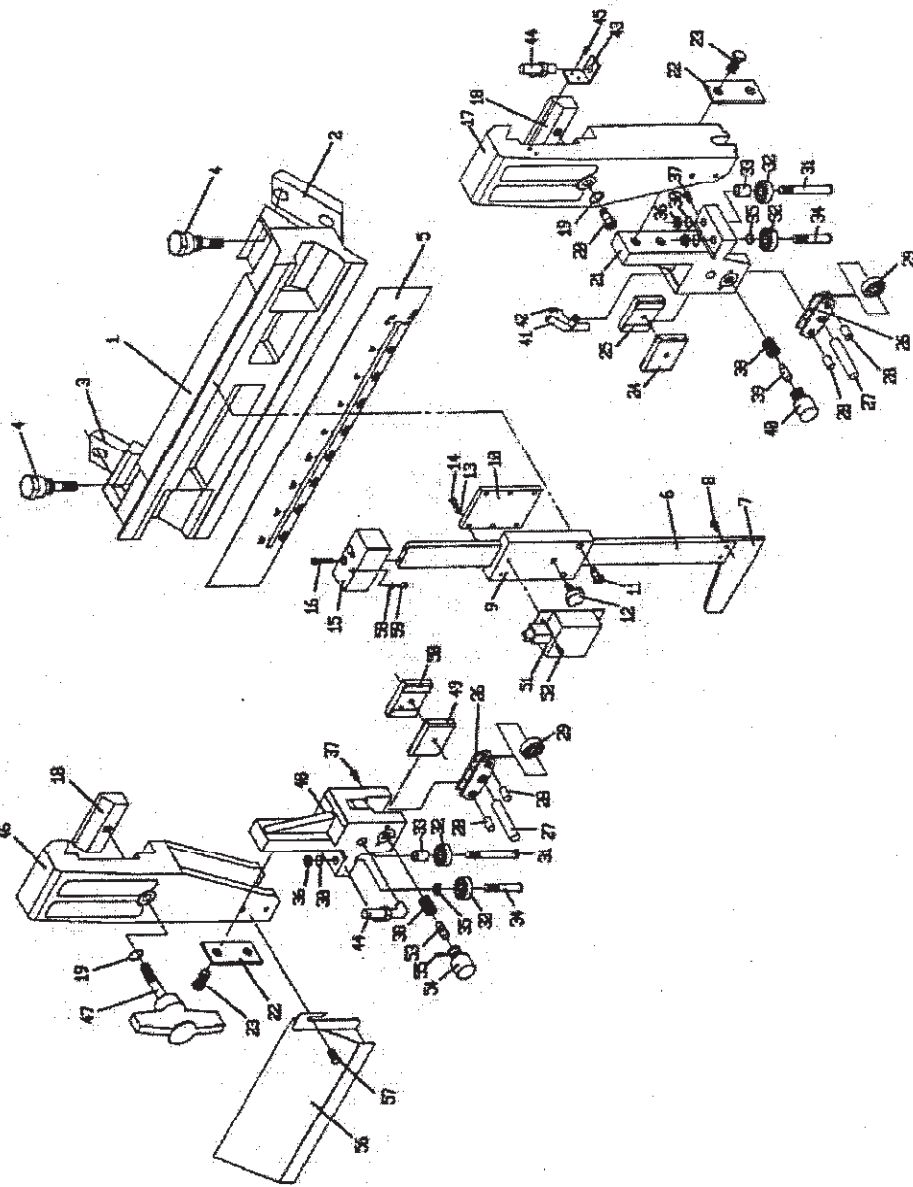
AGC-1007
DRIVE MOTOR ASSEMBLY



AGC-1007 DRIVE MOTOR ASSEMBLY

NO.	PART NO.	PART NAME	PART NAME IN CHINESE	PART SPEC.	Q'TY
7-1	AHA-0514G	reducer pulley	減速機普利		1
7-2	MAE-2025	washer	上輪軸墊圈		1
7-3	AHA-0525	washer	墊圈		1
7-4		spring washer	彈簧華司	M10	1
7-5		bolt	內六角螺絲	M10*30L	1
7-6	AHA-0538G	motor pulley	馬達普利		1
7-7	PP-31081	motor	馬達	5HP	1
7-8		spring washer	彈簧華司	M10	1
7-9		bolt	外六角螺絲	M10*25L	1
7-10	AHA-0525	washer	墊圈		1
7-11		spring washer	彈簧華司	M10	1
7-12		bolt	內六角螺絲	M10*50L	1
7-13	AHR-2027	motor base plate	馬達底板		1
7-14	AHA-0515	movable bar	馬達活動軸		1
7-15		spring washer	彈簧華司	M12	1
7-16		nut	螺帽	M12	1
7-17	AHA-0526	set pipe	馬達定位軸		1
7-18		spring washer	彈簧華司	M12	1
7-19		nut	螺帽	M12	1
7-20		washer	華司	M10	1
7-21		spring washer	彈簧華司	M10	1
7-22		bolt	內六角螺絲	M10*32L	1
7-23	PP-56287	belt	皮帶	B-44	1
7-24	AHC-0501	pulley cover	普利護蓋		1
7-25	PP-52090	lock plate	蓋扣		1
7-26	AHA-0507	bracket	護蓋耳		1
7-27		bolt	內六角螺絲	M5*12L	2
7-28		nut	螺帽	M5	1
7-29	AHC-0511	bracket	普利護蓋固定耳		1
7-30	AHA-0510B	bracket	馬達底板耳		2
7-31	AHA-0542B	collar	普利護蓋墊圈		2
7-32	AHC-0512	pulley cover base plate	普利護蓋底板		1
7-33		bolt	內六角螺絲	M8*30L	1
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ACC-1008
GUIDE BRACKET ASSEMBLY



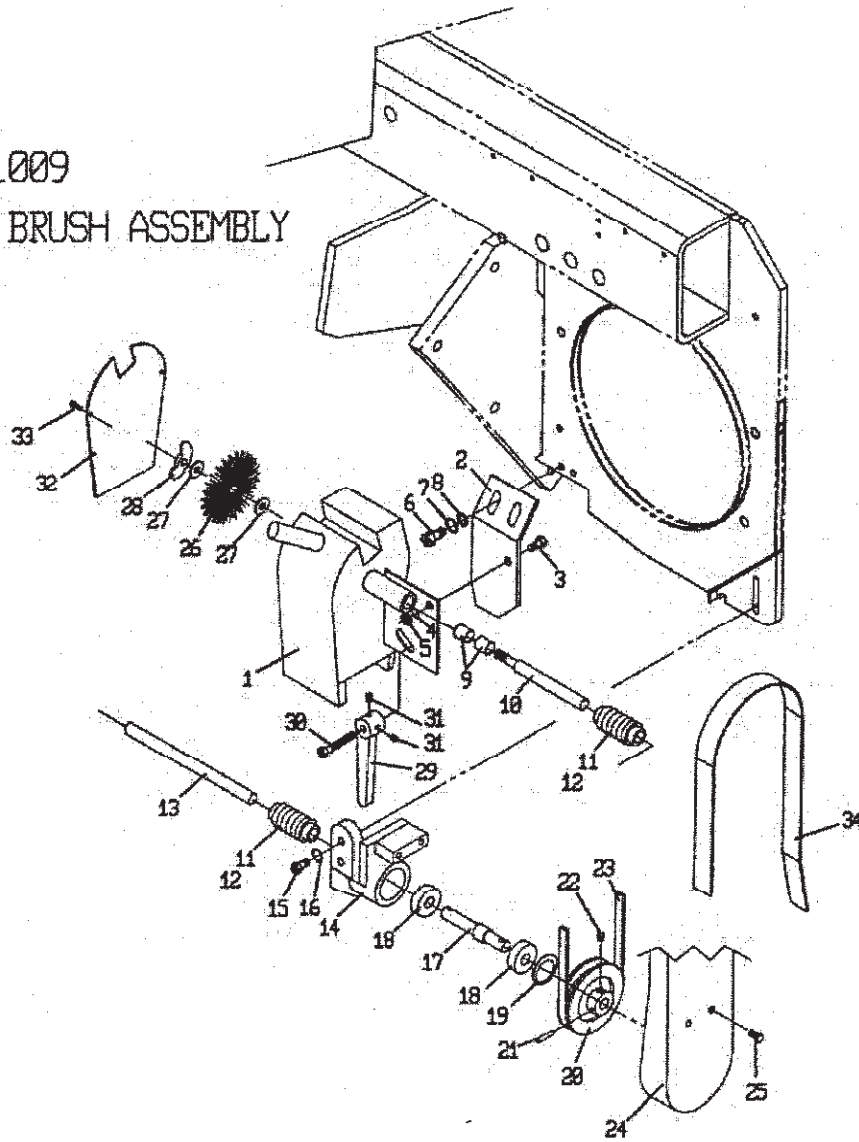
AGC-1008 GUIDE BRACKET ASSEMBLY

NO.	PART NO.	PART NAME	PART NAME IN CHINESE	PART SPEC.	QTY
8-1	AHC-0738	guide bar	鋸臂滑板		1
8-2	AHA-0439B	slide tip	鋸臂滑板固定塊(二)		1
8-3	AHA-0734	adjusting bolt	滑板調整螺絲		4
8-4	AHA-0439A	slide tip	鋸臂滑板固定塊(一)		1
8-5	AGC-3018	ruler plate	鋸臂滑板銘牌		1
8-6	AHC-1753B	descending slide bar	急降桿		1
8-7	AHA-1755B	feeder	急降桿擋板		1
8-8		bolt	內六角螺絲	M6*10L	2
8-9	AHA-1752	descending slide bracket	急降桿固定座		1
8-10	AHA-1754	cover plate	急降桿座蓋		1
8-11		bolt	內六角螺絲	M10*30L	2
8-12	PP53010	screw	梅花螺絲	M8*20L	1
8-13		spring washer	彈簧華司	M6	3
8-14		bolt	內六角螺絲	M6*12L	3
8-15	AHA-1756	limit block	限動開關座		1
8-16		bolt	內六角螺絲	M6*40L	2
8-17	AHC-0749	right guide bracket	右鋸臂		1
8-18	AHA-0737	slide tip	鋸臂固定塊		2
8-19		spring washer	彈簧華司	M12	1
8-20		bolt	外六角螺絲	M12*75L	1
8-21	AHA-0748B	right insert holder	右導輪座		1
8-22	AHA-0719	plain washer	導輪座墊片		2
8-23		bolt	外六角螺絲	M12*40L	4
8-24	AHA-0743B	right movable insert	右活動錫鋼片		1
8-25	AHA-0744B	right fixed insert	右固定錫鋼片		1
8-26	AHA-0704	bearing holder	下壓軸承座		2
8-27	AHA-0713-1	straight shaft	軸承座固定軸		2
8-28	AHA-0706B	straight pin	下壓軸承銷		4
8-29	PP-14270	bearing	軸承	6200 VV	4
8-30		spring washer	彈簧華司	M10	1
8-31	AHA-0707B	roller pin	導輪軸		2
8-32	PP-14270	bearing	軸承	6200 VV	4
8-33	AHA-0708B	washer	墊圈		2
8-34	AHA-0707C	roller pin	短導輪軸		2
8-35		washer	墊圈	M10	2
8-36		nut	螺帽	M10	4
8-37		bolt	內六角螺絲	M6*20L	2
8-38	AHA-0710	spring	彈簧		2
8-39	AHA-0741	right fitting	右簧塞		1
8-40	AHA-0742	right insert knob	右調整螺絲		1
8-41	AHA-0745	coolant nozzle	冷卻水噴嘴		1
8-42		bolt	內六角螺絲	M5*8L	1
8-43	MJA-2041	bracket	水龍頭座板		1
8-44	PP-43132	coolant valve	開關閥	1/8"	2
8-45		bolt	內六角螺絲	M5*8L	2
8-46	AHC-0722	left guide bracket	左鋸臂		1

AGC-1008 GUIDE BRACKET ASSEMBLY

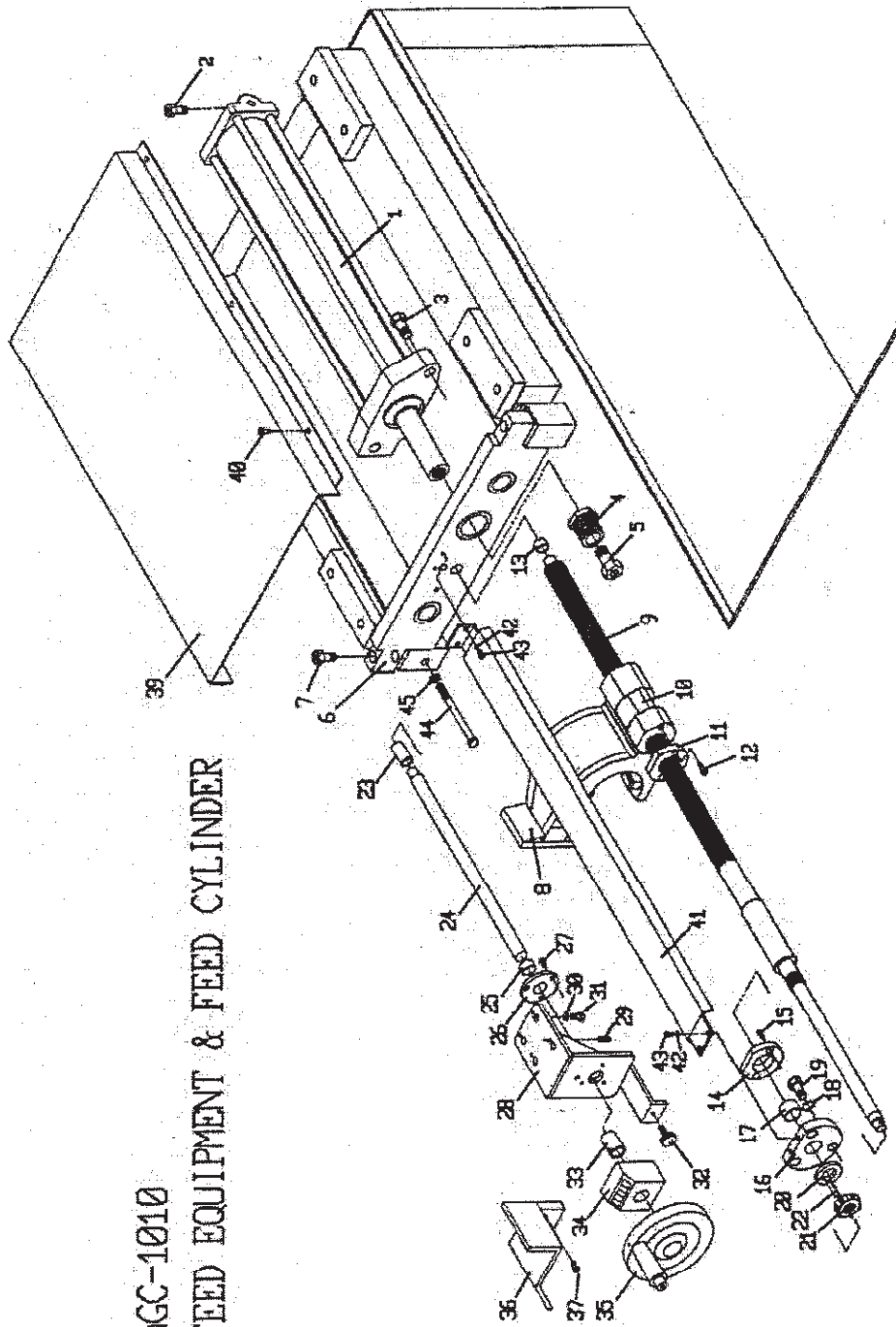
NO.	PART NO.	PART NAME	PART NAME IN CHINESE	PART SPEC.	Q'TY
8-47	AHA-07259	handle	把手		1
8-48	AHA-0712B	left insert holder	左導輪座		1
8-49	AHA-0702B	left movable insert	左活動錫鋼片		1
8-50	AHA-0701B	left fixed insert	左固定錫鋼片		1
8-51		limit switch	限動開關		1
8-52		bolt	內六角螺絲	M5*25L	2
8-53	AHA-0709	left fitting	左簧塞		1
8-54	AHA-0711	adjusting bolt	調整螺絲		1
8-55		pin	銷	φ 3*16L	1
8-56	AGC-3020	movable saw blade cov	活動鋸片護蓋		1
8-57		bolt	內六角螺絲	M6*5L	1
8-58		nut	螺帽	M6	1
8-59		bolt	外六角螺絲	M6*35L	1
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AGC-1009
WIRE BRUSH ASSEMBLY



AGC-1009 WIRE BRUSH ASSEMBLY

NO.	PART NO.	PART NAME	PART NAME IN CHINESE	PART SPEC.	QTY
9-1	AGC-3025	brush cover	鋼刷護蓋		1
9-2	AGC-3027	brush bracket	鋼刷護蓋固定板		1
9-3		bolt	外六角螺絲	M8*16L	2
9-4		spring washer	彈簧華司	M8	2
9-5		nut	螺帽	M8	2
9-6		bolt	外六角螺絲	M8*15L	2
9-7		spring washer	彈簧華司	M8	2
9-8		washer	平面華司	M8	2
9-9	PP-13025	du bearing	乾式軸承	1215	2
9-10	AHB-0519	brush shaft	鋼刷軸		2
9-11	PP-15010	universal joint	萬向接頭	12MM	2
9-12	PP-15012	dust seal	萬向接頭防塵套		2
9-13	AGC-3026	shaft	鋼刷傳動桿		1
9-14	AHA-1211	bearing bracket	軸承座		1
9-15		bolt	外六角螺絲	M8*40L	2
9-16		spring washer	彈簧華司	M8	2
9-17	AHA-1207	pulley shaft	皮帶輪軸		1
9-18	PP-14272	bearing	軸承	6201V	2
9-19	PP-58109	snap ring	扣環	R32	1
9-20	AHA-1202	brush pulley	鋼刷皮帶輪		1
9-21		spring pin	彈簧銷	φ4*25L	1
9-22		set screw	止付螺絲	M6*6L	1
9-23	PP-56509	belt	皮帶	M36	1
9-24	AGC-3028	brush pulley cover	鋼刷普利護蓋		1
9-25		bolt	外六角螺絲	M6*16L	1
9-26	PP-58002	wire brush	鋼刷	90*8MM	1
9-27		washer	平面華司	5/16"	2
9-28		nut	螺帽	M8	1
9-29	AHA-1217	lock lever	鋼刷固定把手		1
9-30		bolt	外六角螺絲	M8*35L	1
9-31		set screw	止付螺絲	M5*6L	2
9-32	AHA-1220-1	brush cover plate	鋼刷護蓋板		1
9-33		bolt	內六角螺絲	M4*4L	2
9-34	AHA-1203-CE	brush pulley cover (二)	鋼刷皮帶輪護蓋(二)		1
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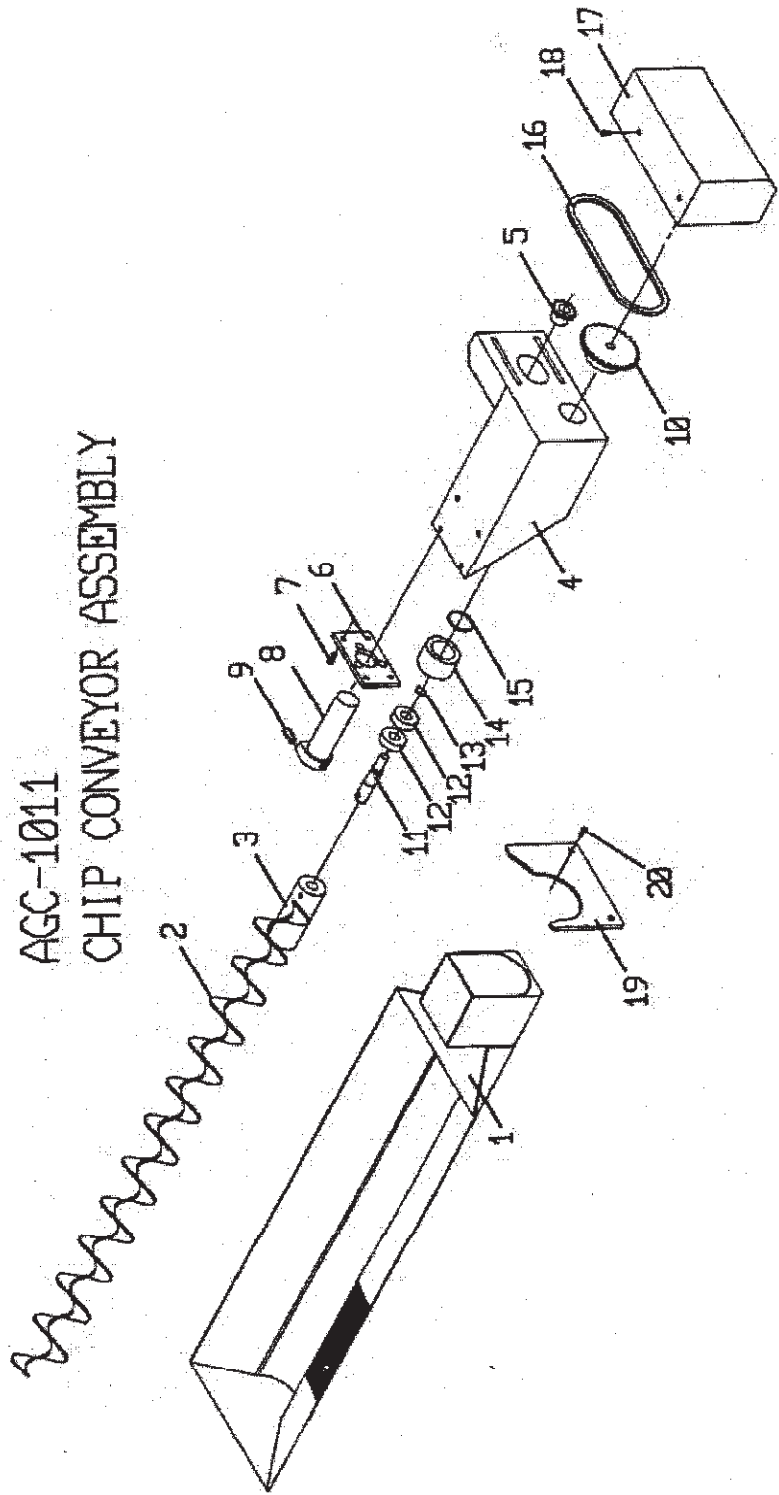


AGC-1010
 FEED EQUIPMENT & FEED CYLINDER

AGC-1010 ENCODER & FEEDING CYLINDER ASSEMBLY

NO.	PART NO.	PART NAME	PART NAME IN CHINESE	PART SPEC.	QTY
10-1	AHA-16019-1	feed cylinder	送料油壓缸		1
10-2		bolt	內六角螺絲	M12*30L	1
10-3		bolt	內六角螺絲	M14*25L	2
10-4	AHA-1605	bush bolt	襯套螺絲		1
10-5		bolt	內六角螺絲	M18*60L	1
10-6	AHC-1654	fixed plate	送料軸固定板		1
10-7		bolt	內六角螺絲	M12*50L	2
10-8	AHA-1640	stopper bracket	定寸座		1
10-9	AHA-1432	gauge screw	導螺桿		1
10-10	AHA-1650	screw bushing	定寸螺母		1
10-11	AHA-1649	fitting	定寸停擋(二)		1
10-12		bolt	內六角螺絲	M5*15L	2
10-13	PP-13041	du bearing	乾式軸承	1410	1
10-14	AHA-1537	fitting	定寸停擋		1
10-15		bolt	內六角螺絲	M5*15L	2
10-16	AHA-1645	bearing support	軸承蓋		1
10-17	PP-13013	du bearing	乾式軸承	2015	1
10-18		spring washer	彈簧華司	M12	3
10-19		bolt	外六角螺絲	M12*30L	3
10-20	PP-14430,A,B	bearing	軸承	2035	IPC/EA
10-21	AHA-1643	lock nut	止動螺帽		1
10-22		spring pin	彈簧銷	φ4*25L	1
10-23	PP-15010	universal joint	萬向接頭	φ12	1
10-24	AHA-1439	shaft	計長器軸		1
10-25	PP-13061	du bearing	乾式軸承	1610	1
10-26	AHA-1438	bearing holder	計長器軸承座		1
10-27		bolt	內六角螺絲	M5*10L	3
10-28	AHA-1437-1	bracket	計長器定位板		1
10-29		set screw	止付螺絲	M5*16L	4
10-30		spring washer	彈簧華司	M8	4
10-31		bolt	內六角螺絲	M8*35L	4
10-32	AHA-1408	lock bolt	制動螺絲		1
10-33	AHB-1647	bushing	計長器襯套		1
10-34	PP-90511	sigital counter	計長器		1
10-35	AHA-1404	handle	定寸手輪		1
10-36	AGC-1071	sigital counter cover	計長器護蓋		1
10-37		bolt	內六角螺絲	M8x20L	2
10-38		spring pin	彈簧銷	φ3*8L	1
10-39	AGC-1038	cylinder cover	油壓缸護蓋		1
10-40		bolt	內六角螺絲	M5*8L	6
10-41	AHA-1641	gauge screw cover	定寸螺桿護蓋		1
10-42		spring washer	彈簧華司	M5	4
10-43		bolt	內六角螺絲	M5*12L	4
10-44		bolt	外六角螺絲	M8*100L	1
10-45		nut	螺帽	M8	1
10-46					

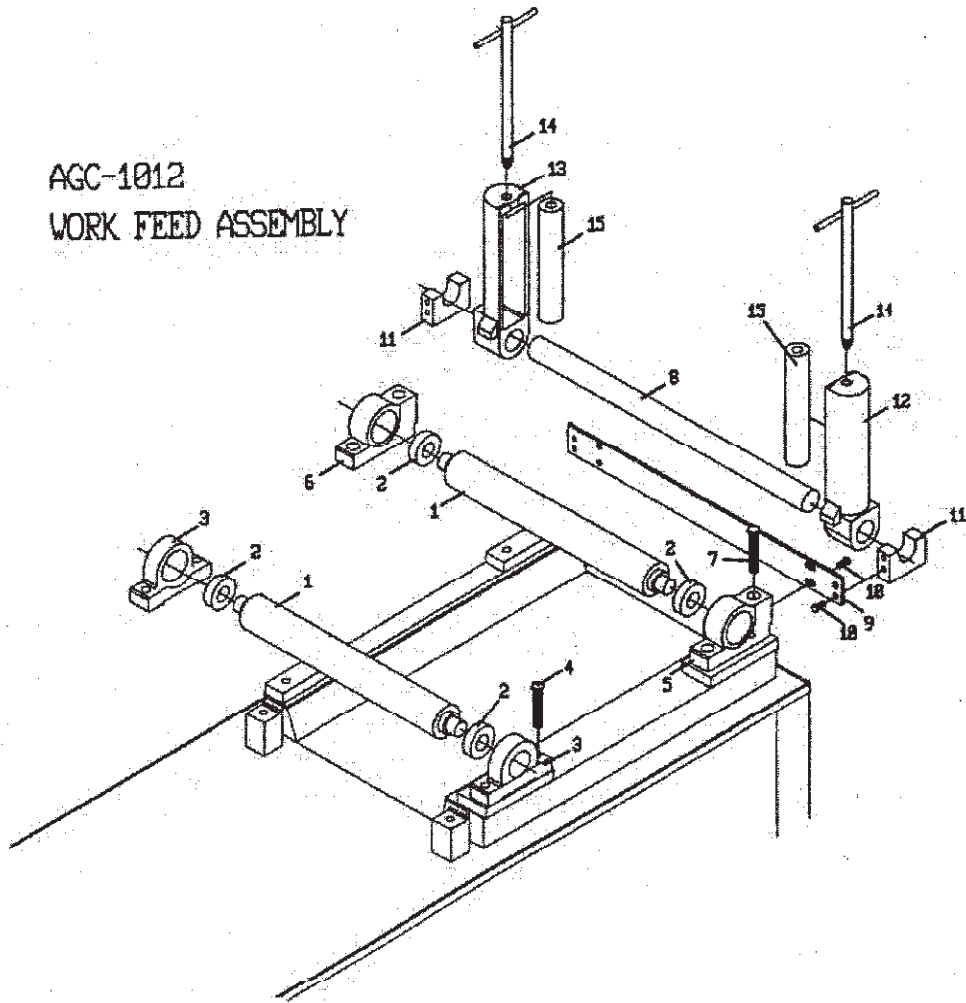
AGC-1011
CHIP CONVEYOR ASSEMBLY



AGC-1011 CHIP CONVEYOR ASSEMBLY (OPTIONAL)

NO.	PART NO.	PART NAME	PART NAME IN CHINESE	PART SPEC.	QTY
11-1	AHA-2015A	basket	除屑機本體		1
11-2	AHA-2014	rod	除屑螺旋		1
11-3	AHA-2022B	shaft	除屑螺旋軸		1
11-4	AGC-1060	motor bracket	除屑馬達座		1
11-5	AHB-2019B	wheel	傳動鍊輪(小)		1
11-6	AHB-2026	plate	泵浦連接板		1
11-7		bolt	內六角螺絲		4
11-8	PP-31640-1	motor	油壓馬達	OMM-20-128-002	1
11-9	PP-43117	flow control valve	流量閥		1
11-10	AHB-2019A	wheel	傳動鍊輪(大)		1
11-11	AHB-2023A	wheel shaft	鏈輪軸		1
11-12	PP-14003	bearing	軸承	6202 VV	2
11-13	PP-52097	snap ring	扣環	S15	1
11-14	AHB-2020B	bearing holder	軸承座		1
11-15	PP-58106	snap ring	扣環	R35	1
11-16	PP-19061	chain	鏈條	RS35	1
11-17	AGC-1061	motor cover	除屑馬達蓋		1
11-18		bolt	內六角螺絲	M6*5L	2
11-19	AHA-2043	fixed plate	除屑機固定片		1
11-20		bolt	內六角螺絲	M6*8L	2
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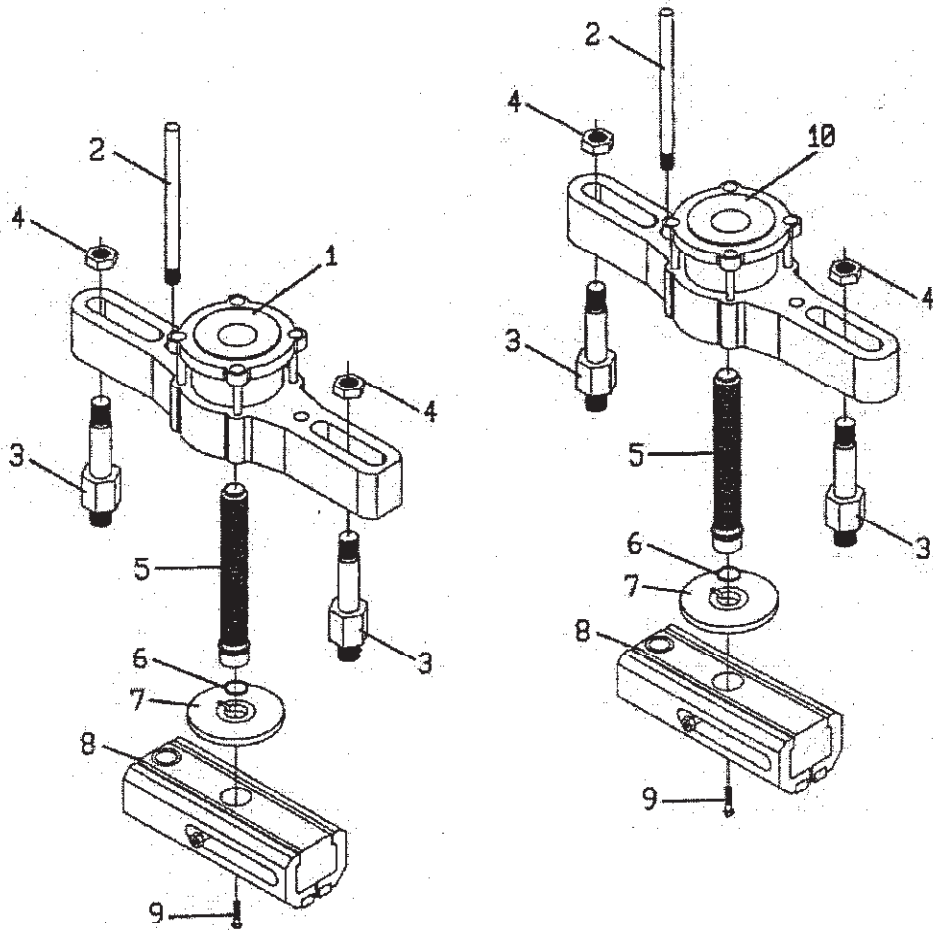
AGC-1012
WORK FEED ASSEMBLY



AGC-1012 WORK FEED ASSEMBLY

NO.	PART NO.	PART NAME	PART NAME IN CHINESE	PART SPEC.	QTY
12-1	AHB-1654	roller	滾輪		2
12-2	PP-14275	bearing	軸承	6205 ZZ	4
12-3	AHA-1636	roller bracket	滾輪固定座		2
12-4		bolt	內六角螺絲	M12*25L	4
12-5	AHB-1653	right roller bracket	右滾輪固定座		1
12-6	AHB-1691	left roller bracket	左滾輪固定座		1
12-7		bolt	內六角螺絲	M12*25L	4
12-8		guide bar	側滾輪固定軸		1
12-9		stopper plate	側滾輪擋板		1
12-10		bolt	內六角螺絲	M8*25L	8
12-11	AHB-1682	roller bracket	側滾輪固定座		2
12-12	AHB-1687	right roller bracket	右側滾輪座		1
12-13	AHB-1686	left roller bracket	左側滾輪座		1
12-14	AHB-1690	shaft	側滾輪軸		2
12-15	AHB-1688B	roller	側滾輪		2
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AGC-1013.WRK
MULTI-VISE (OPTIONAL)



AGC-1013 MULTI-VISE (OPTIONAL)

NO.	PART NO.	PART NAME	PART NAME IN CHINESE	PART SPEC.	Q'TY
13-1	AHC-19038	front multi-vise cylinder	前下壓缸組		1
13-2	AHA-1908	rod	推把		2
13-3	AHA-1905	fixed bolt	固定螺栓		4
13-4		nut	螺帽	M14	4
13-5	AHC-1912	adjusting bolt	下壓調整螺桿		2
13-6		snap ring	扣環	S20	2
13-7	AHA-1923	adjusting handle	調整手輪		2
13-8	AHC-19240	clamber	下壓板組		2
13-9		bolt	內六角螺絲	M8*20L	2
13-10	AHC-19039	rear multi-vise cylinder	後下壓缸組		1
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SHARP