COSEN SAWS

F-F-31
Version 13

MH-500M

Manual Miter Cutting Bandsaw

SH-500M

Semi-Automatic Miter Cutting Bandsaw

(CE & Non-CE Models)

Instruction Manual

The Pinnacle of Cutting Performance

Cosen Mechatronics Co., Ltd.

FROM THE MANUFACTURER

Thank you for your purchase of COSEN's bandsaw machine and your trust in the COSEN brand.

We are excited to have you as our valued customer and look forward as much as you do to the accelerated productivity, long-lasting endurance and superb cost-effectiveness this machine is about to bring to you.

To ensure you are fully utilizing our machine and taking advantage of it in every possible way, please take your time to read through this instruction manual.

Any comments or suggestions in making our services better, please do not hesitate to let us know. Thank you again!

NOTE:

- Read this instruction manual carefully to familiarize yourself with the installation, operation and maintenance of your COSEN bandsaw machine.
- Operate the machine following the procedures described in the manual to prevent personal injuries or machine damage.
- Keep this manual handy and refer to it whenever you are uncertain of how to perform procedures.

- For technical support or parts purchase, please contact your nearest COSEN representative or our service center:

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Instruction Manual: **MH-500M** Manual Miter Cutting Bandsaw
SH-500M Semi-Automatic Miter Cutting Bandsaw
(CE & Non-CE Models)
Ver.13 2020/12/17

Printed in Taiwan

Safety rules

- **It's essential to power on your Cosen 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

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RISK ASSESSMENT

Safety is a combination of a well-designed machine, operator's knowledge about the machine and alertness at all times. COSEN's band 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. Cosen 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)(CE model only, as shown in Illustration: *Safety Fence*)
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

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.*

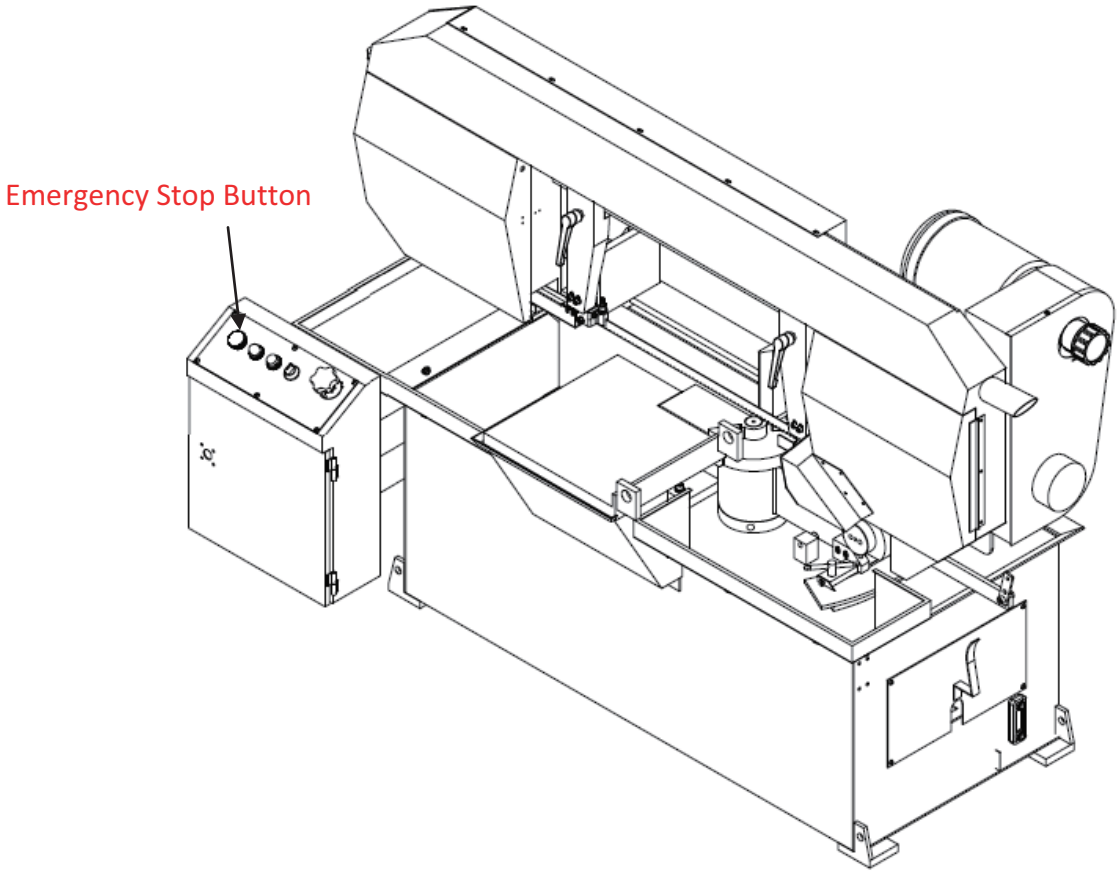
When you press the button, the machine will immediately come to a full stop to avoid injury or damage when an accident occurs. The button will be locked when you press it. To unlock it, turn the button clockwise.

You should press it immediately without any hesitation when observing:

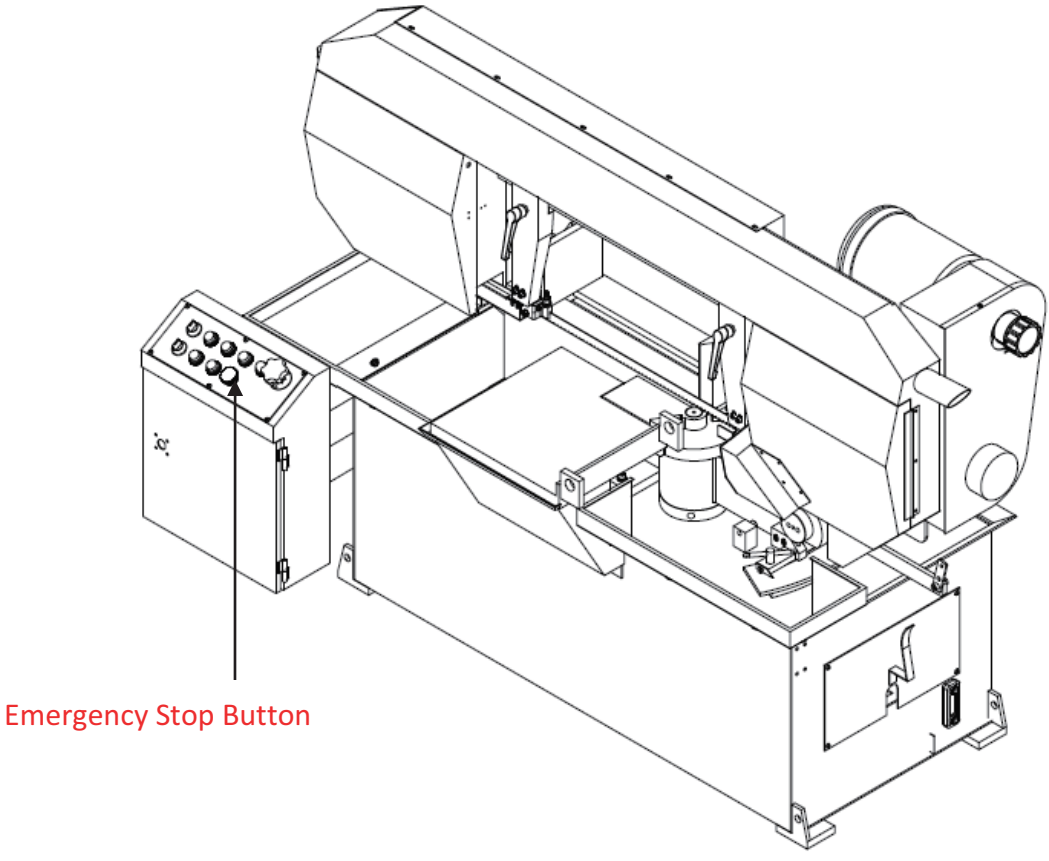
- An emergency situation that would cause any injury or damage
- An abnormal situation or problem such as fire, smoke, abnormal noise and etc.

Illustration: Emergency Stop

MH-500M



SH-500M

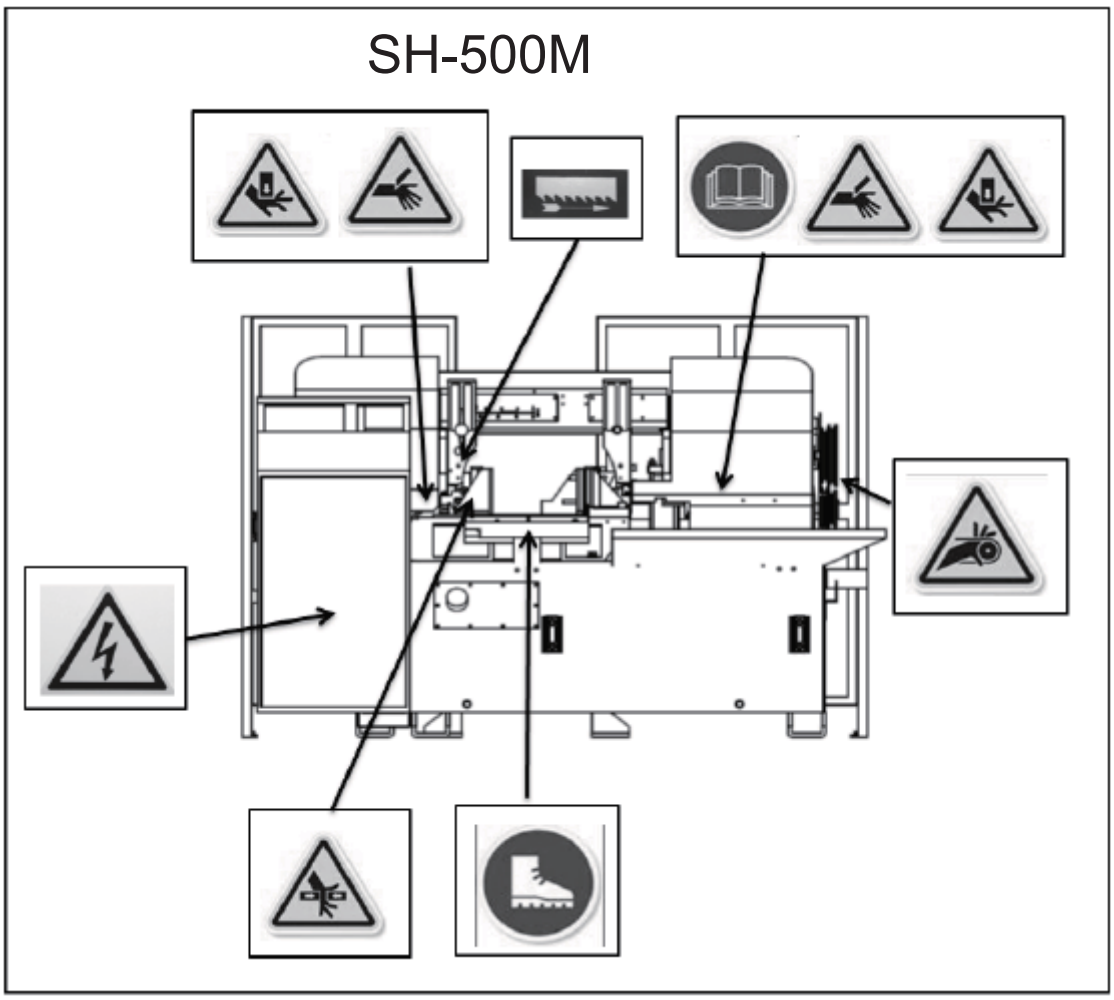


SAFETY LABELS

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

Cosen's 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).

Section 2

GENERAL INFORMATION

SPECIFICATION

MACHINE PARTS IDENTIFICATION

FLOOR PLAN

This band saw machine is designed by Cosen's 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 compoment 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 / Name of Equipment			MH-500M/SH-500M Manual /Semi-Automatic Swivel Head Double-Mitering Band Saw		
Max. Cutting Capacity	Angel		0 °	-45 °	-60 °
	Round		330 mm (13 in)	300 mm (11.8 in)	220 mm (8.6 in)
	Square		280 mm (11 in)	240 mm (9.4 in)	220 mm (8.6 in)
	Rectangle (H x W)		280 x 440 mm (11 x 17.3 in.) OR 140 x 500 mm (5.5 x 19.7 in.)	280 x 240 mm (11” x 9.4”)	280 x 220mm (11 x 8.6 in.)
Saw Blade	Speed		Step 60Hz: 23, 35, 50, 75 m/min (75, 114, 164, 246 fpm) Stepless: 30~100 m/min (98~328 fpm)		
	Size (L x W x T)		4,140 x 27 x 0.9 mm (163” x 1.06” x 0.035”)		
	Pressure		19~20kgs / cm2 (Tolerance: +1~+2 kgs / cm^2)		
	Tension		Manual 1900~2000kgs / cm2 (Tolerance: +100~+150 kgs / cm^2)		
	Guide		Interchangeable tungsten carbide		
	Cleaning		Steel wire brush		
Main Electricity Output *	Saw Blade		3 HP (2.25 kW)		
	Hydraulic (SH-500M only)		1/2 HP (0.375 kW)		
	Coolant Pump		1/8 HP (0.09 kW)		
Tank Capacity	Hydraulic		8 L (2.1 gal)		
	Coolant		30 L (7.9 gal)		
Vise Clamping	Control Method		----------		
	Min. Clamping Capacity		0 mm		
Feeding	Control Method		----------		
	Speed		----------		
	Length	Single Stroke	----------		
		Multi Stroke	----------		
Workbed	Height		830 mm (32.6”)		
Weight	Net		MH-500M: 745 kg (1,642 lb) SH-500M: 790 kg (1,742 lb)		
	Gross		MH-500M: 945 kg (2,082 lb) SH-500M: 990 kg (2,182 lb)		
Floor Space (L x W x H)	MH-500M		1079 x 2177 x 1458 mm (42.5” x 85.7” x 57.4”)		
	SH-500M		1066 x 2065 x 1482 mm (42” x 81.3” x 58.3”)		
Operating Environment	Temperature (° C)		5~40 ° C (41~104 ° F)		
	Humidity (%)		30~85% (without condensation)		

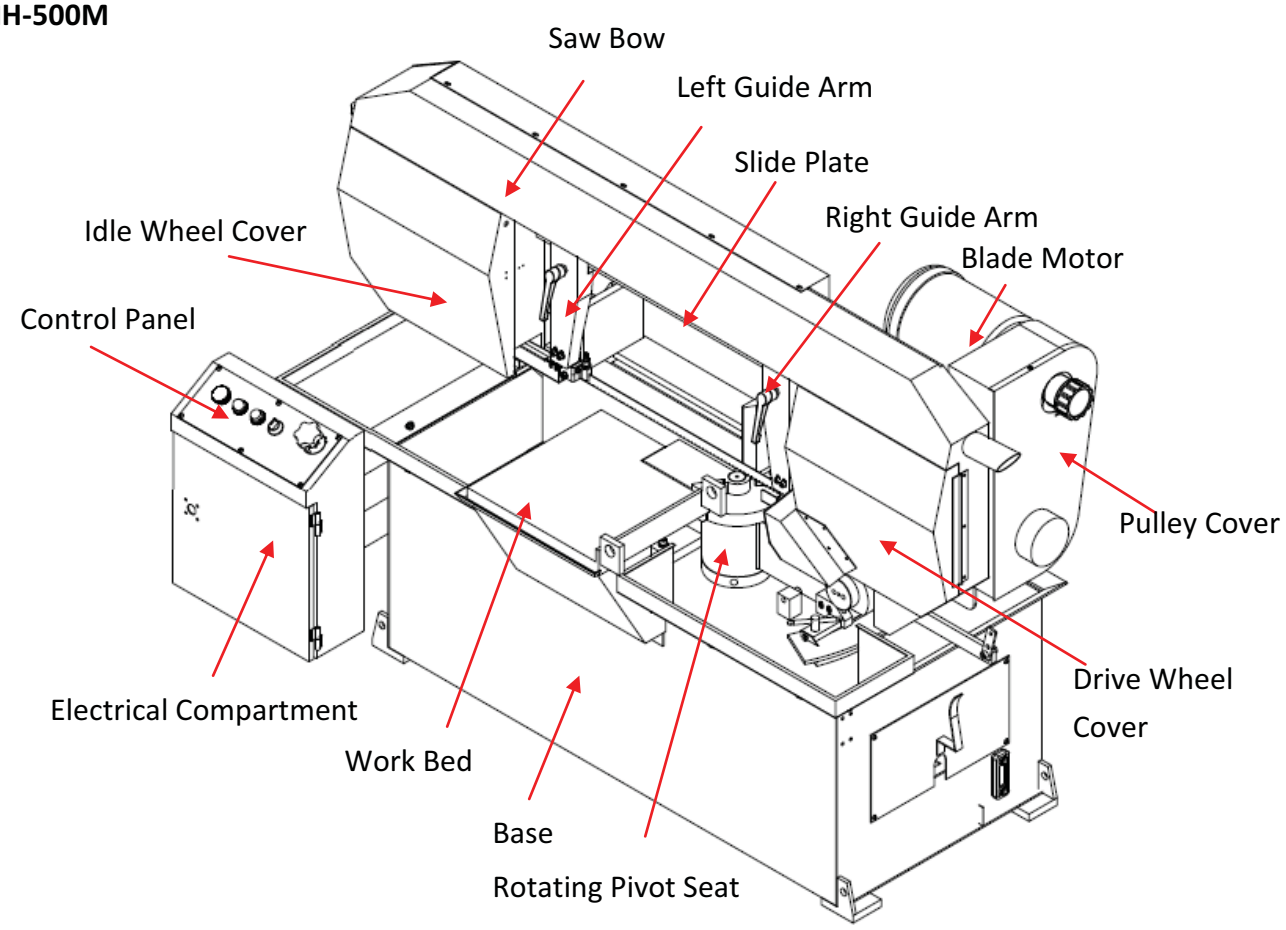
*Please refer to the formula "Watt/Voltage = Amperage" with the information above.

*Design and specification are subjected to change without notice.

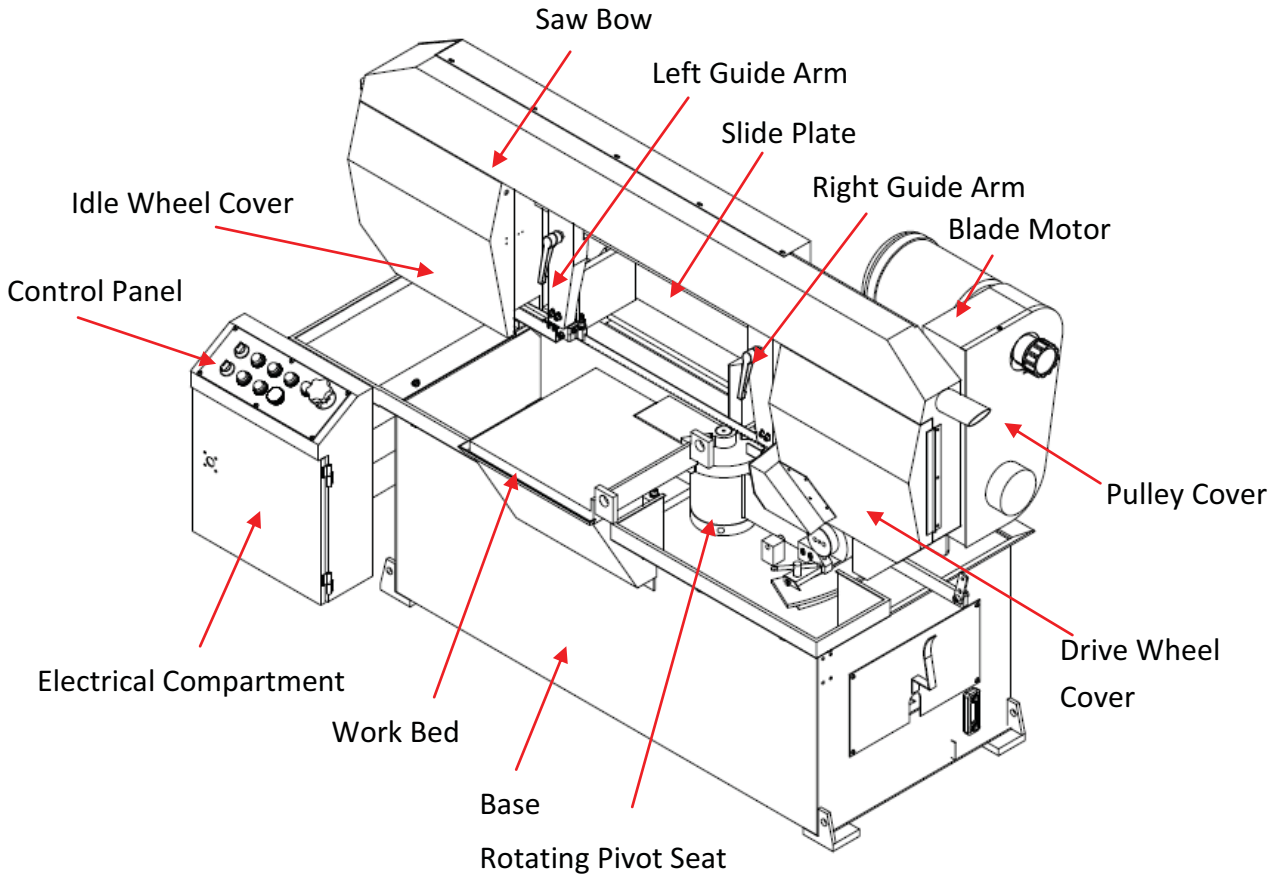
*The saw blade pressure and tension standard above are the general values. For special saw blade, please contact to the saw blade manufacturer for the applicable values.

MACHINE PARTS IDENTIFICATION

MH-500M

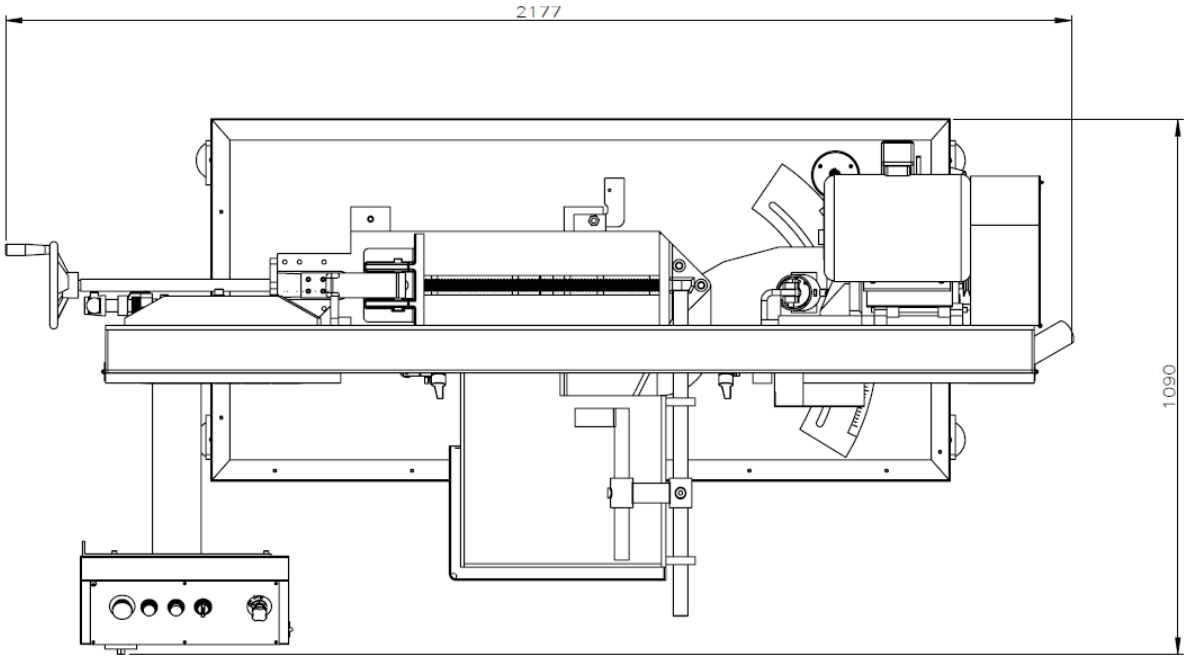


SH-500M

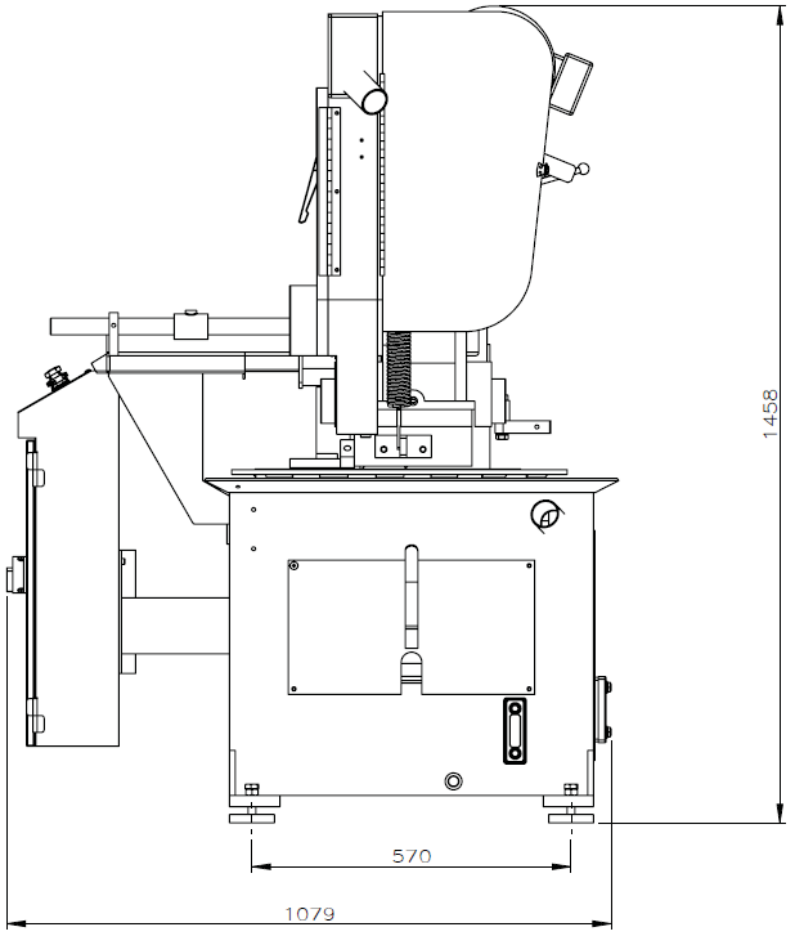


FLOOR PLAN

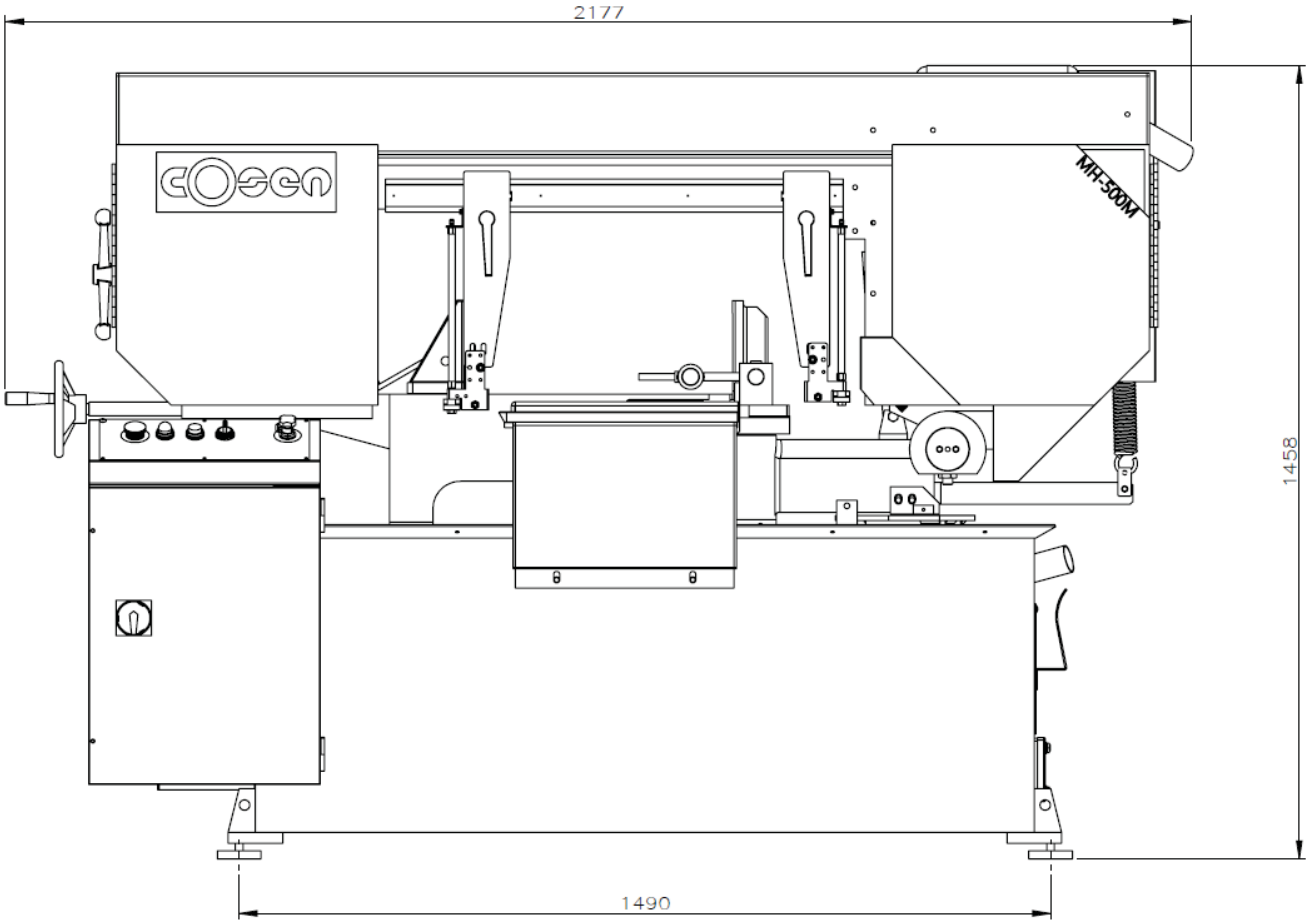
MH-500M



Machine top view

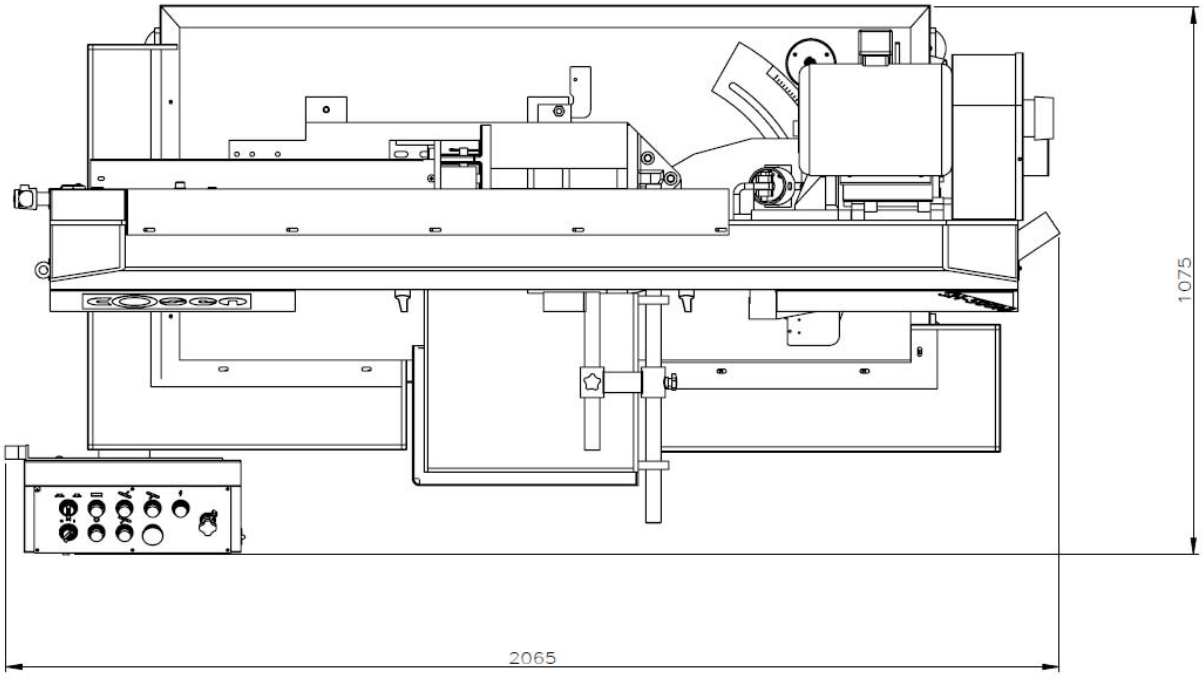


Machine side view

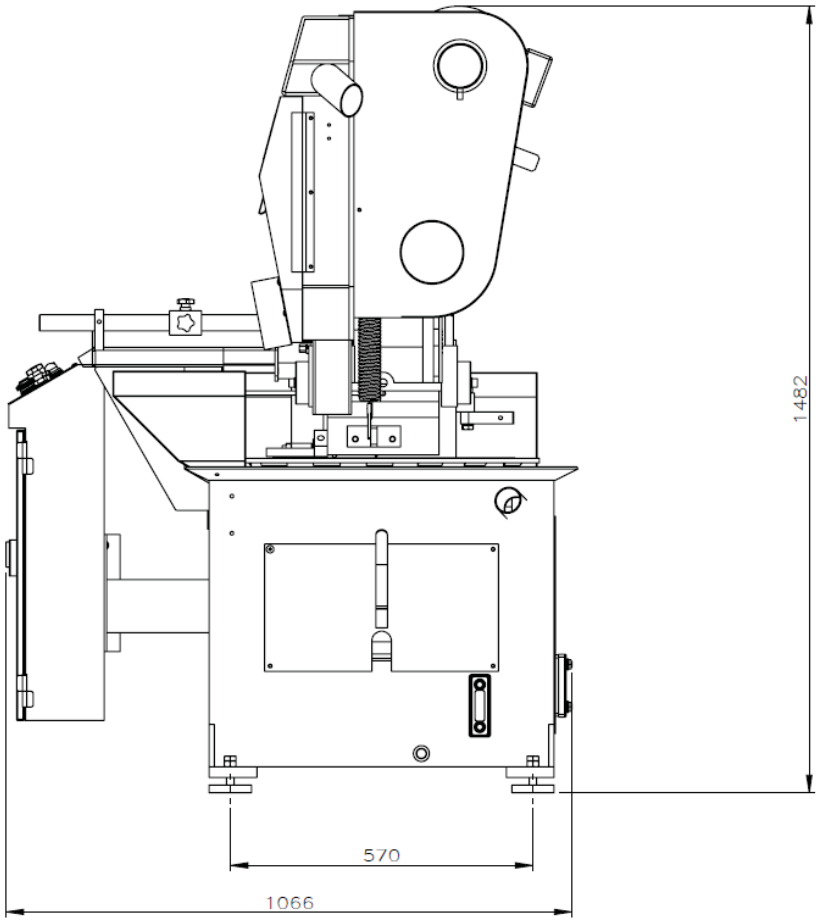


Machine front view

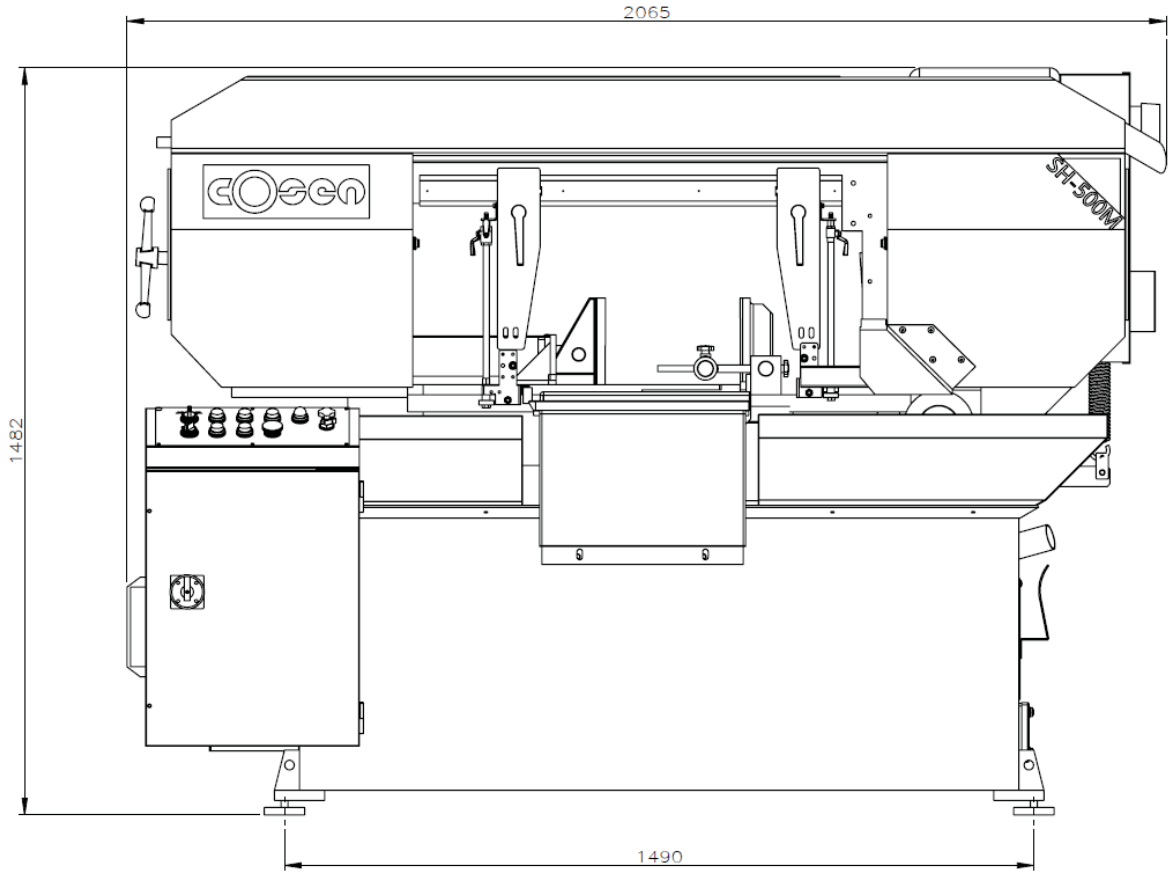
SH-500M



Machine top view



Machine side view



Machine front view

Section 3

MOVING & INSTALLATION

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 - Specification* 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 weight.

- 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.)**

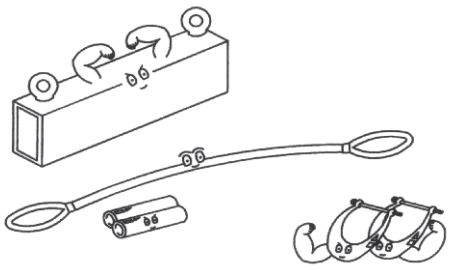
Move the machine to its location by using a crane and a wire rope sling that can fully withstand the weight of the machine (refer to machine specification under Section 2 *General Information*).

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.

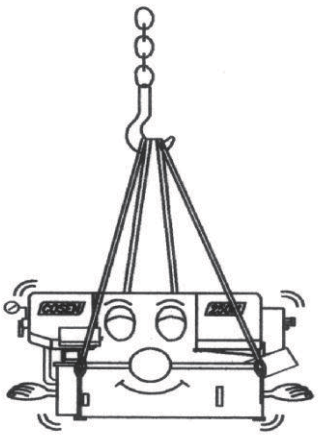
- You must use tools and equipment with the proper tensile strength and use proper method when moving your machine.



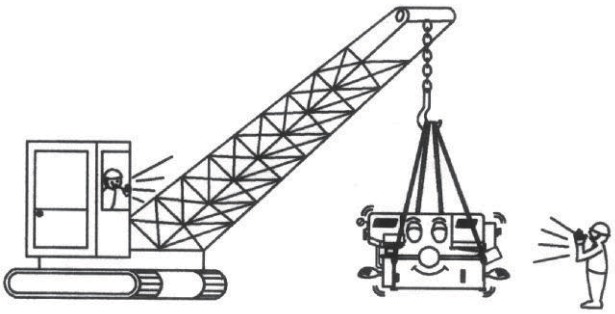
- Apply the wire rope sling to the lifting hooks on the four ends of the machine. Refer to *Illustration: Lifting Points* for exact locations.

- 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.)*

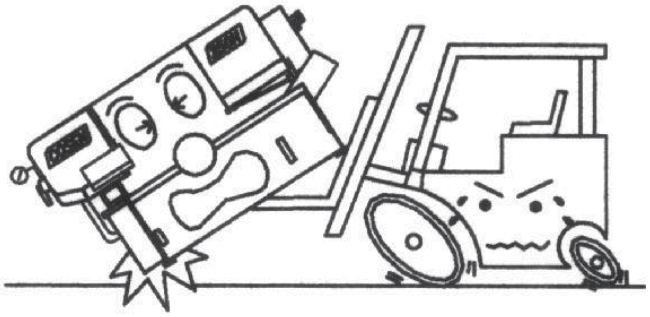
Machine lifting with a forklift should be done strictly according to the lifting points designated by the original manufacturer. If there is any doubt on missing lifting points on your machine, please consult with the original manufacturer or its qualified agent before lifting the machine.

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

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

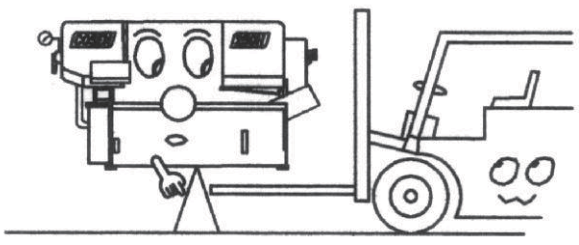
- You must apply proper forklift technique to avoid damage to the machine.

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.

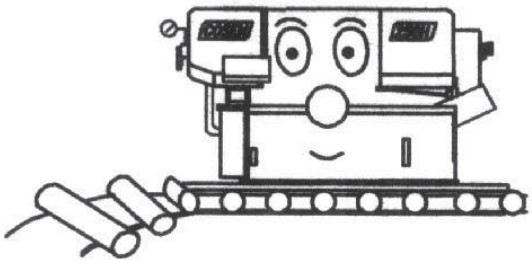
Make sure the forks are centered before use.



(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.

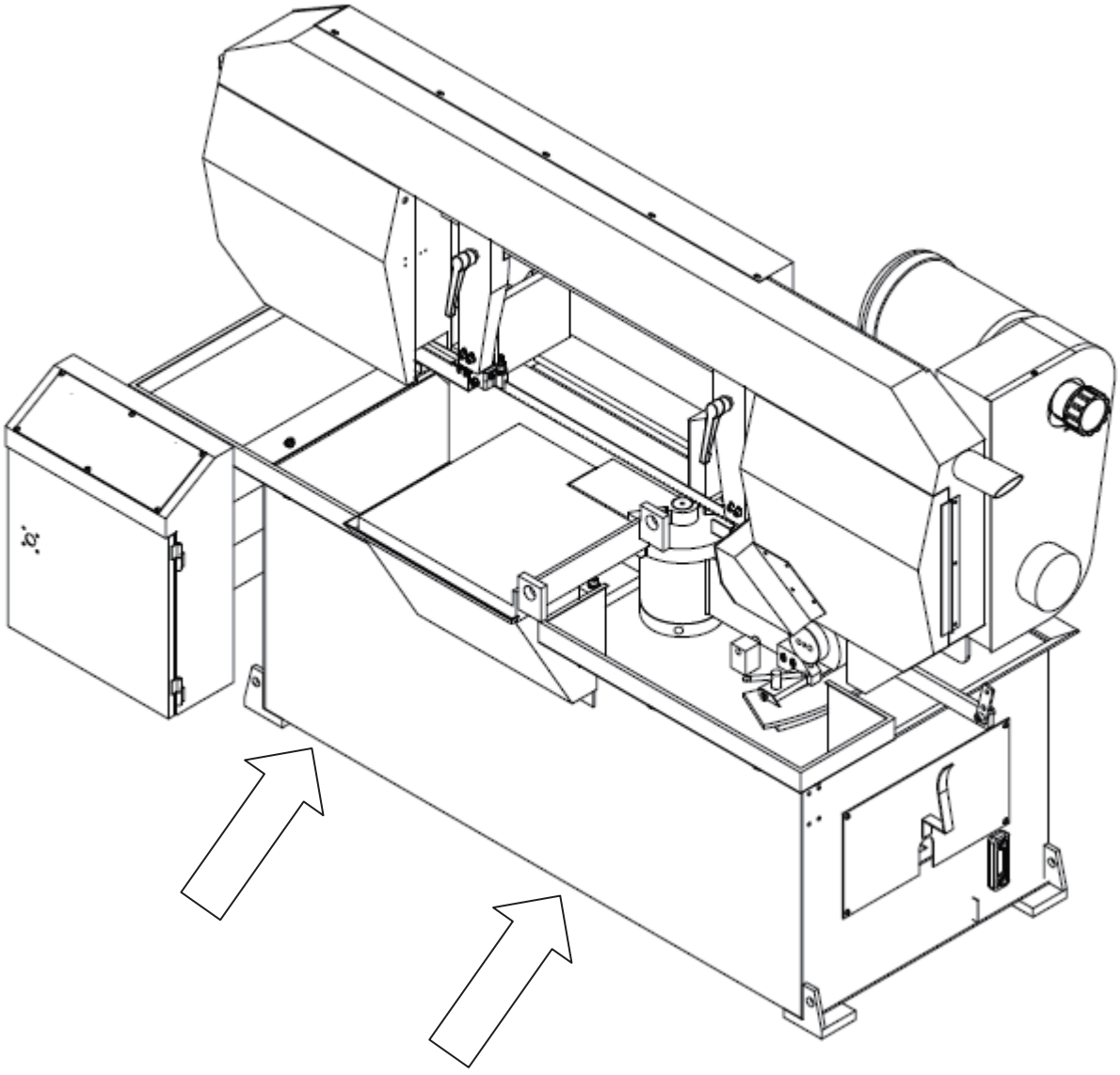


- You must use rolling cylinders made in material of proper compressive strength.

4. Other ways to move

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

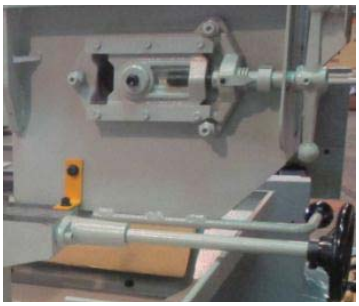
Illustration: Lifting Points



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.



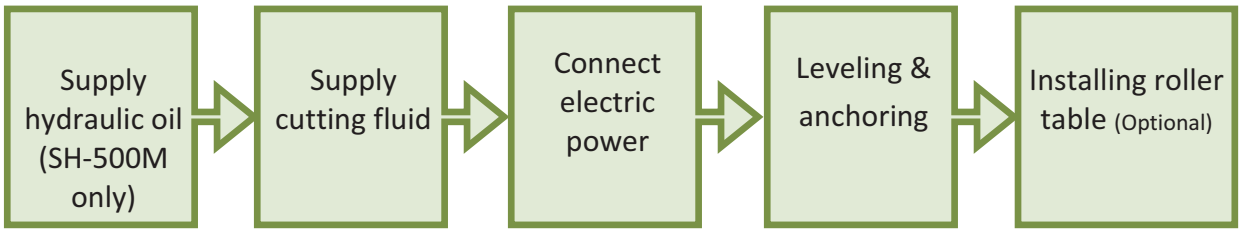
CLEANING

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

Cosen's bandsaw machine is relatively easy to install. Follow these six easy steps to install your machine.



<u>Supplying hydraulic oil (SH-500M only)</u>

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 *Specification* 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 COSEN 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.

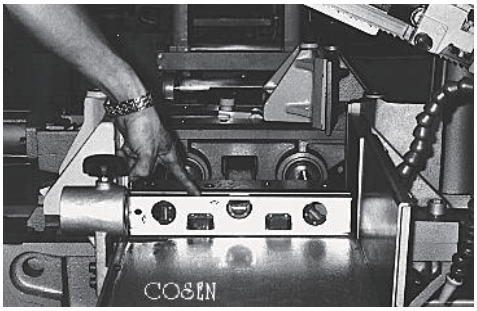
Supply voltage: 90% - 110 % of nominal supply voltage.

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.

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.

The drainage holes are at rear right of MH-500M and SH-500M. Making the left end of the machine approximately 10 mm higher than the level of the right end is recommended.

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.

Section 4

OPERATING INSTRUCTION

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
• Have a high cooling effect • Not flammable • Economical • Does not require cleaning of the cut products	• 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.

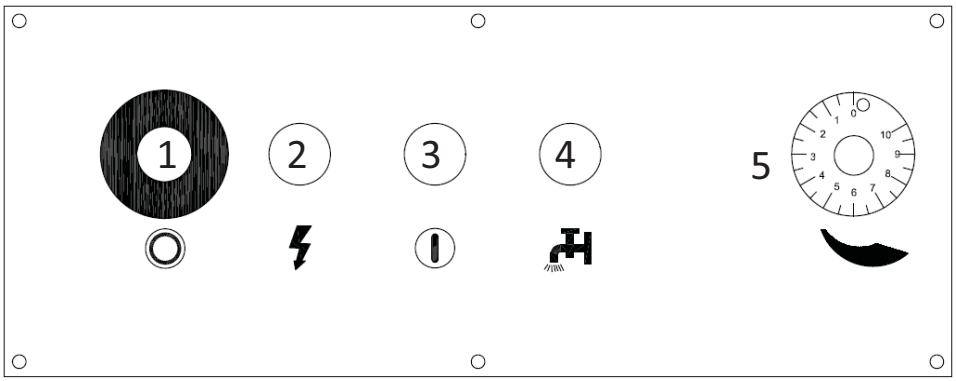
 Always add coolant into water for better mix result.

 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 (MH-500M)

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 light system. The operator must fully understand the function of each switch and button before operating the machine.



No.	Name	No.	Name
1	Emergency stop button	4	Coolant pump selector
2	Power indicator lamp	5	Blade descend speed control knob
3	Saw blade start button		

Control Buttons

1. 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.

Also serves as *saw blade stop button*.

2. Power indicator lamp

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

3. Saw blade start button

When the button is pressed, the saw blade starts to cut.

Press *emergency stop button* to stop the blade.

4. Coolant pump selector

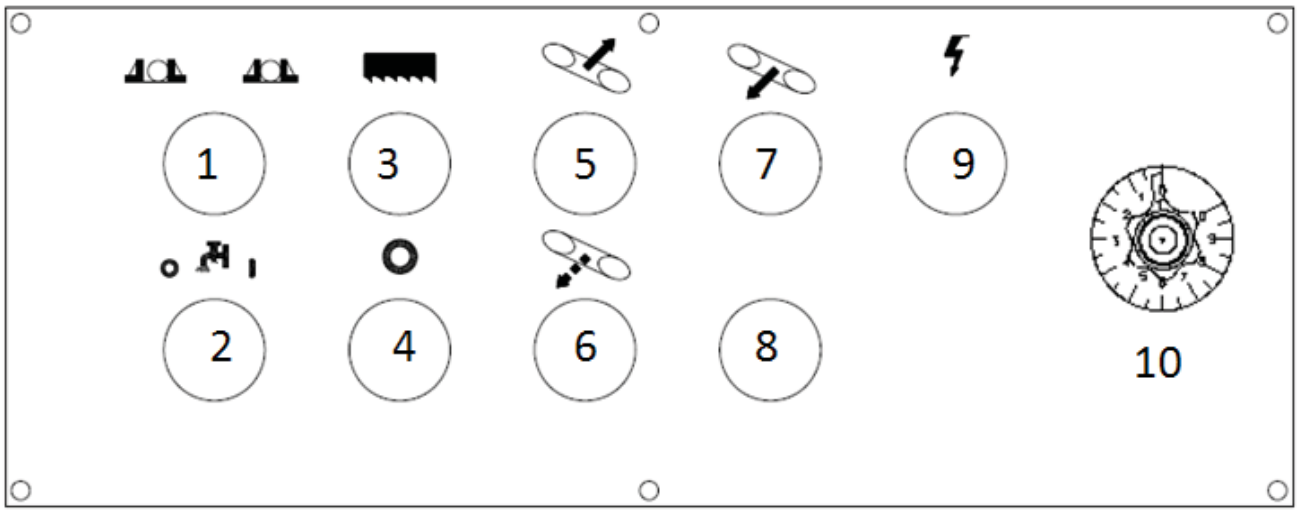
When this switch is turned to left, coolant pump starts and the coolant will be injected whether blade is running or not. When this switch is turned to right, coolant will be injected when blade is running

and coolant will stop when the blade stops.

5. Blade descend speed control knob

- Turning the knob counterclockwise increases the blade descend speed.
- Blade descend speed is a determining factor to a good cutting time and quality cutoff surface.
- Also commonly known as the flow control valve

CONTROL PANEL (SH-500M)



No.	Name	No.	Name
1	Vise clamp/open switch	6	Saw bow down button
2	Coolant pump ON/OFF switch	7	Saw bow quick approach button
3	Saw blade start button	8	Emergency stop button
4	Saw blade stop button	9	Power indicator lamp
5	Saw bow up button	10	Blade descend speed control knob

Control Buttons

1. Vise open/clamp switch

When the switch is turned to the left, the vises open. When the switch is turned to the right, the vises close until the operator lets go of the switch or until the full stroke vises are clamped together.

Make sure the material is securely clamped by the vise before cutting.

After the blade motor is running, the function of this switch is disabled for the safety concern.

2. Coolant pump on/off switch

When this switch is turned to “1” position, coolant pump starts and the coolant will be injected whether blade is running or not. When this switch is turned to “0” position, coolant will be injected when blade is running and coolant will stop when the blade stops. When this switch is turned to middle, coolant pump will remain stop.

3. Saw blade start button

Press this button to start the blade motor.

 Make sure the material is securely clamped by the vise before cutting.

4. Saw blade stop button

Press this button to stop the blade motor.

 After the cutting job is done, the saw blade will stop and the saw bow will automatically go up to the top limit switch position.

5. Saw bow up button

When this button is pressed, the saw bow rises until the operator lets go of the button.

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

6. Saw bow down button

When this button is pressed for once, saw bow will automatically go down at the preset speed adjusted by *blade descend speed control knob*.

 Before descending the saw bow, please move the guide arm to a safe position to prevent it from hitting the vise.

 Press *saw bow up button* to stop saw bow descending.

7. Saw bow quick apporach button

When this button is pressed, the saw bow descends and approaches to the material at quick speed until the operator lets go of button.

 Before descending the saw bow, please move the guide arm to a safe position to prevent it from hitting the vise.

8. 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.

9. Power indicator lamp

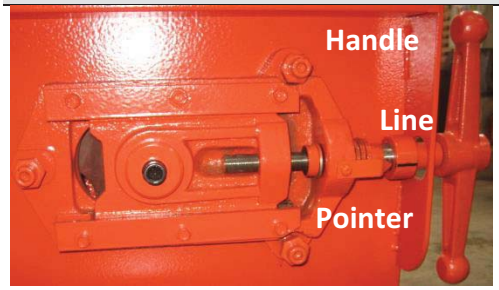
When the lamp is on, it indicates the power to the machine is turned on.

10. Blade descend speed control knob

- Turning the knob counterclockwise increases the blade descend speed.
- Blade descend speed is a determining factor to a good cutting time and quality cutoff surface.
- Also commonly known as the flow control valve

STANDARD ACCESSORIES

Blade tension device



- This blade tension device provides appropriate tension to the saw blade.
- Turn the handle clockwise or counterclockwise to tighten or loosen the blade tension.
- Please check the blade tension with the tensiometer.
- The line should line up with the pointer after adjusting tension.

Never adjust blade tension while the blade is running.

Wire brush

The wire brush removes the metal chips on the saw blade teeth to so that blade life can be extended.

Keep hands away from the brush while the wire brush is running

Turn off the hydraulic motor or the main power switch before performing maintenance or cleaning on the wire brush drive system.

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.

Saw bow swivel lock handle

This lock handle is used to lock the saw bow when it is settled at the designated angle before miter cutting.

Do no adjust angle while cutting.

Saw bow upper limit block

The operator should adjust upper limit block position to adjust saw bow raise time.

Manual vise (MH-500M)

Pawl

Handwheel

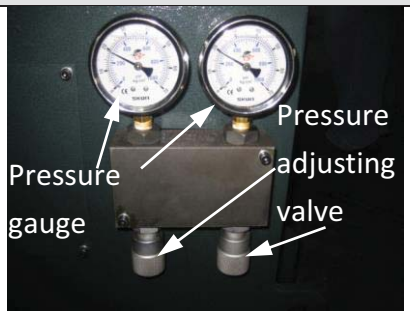
Steps to clamp manual vise:
Step 1 - Lift the pawl and move the movable vise close to the material.
Step 2 - Put down the pawl.
Step 3 - Turn the handwheel to clamp the vise tightly.

Hydraulic movable vise (SH-500M)

Use the vise clamp/open switch to control the hydraulic vise.

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.

Do not adjust vise pressure at any time during cutting.

Vise pressure should never be lower than 8 kg/cm^2.

0.5M Roller Table

This 0.5M roller table supports the work material and ensures the material is fed in smoothly.

1M Roller Table

The optional 1M roller table supports the work material and ensures the material is fed in smoothly.

2M Roller Table

The optional 2M roller table supports the work material and ensures the material is fed in smoothly.

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.

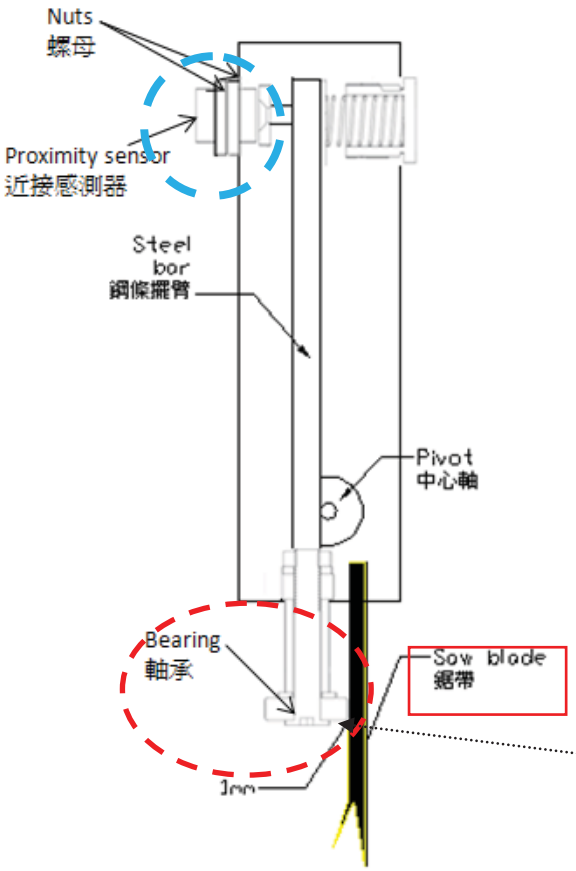
The blade deviation detected value and present values are displayed on the HMI screen.

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):

±0.1~0.5 mm (±0.004"~0.02 ") 。

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



Deviation Dectector 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. (Please refer to the next page.)
3. Tighten the nuts.

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.

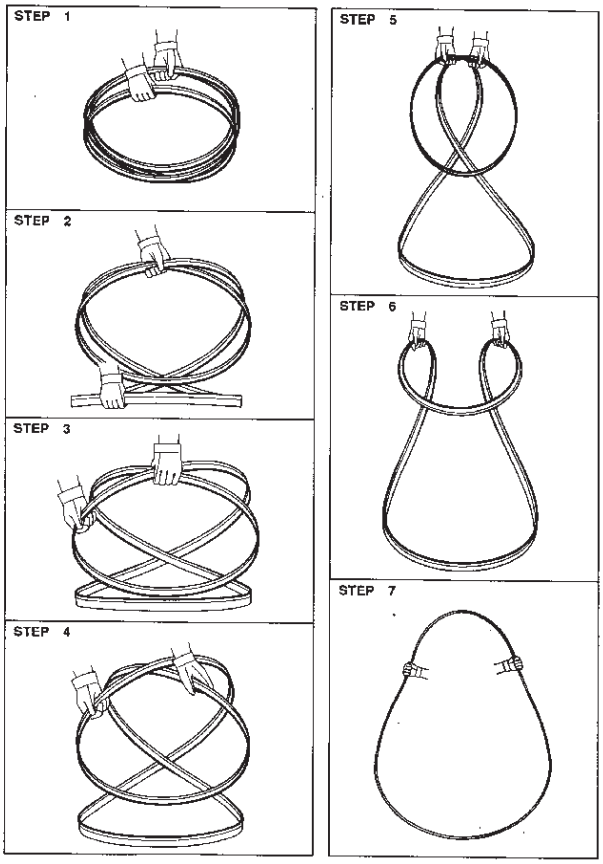
- Adjust the proximity sensor until the blade deviation displayed on the control panel is zero.
- If the deviation value not changed when adjusting the proximity sensor or **bearing**, it means the deviation detector with malfunction. Need to replace a new one.
- Please clean the internal shell of deviation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



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.

Step 3 - Press the *saw bow up* button and elevate the saw bow to the highest position.

Step 4 - Release blade tension by turning the blade tension handle counterclockwise. The idle wheel will then move slightly toward the direction of the drive wheel.

Step 5 - Open the idle and drive wheel covers.

Step 6 - Loosen the adjustment bolt and move the wire brush away from the blade.

Step 7 – Remove the old blade. If necessary, clean the carbide inserts before installing a new saw blade.

Step 8 - Place the new blade around the idle wheel and the drive wheel.

Step 9 - 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 10 - Place the blade to the drive wheel and press the back of the blade against the flange of the drive wheel.

Step 11 - Make sure the back of the blade is also pressed against the flange of the idle wheel.

Step 12 - Apply tension by turning the blade tension handle clockwise. Make sure you have proper blade tension. Proper tension exists when the blade does not slip on the drive wheel when cutting.

Step 13 - Make sure the sides of the blade are in close contact with the carbide inserts.

Step 14 - Gently close the idle and drive wheel covers.

Step 15 - 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 16 - Adjust wire brush to a proper position. Refer to *Adjusting wire brush* in this section.

ADJUSTING SAW ARM

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

While adjusting the guide arm, be careful not to hit the vise.

Step 1 – Loosen the blade guide locking handle. Then adjust the guide arm to a position suitable for your workpiece size. Move the right blade guide according to the label for miter cutting.

Step 2 – After adjustment is made, tighten the blade guide locking handle.

ADJUSTING BLADE SPEED

According to operator's need, two kinds of pulleys can be chosen to adjust blade speed.

Step pulley

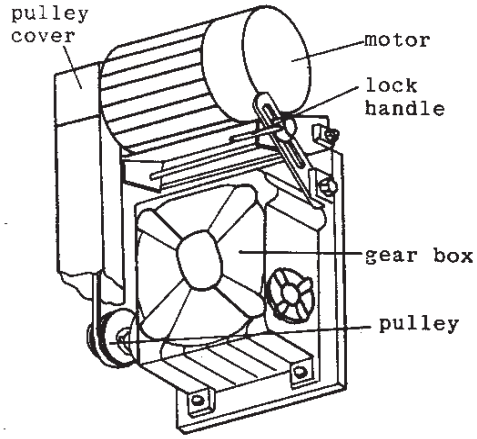
Step 1 - Remove pulley cover.

Step 2 - Loosen lock handle between motor and gear box.

Step 3 - Position belt in proper grooves according to the blade speed chart.

Step 4 - Make sure the belt is tightly and securely positioned in the groove and tighten lock handle.

Step 5 - Install pulley cover back in place.



blade speed chart

Variable stepless pulley(optional)

Step 1 – Set the blade speed control knob to "0" position.

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

Step 3 – Refer to blade speed reference chart and turn the *blade speed control knob* to adjust the blade speed. Turn clockwise to decrease the speed and counterclockwise to increase the speed.

Blade Speed Control Knob

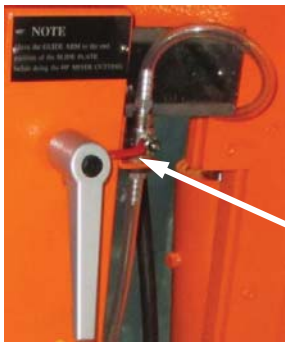
Blade Speed Chart

ADJUSTING COOLANT FLOW

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

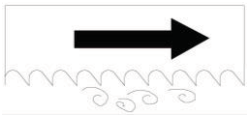
Step 2 – For SH-500M only, press the saw bow down button or saw bow quick approach button.

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

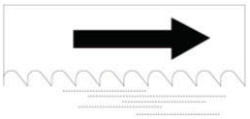


Flow Control Valve

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.

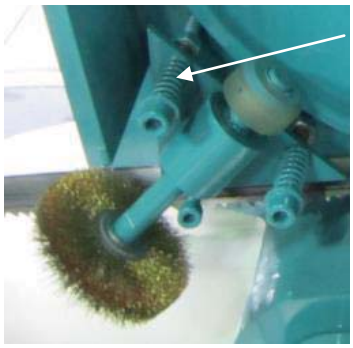
ADJUSTING WIRE BRUSH

Follow these steps to adjust wire brush to appropriate position:

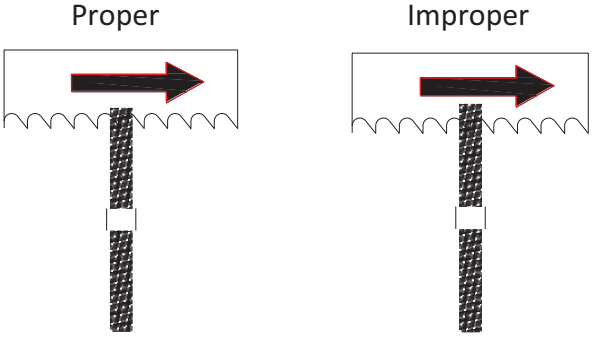
Step 1 – Open the drive wheel cover. Loosen the adjustment bolt.

Step 2 – Adjust brush to make it move up / down until it makes proper contact with the saw blade (see below illustration).

Step 3 – Tighten the adjustment bolt. Close the drive wheel cover.



Adj. bolt



INSTALLING MATERIAL STOP BRACKET

This device is easy to cut the same length repeatedly and saves adjusting time.

Step 1 - Install the depth bar and tighten the set screw. The depth bar is taken off from the machine base during transit for safety reason.

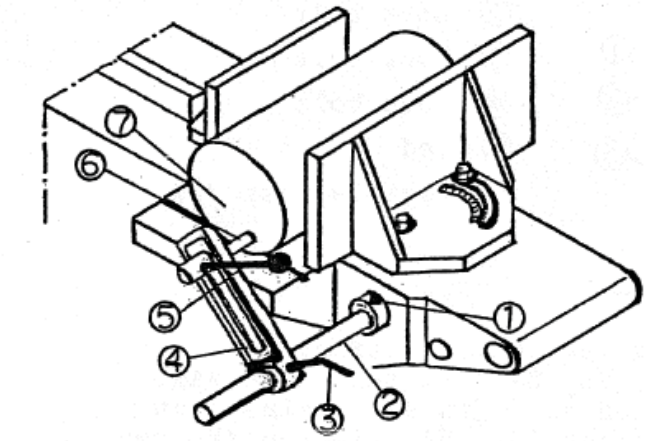
Step 2 - Lift the saw bow and clamp material securely with vise.

Step 3 - Lower the saw bow to allow about 1 mm clearance between saw blade teeth edge and the top of the material. Then measure your desired cutoff length.

Step 4 - Loosen the fastening bolt.

Step 5 - Slide and position the stopper so that the end of stopper faces the direction of the front end of the material. Then tighten the stopper handle to fix the stopper in the bracket.

Step 6 - Move the stopper bracket toward the workpiece so the stopper end just touches the front of the material, then tighten the fastening bolt.



① Set screw
② Depth bar
③ Fastening bolt
④ Stopper bracket
⑤ Stopper handle
⑥ Stopper
⑦ Front end of material

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 for SH-500M).

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

Step 6 – Start the coolant pump.

Step 7 – Test these functions:

- vise clamping/unclamping
- saw bow ascending/descending

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

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.
- **Blade:** Check the blade teeth and make sure there is no worn out teeth along the blade.
- **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 – Adjust *blade descend speed control* knob to obtain a suitable blade descend speed for your material.
Step 6 – Start running the blade.

 Before you start cutting, check again that there is no other object in the cutting area.
Step 7 – While the blade descends, adjust the blade speed if necessary. Please refer to *Adjusting Blade Speed*.
Step 8 – Select the proper cutting condition according to different material.
Step 9 – After the entire cutting job is completed, MH-500M will stay at lower limit position and SH-500M will go up to the upper limit position. Open the vises to remove the workpiece.
Step 10 – Clean the workbed by removing chips and cutting fluids.
Step 11 – Lower the saw bow to a proper position then turn off the power.

TERMINATING A CUTTING OPERATION 

- For MH-500M, the saw blade will stop running when the *emergency stop bu*tton is pressed.
- For SH-500M, the saw blade will stop running when the *saw bow up bu*tton or the saw blade stop button is pressed.
- For SH-500M, both the saw blade and hydraulic pump motors will stop running when the *emergency stop* button is pressed.

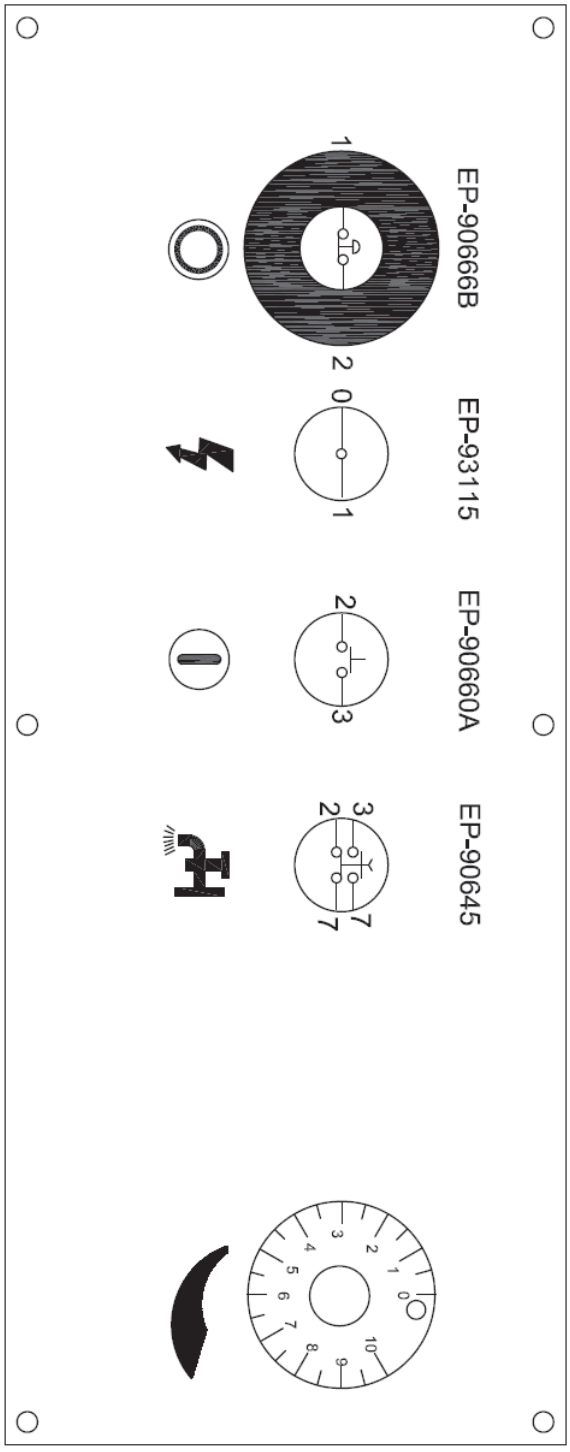
Section 5

ELECTRICAL SYSTEM

ELECTRICAL CIRCUIT DIAGRAMS

The following are electrical circuit diagrams of MH-500M:

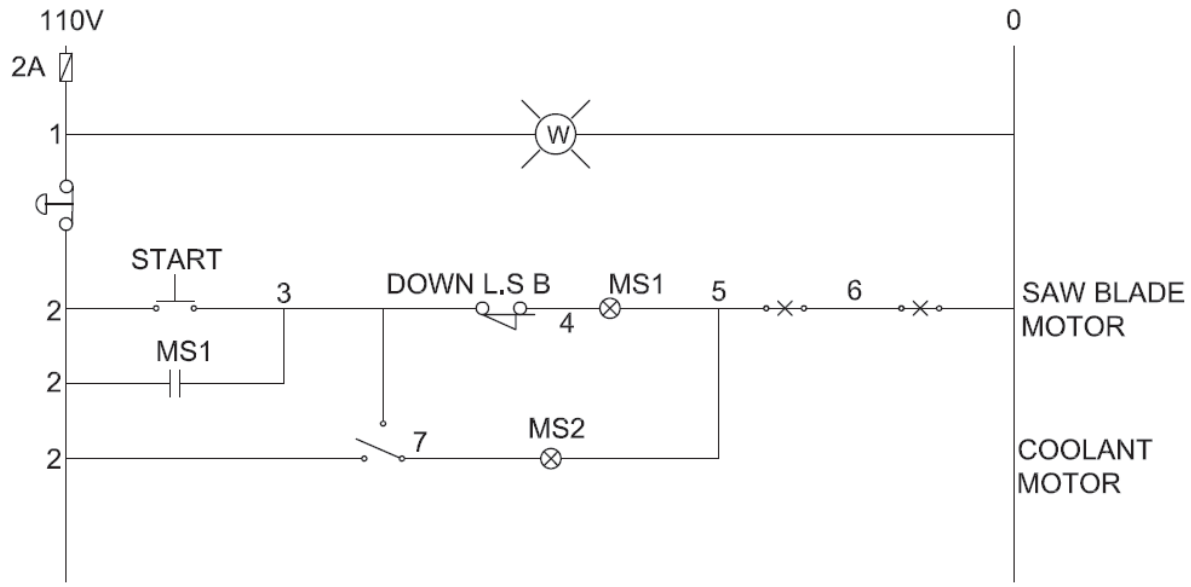
The following are electrical circuit diagrams of SH-500M:



FOR MH-500M/MH-330ER

高聖精密機電股份有限公司 COSEN MECHATRONICS CO., LTD.	圖名	Control Panel Layout 面板配置圖	圖號	EL-MH500M-000S0-A	繪圖	官韋劭	日期	1031009	版本
					審核	詹凱賀	日期	1031009	S0

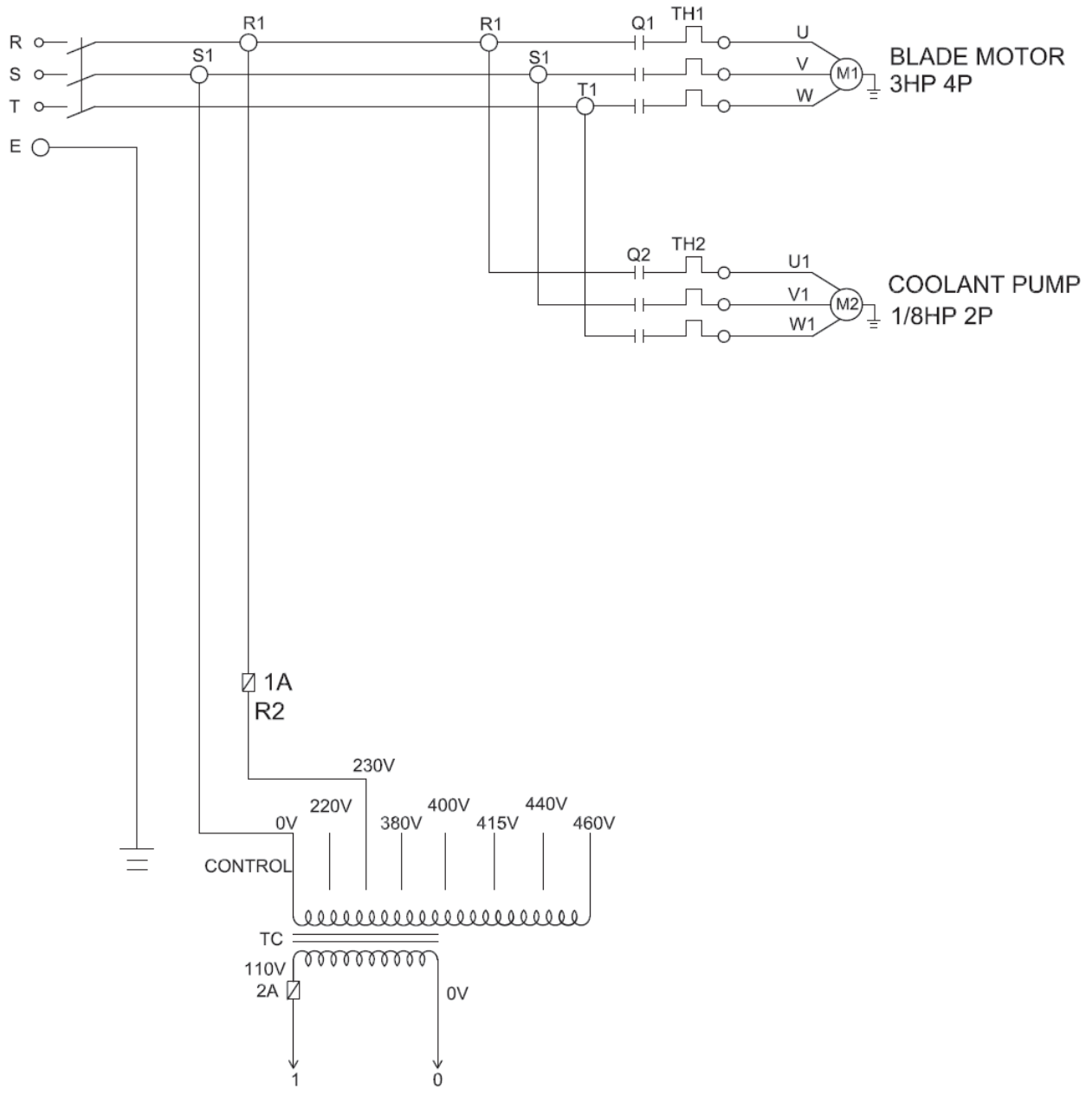
Fig 5-1 Control Panel Layout



FOR MH-500M/MH-330ER

高聖精密機電股份有限公司 COSEN MECHATRONICS CO., LTD.	圖名	110V電路系統 AC 110V circuitry	圖號	EL-MH500M-000S0-B	繪圖	官韋劭	日期	1031009	版本
					審核	詹凱賀	日期	1031009	S0

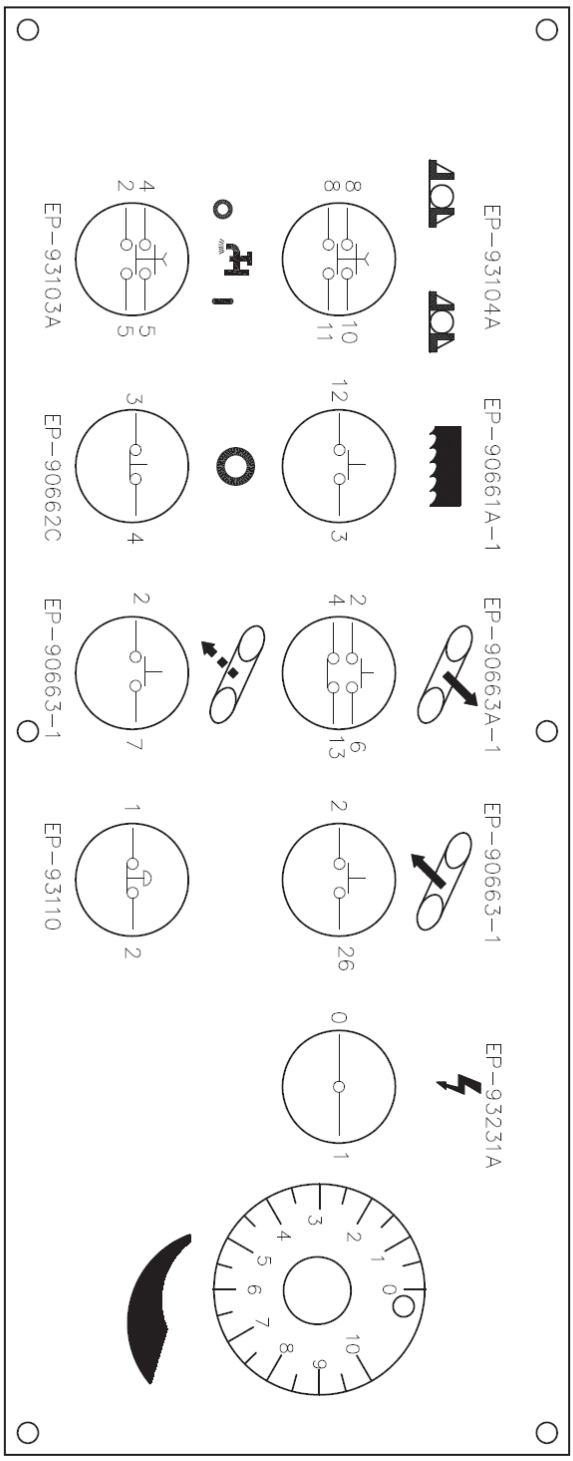
Fig 5-2 AC 110V Circuitry



FOR MH-500M/MH-330ER

高星精密機電股份有限公司 COSEN MECHATRONICS CO., LTD.	圖名	Power Supply Layout 動力配置圖	圖號	EL-MH500M-000S0-C	繪圖	官韋劭	日期	1031009	版本
					審核	詹凱賀	日期	1031009	S0

Fig 5-3 Power Supply Layout



FOR SH-500M/SH-330ER

高聖精密機電股份有限公司 Cosen Mechatronics Co., Ltd.	圖名	Control Panel Layout 面板配置圖	圖號	EL-SH500M-000S0-A	繪圖	林真如	日期	20150810	版本
					審核	詹凱賀	日期	20150810	S0

Fig 5-4 Control Panel Layout (non-CE)

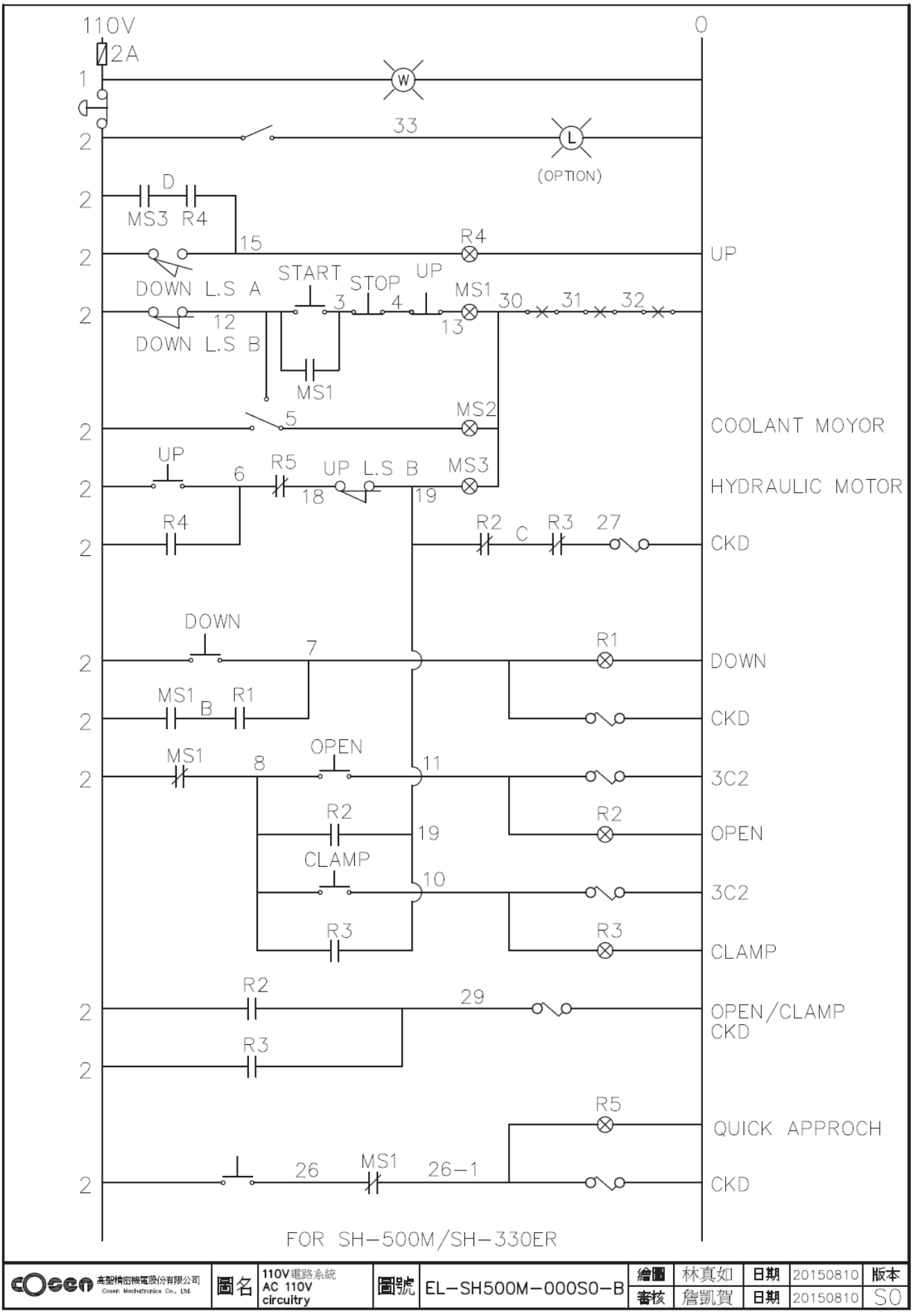
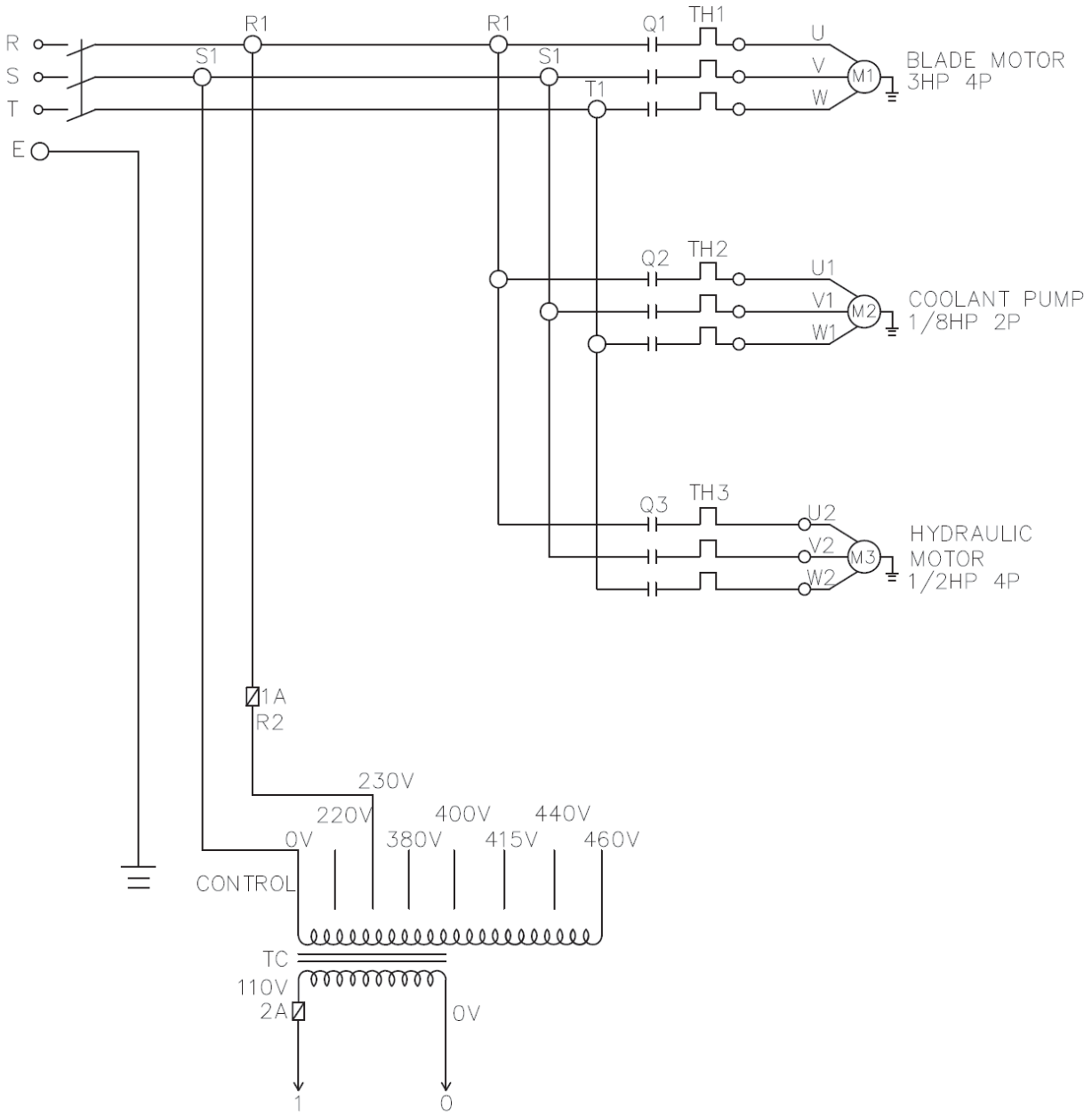


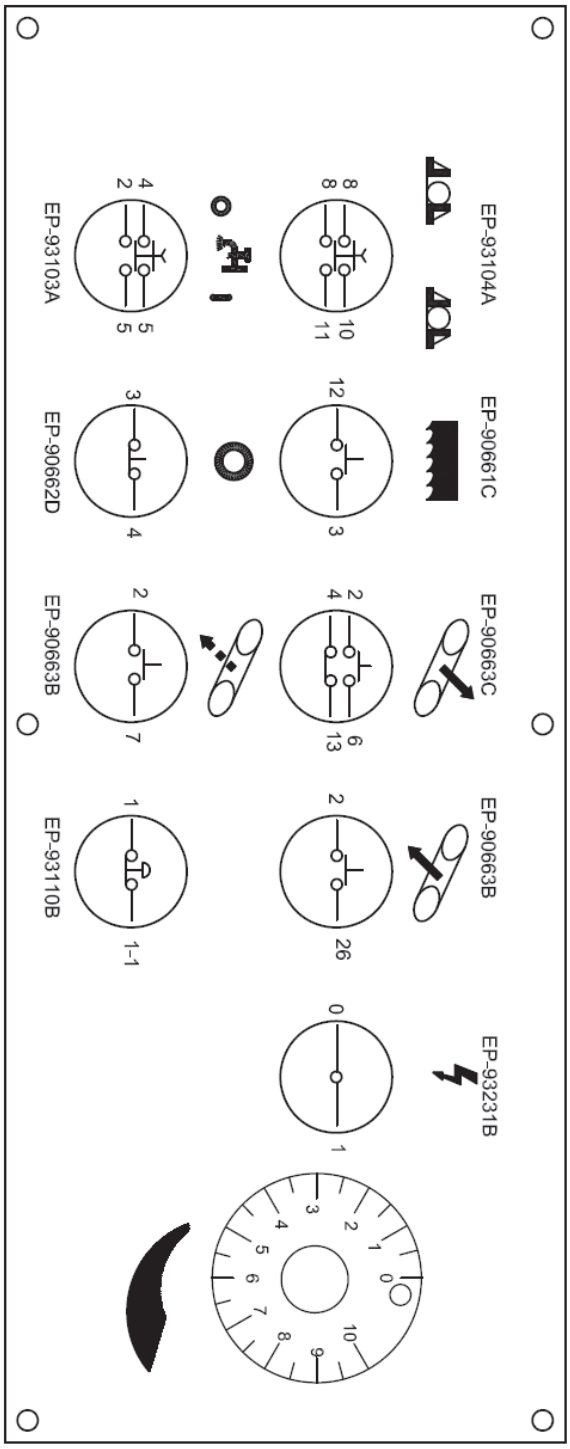
Fig 5-5 AC 110V Circuitry (non-CE)



FOR SH-500M/SH-330ER

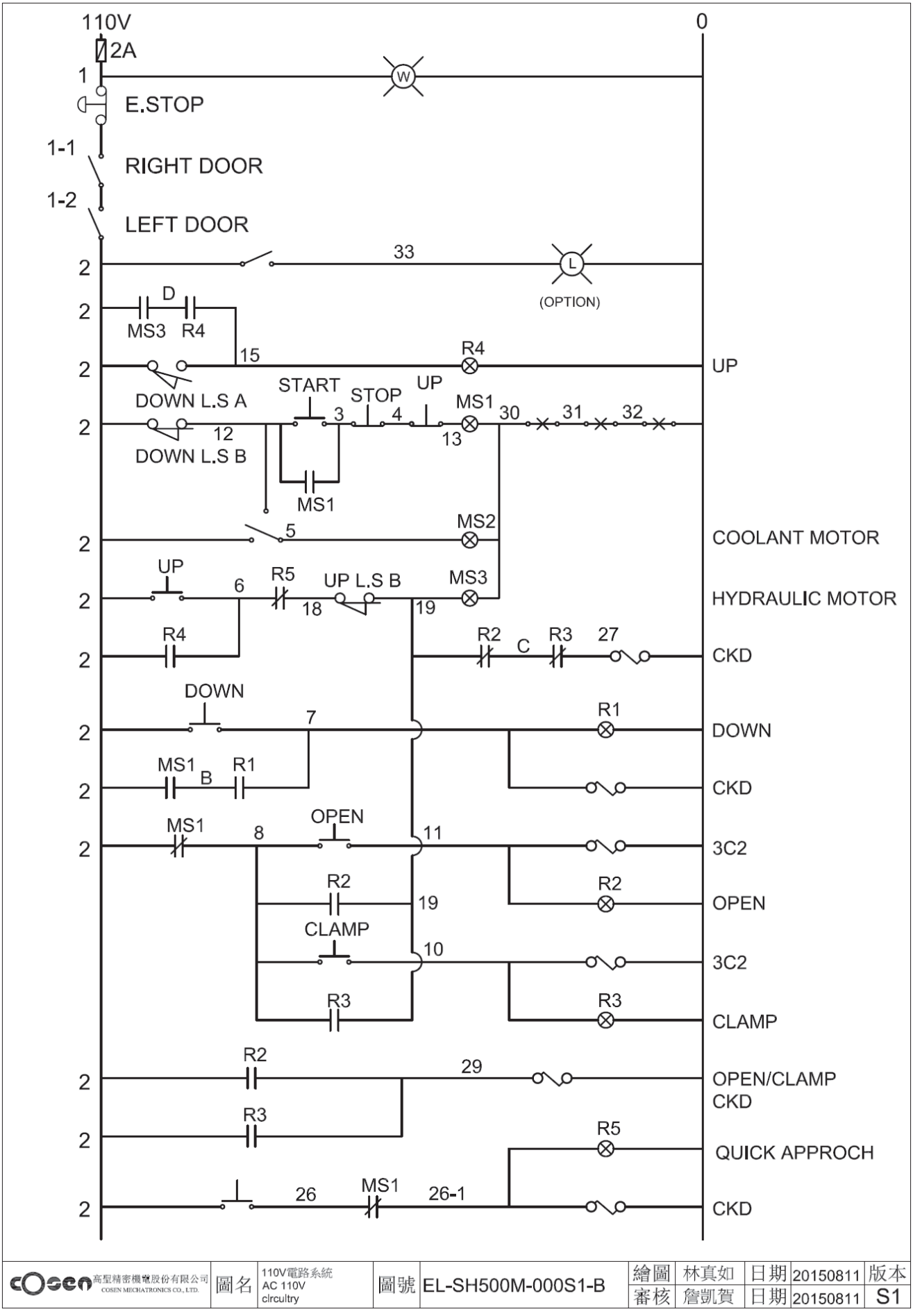
高聖精密機電股份有限公司 Cosen Mechatronics Co., Ltd.	圖名	Power Supply Layout 動力配置圖	圖號	EL-SH500M-000S0-C	繪圖	林真如	日期	20150810	版本
					審核	詹凱賀	日期	20150810	S0

Fig 5-6 Power Supply Layout (non-CE)



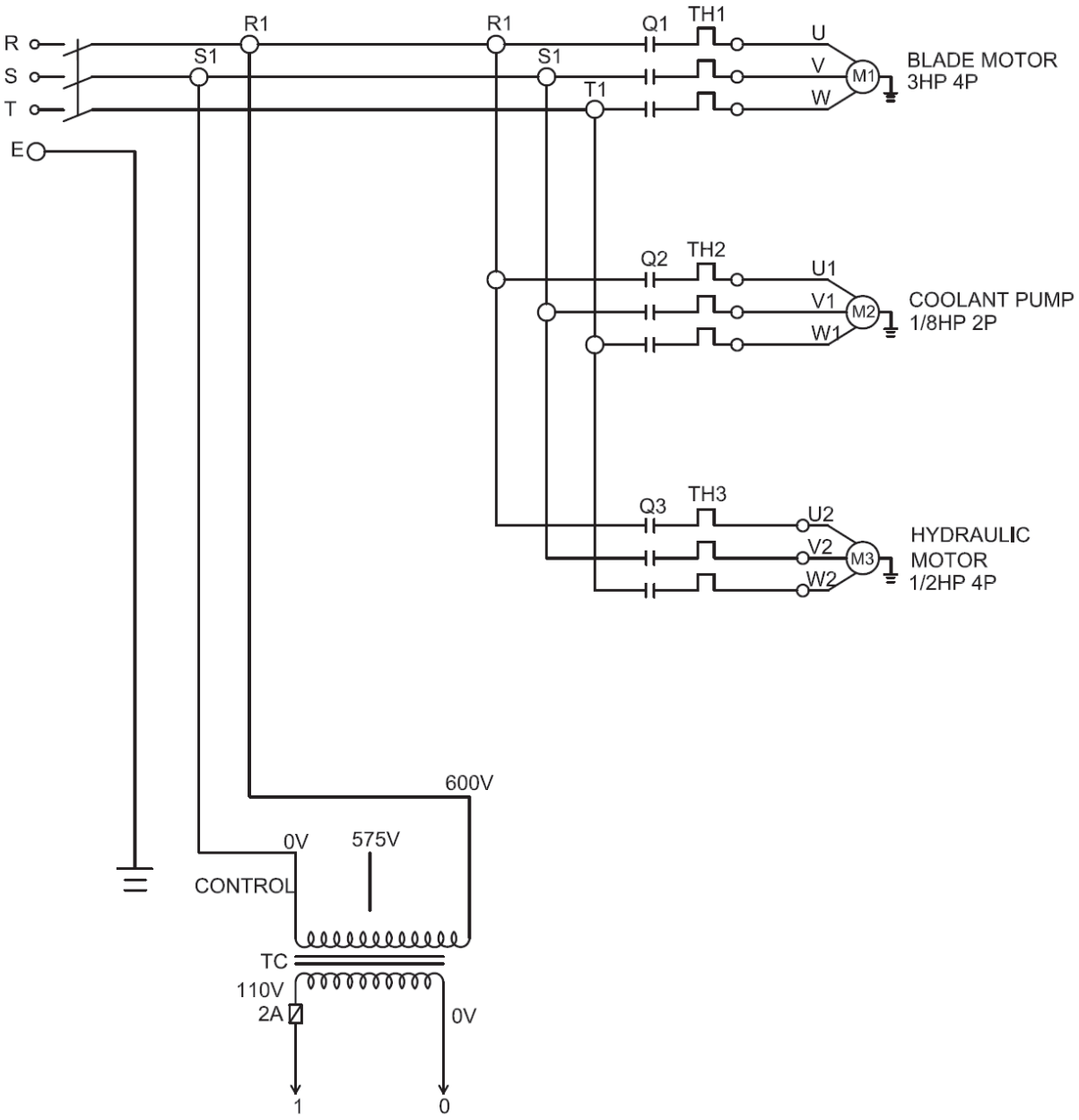
高星精密機電股份有限公司 COSEN MECHATRONICS CO., LTD.	圖名	Control Panel Layout 面板配置圖	圖號	EL-SH500M-000S1-A	繪圖	林真如	日期	20150811	版本
					審核	詹凱賀	日期	20150811	S1

Fig 5-7 Control Panel Layout (CE)



COSEN 高星精密機電股份有限公司 COSEN MECHATRONICS CO., LTD.	圖名	110V電路系統 AC 110V circuitry	圖號	EL-SH500M-000S1-B	繪圖	林真如	日期	20150811	版本
					審核	詹凱賀	日期	20150811	S1

Fig 5-8 AC 110V Circuitry (CE)



COSEN 高聖精密機電股份有限公司 COSEN MECHATRONICS CO., LTD.	圖名	Power Supply Layout 動力配置圖	圖號	EL-SH500M-000S1-C	繪圖	林真如	日期	20150811	版本
					審核	詹凱賀	日期	20150811	S1

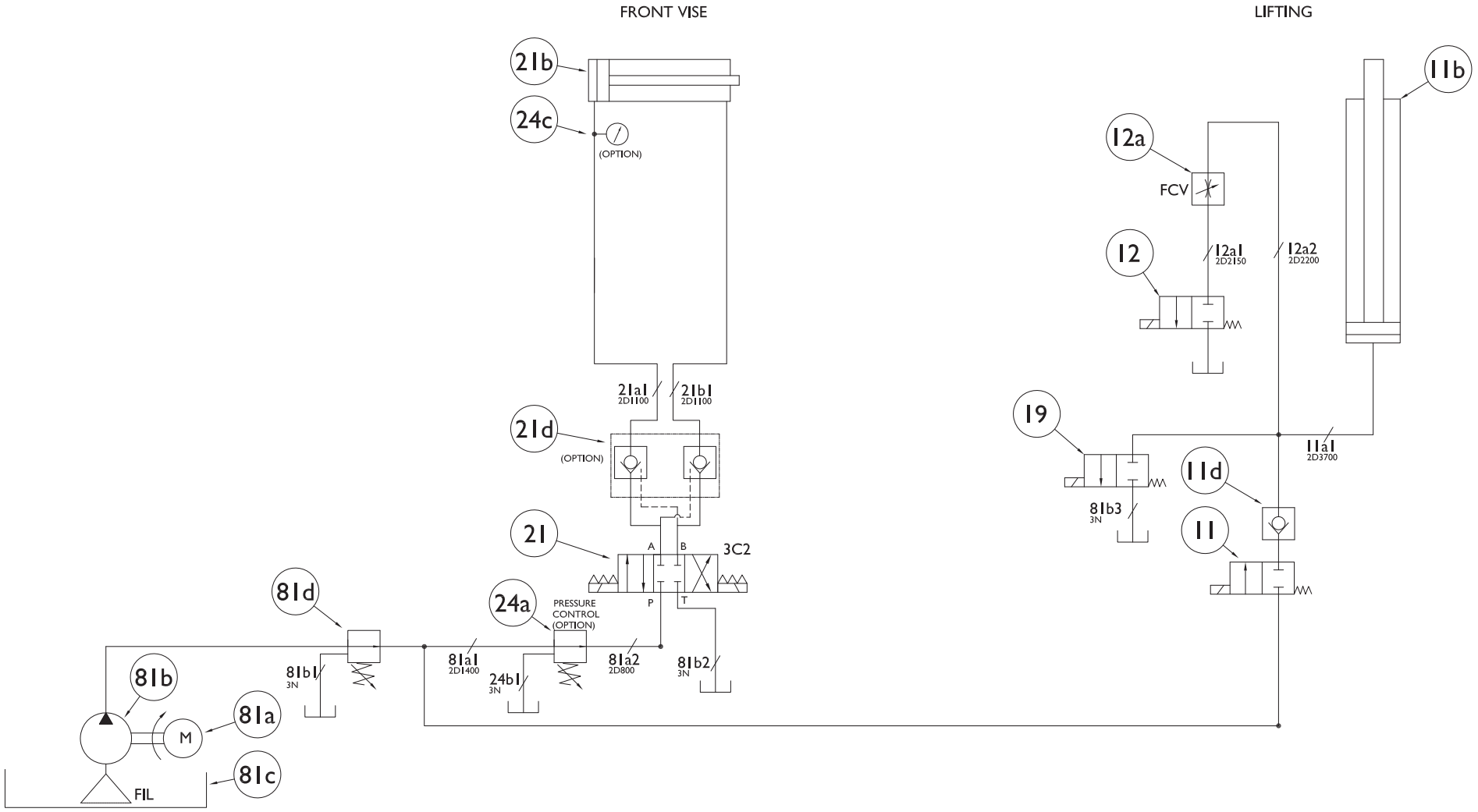
Fig 5-9 Power Supply Layout (CE)

Section 6

HYDRAULIC SYSTEM

HYDRAULIC CIRCUIT DIAGRAM

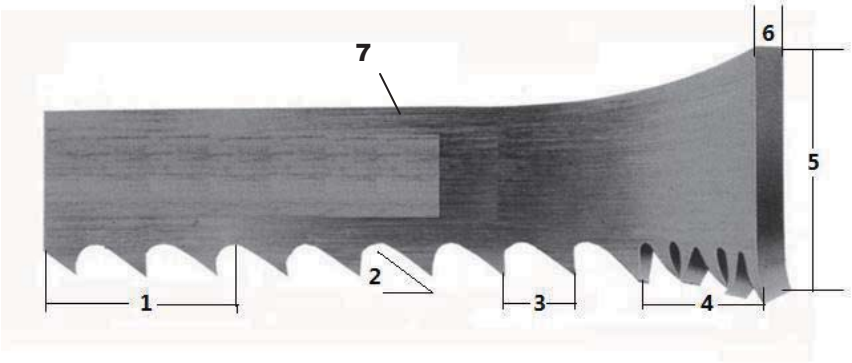
SH-500M HYDRAULIC CIRCUIT



COSEN MECHATRONICS CO.,LTD.			DRAW	20181228	ELAINE
			CHECK	20190102	JOSEPH
TITLE	SH-500M HYDRAULIC CIRCUIT		APPROVED		
DRAWING NO.05SH-500M		VERSION	1-0	DATE	NAME

BANDSAW CUTTING: A PRACTICAL GUIDE

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 ÷ 4 P = 6.35 mm, that is, one tooth is 6.35 mm.

If it is 3P, 25.4 ÷ 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:

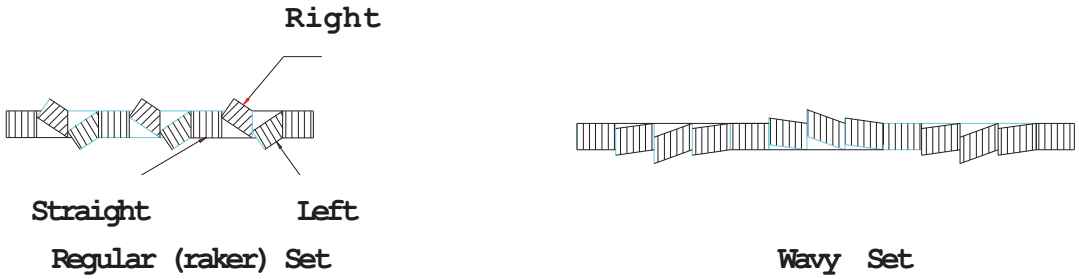


Fig. 7.2 The Saw Set

VISE 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.

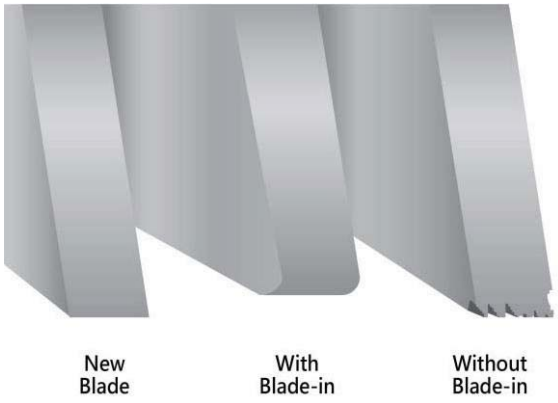
When it comes to cutting odd-shaped material, such as angles, I-beams, channel, and tubing, the main point is to arrange the materials in such a way that the blade cuts through as uniform a width as possible throughout the entire distance of cut.

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.

BladeBreak -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.

Section 8

MAINTENANCE & SERVICE

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:

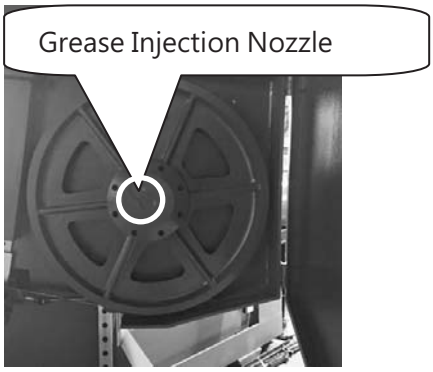
- Shell Alvania EP Grease 2
- Mobil Mobilplex 48

Please apply lubricating oil to the following points: (if applicable)
Main shaft (double column)

Recommended Lubricating Oil:

- CPC Circluation oil R68

Grease Injection Hole:

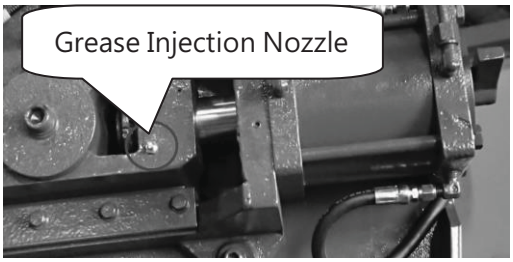


1. Grease Injection Nozzles at the middle of drive wheel and idle wheel;

   (You need to rotate the wheel until you ssee the Grease injection nozzle.)


: The position of injection indicating.

2. Please inject the grease into the Nozzle.

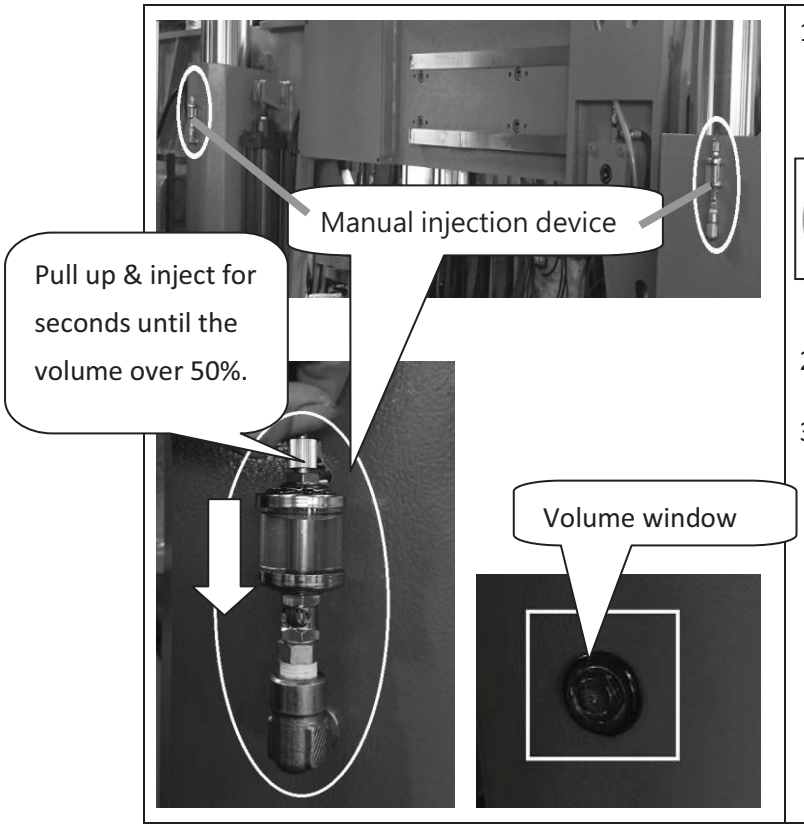


1. Grease Injection Nozzle on the blade tension device.

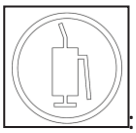

: The position of injection indicating.

3. Please inject the grease into the Nozzle.

Lubricating Oil Injection for Main shaft (double column) (if applicable):

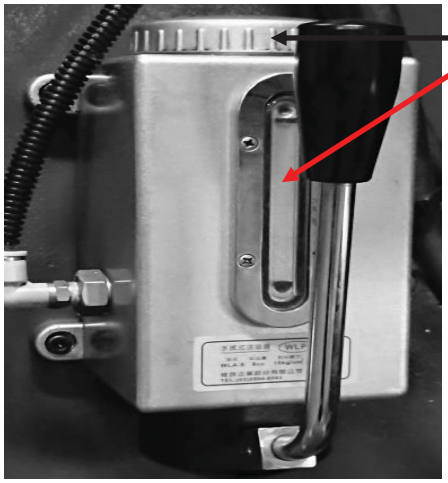


1. Two manual injection device for two main shafts (double column)


: The position of injection indicating.

2. Pull up & inject lubricating oil for seconds
3. Recommend always keeping the volume over 50% inside the vessel of volume window. ◦

Manual Lubrication Injection Device: (if applicable)



Lubrication volume indicator.
Recommend keeping the volume over 50% inside the vessel.

Please take down this vessel cap to replenish the lubrication.

For the prevention of working environment pollution, **DO NOT** replenish too much volume of lubrication while supplying the lubrication into the vessel.

Under the circumstances of normal operation, replenish the lubrication once every three days.

It may be adjusted the schedule of replenishing whenever the user needs.

The main function is to lubricate the **slide rail and block**.

(The **liner guideway for saw bow**).

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

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.

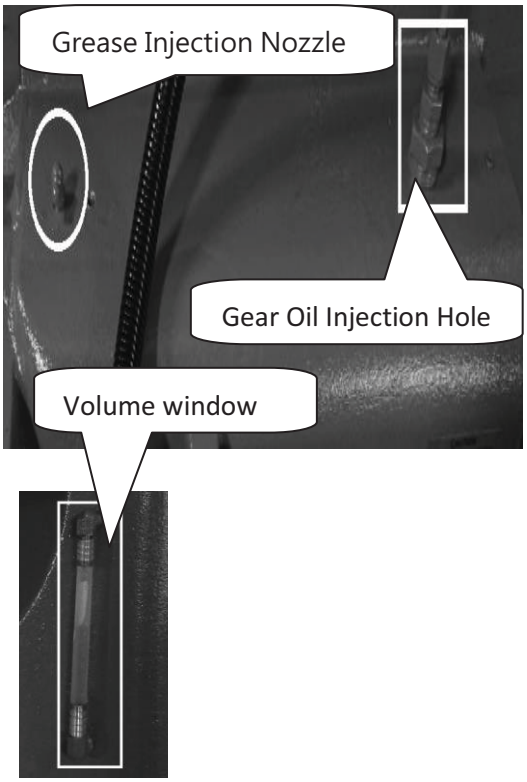
Recommended TRANSMISSION OIL

- 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

Gear Oil & Grease Injection Hole:

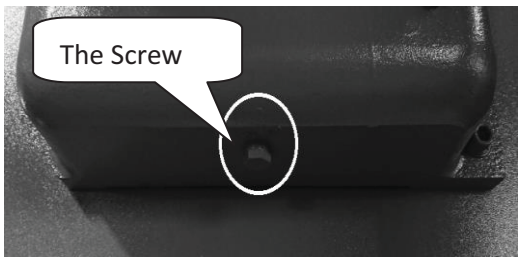


1. A grease injection hole and a gear oil injection hole on the top of gear reducer.

: The position of injection indicating.

2. Recommend keeping the volume over 50% inside the vessel of volume window. °

To unload the waste fluid:



Bottom of Gear reducer

1. Put the waste oil container in the bottom of the reducer for unloading waste fluid

.

2. Use the wrench to open the screw for unloading the waste fluid.

3. Make sure the screw bolted tightly after unloading completed,

STORAGE CONDITIONS

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

(1) Turn off the power.

(2) Ambient temperature: 5℃ ~ 40℃

(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	Shell R2
	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.

Section 9

TROUBLESHOOTING

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

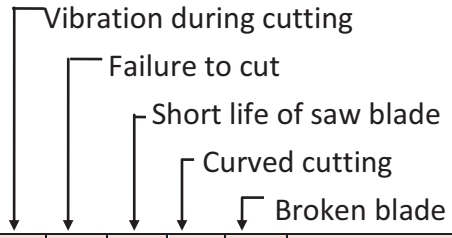
DISCONNECT POWER CORD TO MOTOR BEFORE ATTEMPTING ANY REPAIR OR INSPECTION.

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.
	Wheels out of line	Adjust wheels
Blade line Run-out or Run-in	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 tension improper	Loosen or tighten tension on blade.
Blade twisting	Blade not in line with guide bearings	Check bearings for wear and alignment.
	Excessive blade pressure	Decrease pressure and blade tension
	Blade binding in cut	Decrease feed pressure
Premature tooth wear	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 Replace**
	✓	✓	✓		**Saw blade teeth worn**	**Replace**

SOLUTIONS TO SAWING PROBLEMS

Table Of Contents

#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.

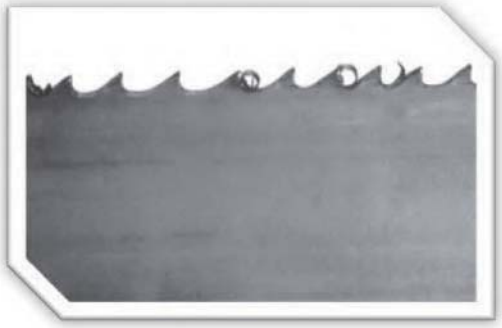
F. Improper positioning of material being cut.

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 :

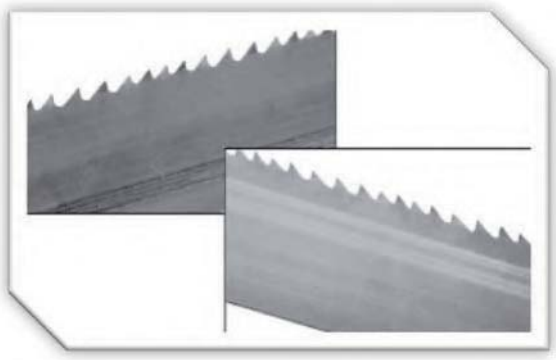
A. Chipped or broken side guides.

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 :

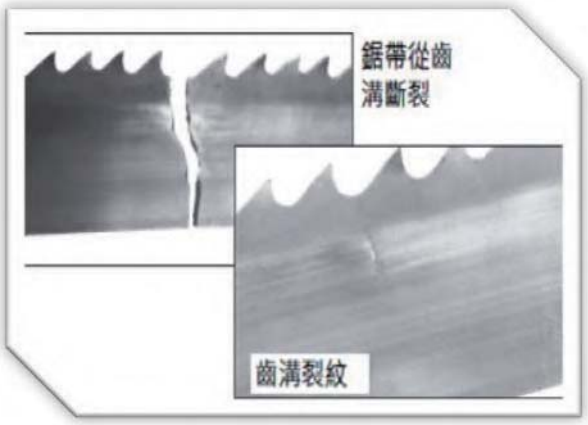
A. An excessive twist type of stress existed.

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.

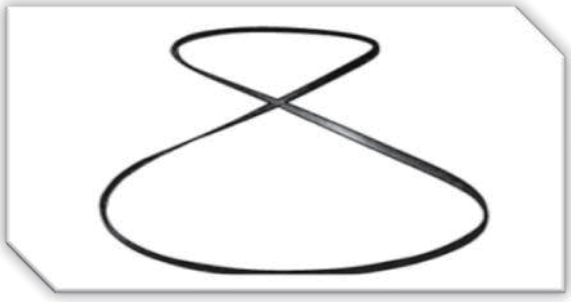
C. Guide arms spread to maximum capacity.

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 :

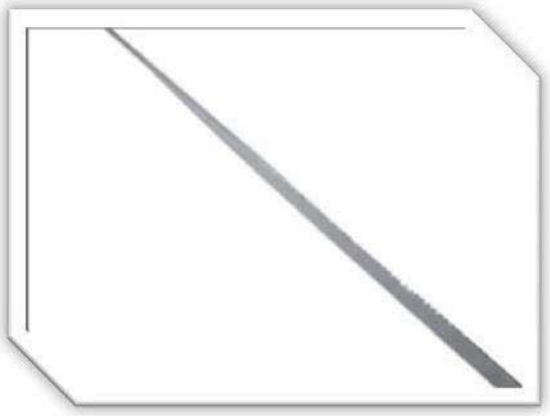
A. Side guides are too tight – rubbing near back edge.

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

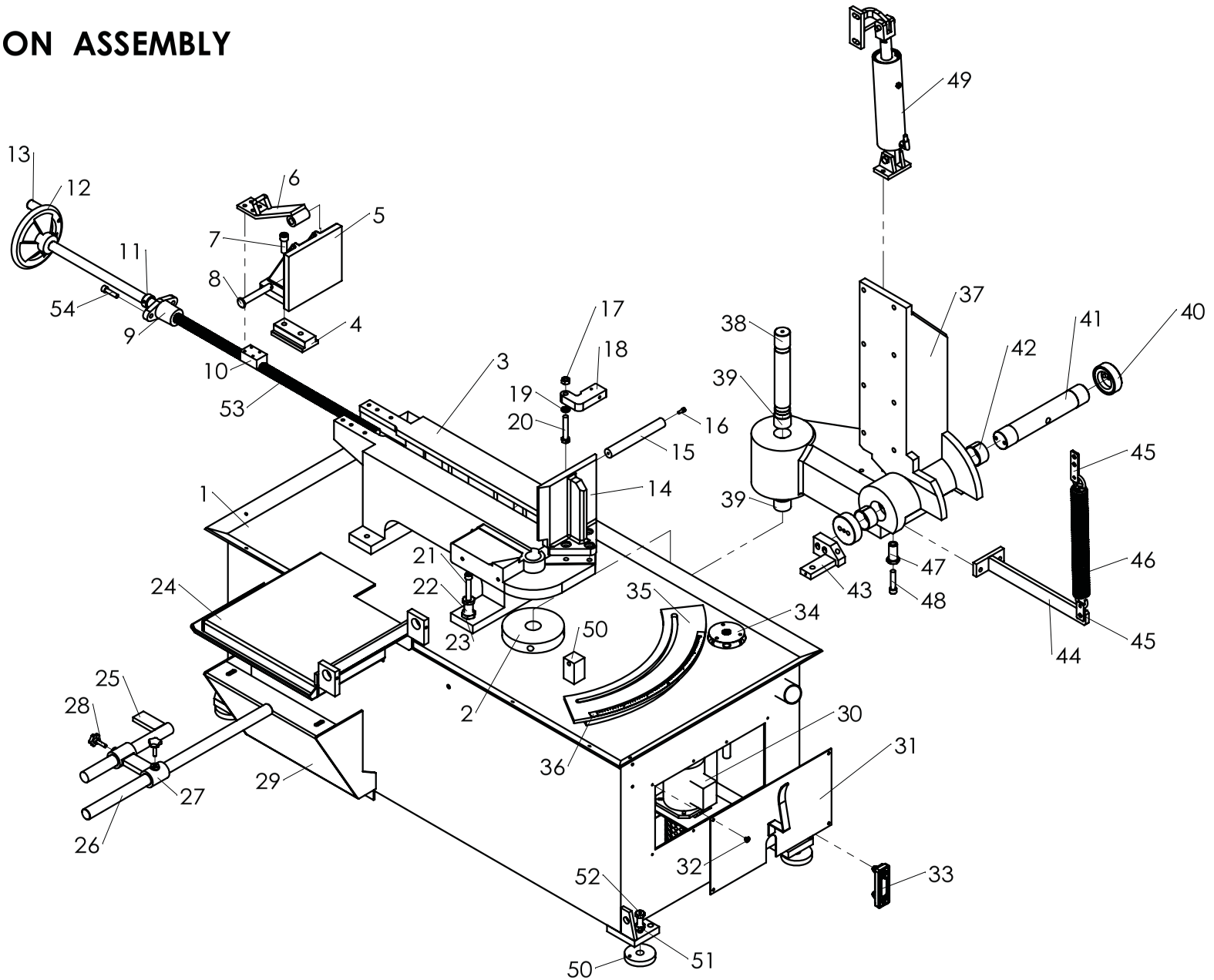
PART LIST

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	Belt
Hydraulic tank leak-proof gasket	Duster seal
Rubber washer	Oil seal
O-ring	Snap ring
Drive wheel	Idle wheel

PART A
MACHINE FOUNDATION ASSEMBLY
PART NO:M500M-10000



PART A
MACHINE FOUNDATION ASSEMBLY
PART NO:M500M-10000

ITEM	PART NO.	PART NAME	PART NAME(CH)	PART SPEC.	COUNT	UNIT
1	S500M-1001	base	底座	500M	1	PCS
2	MER-2104	turning base	旋轉座		1	PCS
3	MER-2001T	bed	床面		1	PCS
4	MBR-9028	sliding bracket	虎鉗滑塊	500M用	1	PCS
5	MBR-9031	movable vise	活動虎鉗		1	PCS
6	MER-2013A	force plate	施力板	500M半牙用	1	PCS
7	PBA-14-40	bolt	有頭內六角螺絲	M14x40L	1	PCS
8	MBR-9027	pin	帶頭銷		1	PCS
9	MJA-1012	guide screw holder	導螺桿座		1	PCS
10	MJA-1054	nut	螺桿螺母		1	PCS
11	MJA-1013	fixed holder	導螺桿固定圈		1	PCS
12	PP-52020	handwheels	手輪	KRN160 ψ20 5/16*1孔 6" 20φ	1	PCS
13	PP-52030	conical knobs	手輪柄	FN 80 3/8	1	PCS
14	S500M-2201	fixed vise jaw	固定虎鉗		1	PCS
15	MER-2018	shaft	螺桿支撐桿		1	PCS
16	PBA-6-15	bolt	有頭內六角螺絲	M6x15L	2	PCS
17	POA-12-175	nut	螺母	M12	1	PCS
18	SER-2011	stopper block	角度擋塊		1	PCS
19	PQA-12	spring washer	彈簧華司	∅12	1	PCS
20	PLA-12-70	hexagon head bolt	外六角螺絲	M12x70L	1	PCS
21	PBA-12-70	bolt	有頭內六角螺絲	M12x70L	4	PCS
22	AHA-0610	adjusting bolt	調整螺絲	M22x54L	4	PCS
23	AHA-0611	adjusting nut	調整螺母	M22	4	PCS
24	SER-9033	pallet	托盤		1	PCS
25	MBR-9037	stopper	定寸桿		1	PCS
26	MBR-9039	depth bar	定寸滑桿		1	PCS
27	MBR-9036	stopper bracket	定寸滑座		1	PCS
28	PP-53009	screw	梅花螺絲	M10x22L	2	PCS
29	S500M-1203	bracket	托盤支架		1	PCS
30	PP-32051-CE-AM55	coolant pump	浸水泵補	1/8HP 3ψ 200-240V/380-440V 0.43/0.32A 180L (你好)	1	PCS
31	MER-1002	cover	泵門板		1	PCS
32	PFA-6-5	screw	丸頭螺絲	M6x5L	4	PCS
33	PP-21030A	fluid level	水面計		1	PCS
34	M3L-8-09B	filter plate	漏水網		1	PCS
35	MER-1006B	turning slide	旋轉軌道		1	PCS
36	MER-2002D	angle scale	角度銘板		1	PCS
37	BRMER-2107W	joint base	關節座		1	PCS

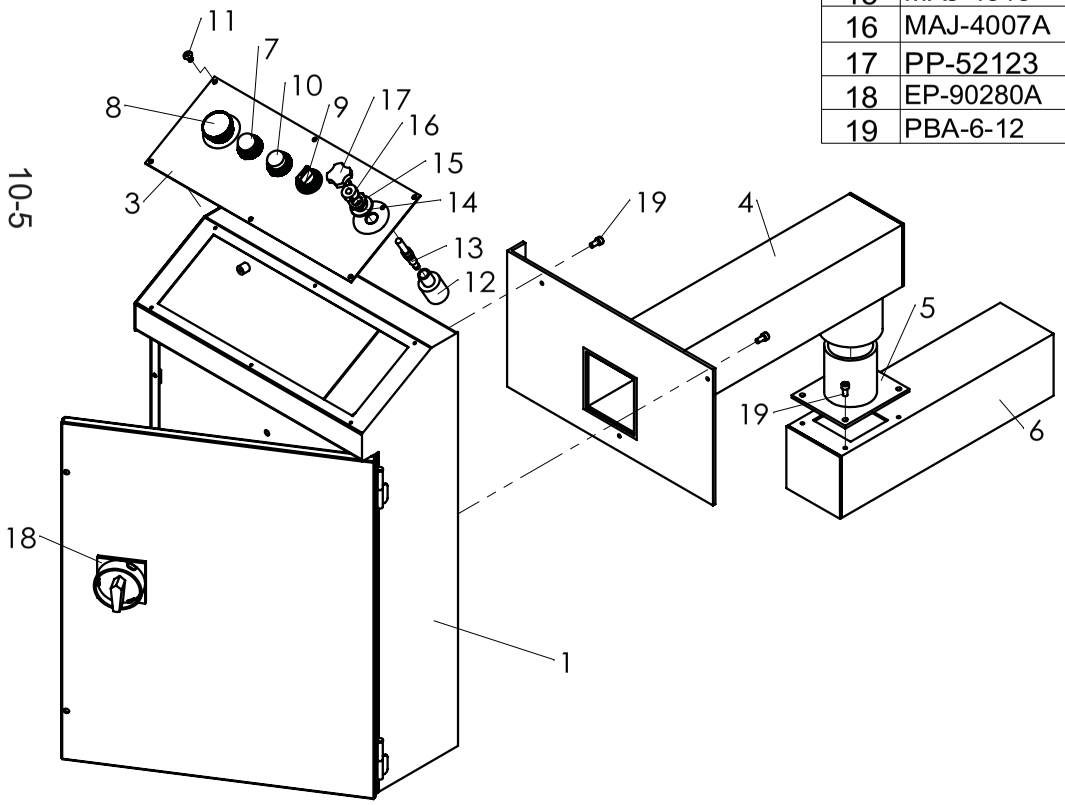
PART A
MACHINE FOUNDATION ASSEMBLY
PART NO:M500M-10000

ITEM	PART NO.	PART NAME	PART NAME(CH)	PART SPEC.	COUNT	UNIT
38	MER-2103	turning axis	旋轉軸		1	PCS
39	PP-13230	du-bushing	乾式軸承	4030	2	PCS
40	MER-2106	joint axis cover	關節軸蓋		2	PCS
41	S500M-1155	joint axis	關節軸		1	PCS
42	PP-13002	du-bushing	乾式軸承	BM5030 F65 (NDC)	2	PCS
43	S500M-3019	sawhead stopper	鋸弓停擋		1	PCS
44	MER-2004	spring hanging bracket	彈簧掛桿		1	PCS
45	MER-2006	spring hanging plate	回程彈簧勾片	長短各一	1	PCS
46	MAE-1039C	spring	彈簧	彈簧 (直)330ER	1	PCS
47	AHA-0610	adjusting bolt	調整螺絲		2	PCS
48	PBA-12-55	screw	有頭內六角螺絲	M12x55L	2	PCS
49	MBR-91600	cylinder module	鋸弓油壓缸組		1	PCS
50	BAAHR-1055	base support	底座墊塊	ψ80*15	4	PCS
51	POA-14-20	nut	螺母	M14	4	PCS
52	PLA-14-45	hexagon head bolt	外六角螺絲	M14x45L	4	PCS
53	S500M-2031	guide screw shaft	導螺桿		1	PCS
54	PBA-10-40	bolt	有頭內六角螺絲	M10x40L	2	PCS

05MH-500M SERIES PART LIST

PART E
ELECTRIC BOX ASSEMBLY
PART NO: M500M-13000

ITEM	PART NO.	PART NAME	PART NAME (CH)	PART SPEC.	COUNT	UNIT
1	S500M-1301	control box	控制箱		1	PCS
3	MER-5008	data plate	控制面板	MH-500M用	1	PCS
4	MER-5006	rotate bracket	控制箱旋轉座		1	PCS
5	MER-5007-1	rotate base-1	控制箱旋轉固定座-1		1	PCS
6	MER-5007-2	rotate base-2	控制箱旋轉固定座-2		1	PCS
7	EP-93115	indicating lamp	指示燈	25φ 黃色 AC110V	1	PCS
8	EP-90666B	push button	連鎖式按鈕開關	25φ1B	1	PCS
9	EP-93111	select switch button	選擇開關	25φ二段2A	1	PCS
10	EP-90660A	push button(green)	綠色平頭按鈕	25φ1A	1	PCS
11	PFA-5-8	screw	有頭內六角螺絲	M5x8L	6	PCS
12	S500M-1741	flow control valve	流量控制閥本體		1	PCS
13	S500M-1743	adjusting rod	流量調整桿		1	PCS
14	PPA-16	washer	平面華司	M16	1	PCS
15	MAJ-4010	nut	六角螺帽	M16x1.5	1	PCS
16	MAJ-4007A	pointer&bracket	指針及座		1	PCS
17	PP-52123	knob	梅花調整把手	ENF63 ψ7.8 不要牙	1	PCS
18	EP-90280A	interlock switch	門式開關		1	PCS
19	PBA-6-12	screw	丸頭螺絲(十字)	M6x12L	7	PCS



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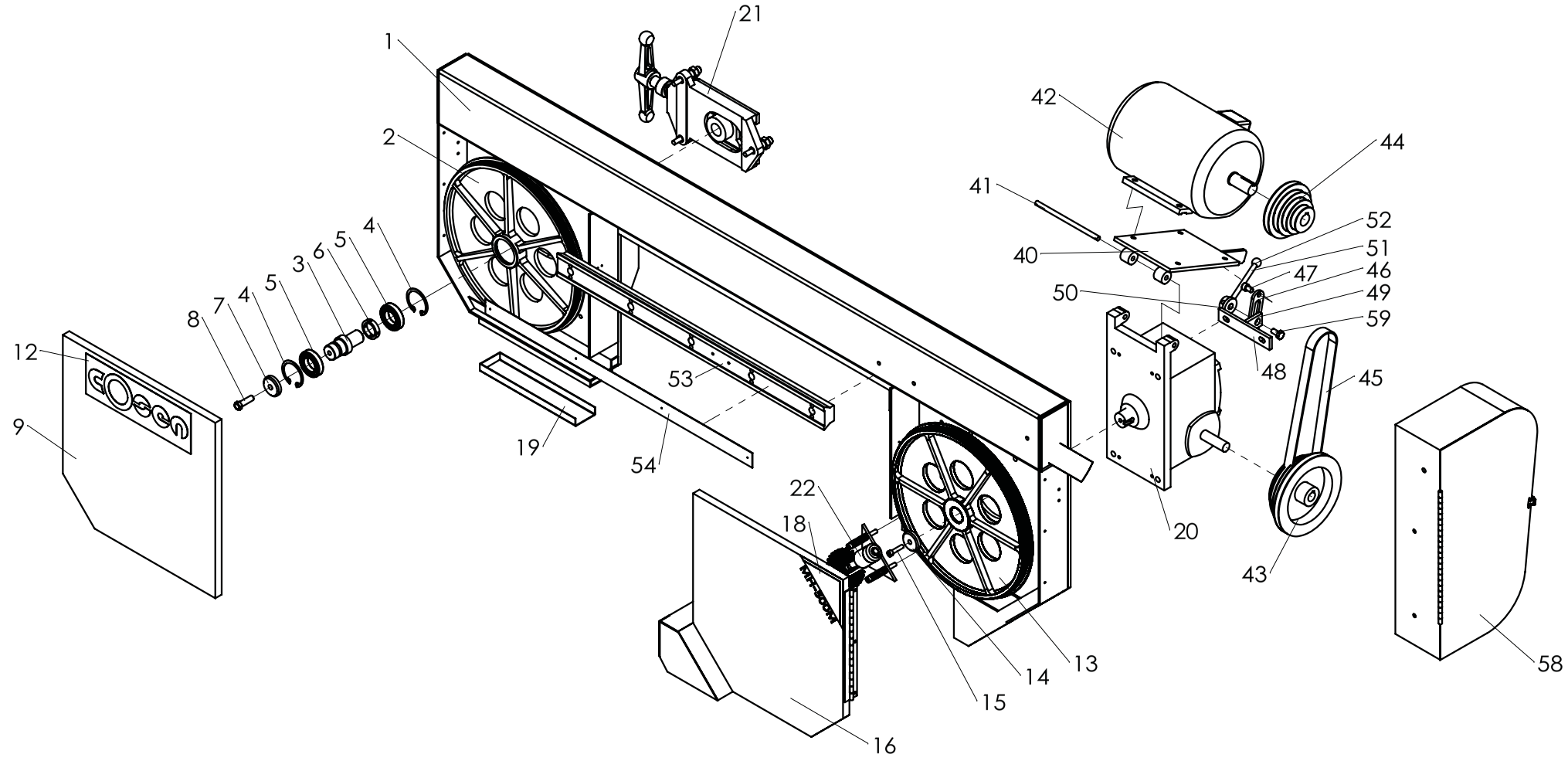
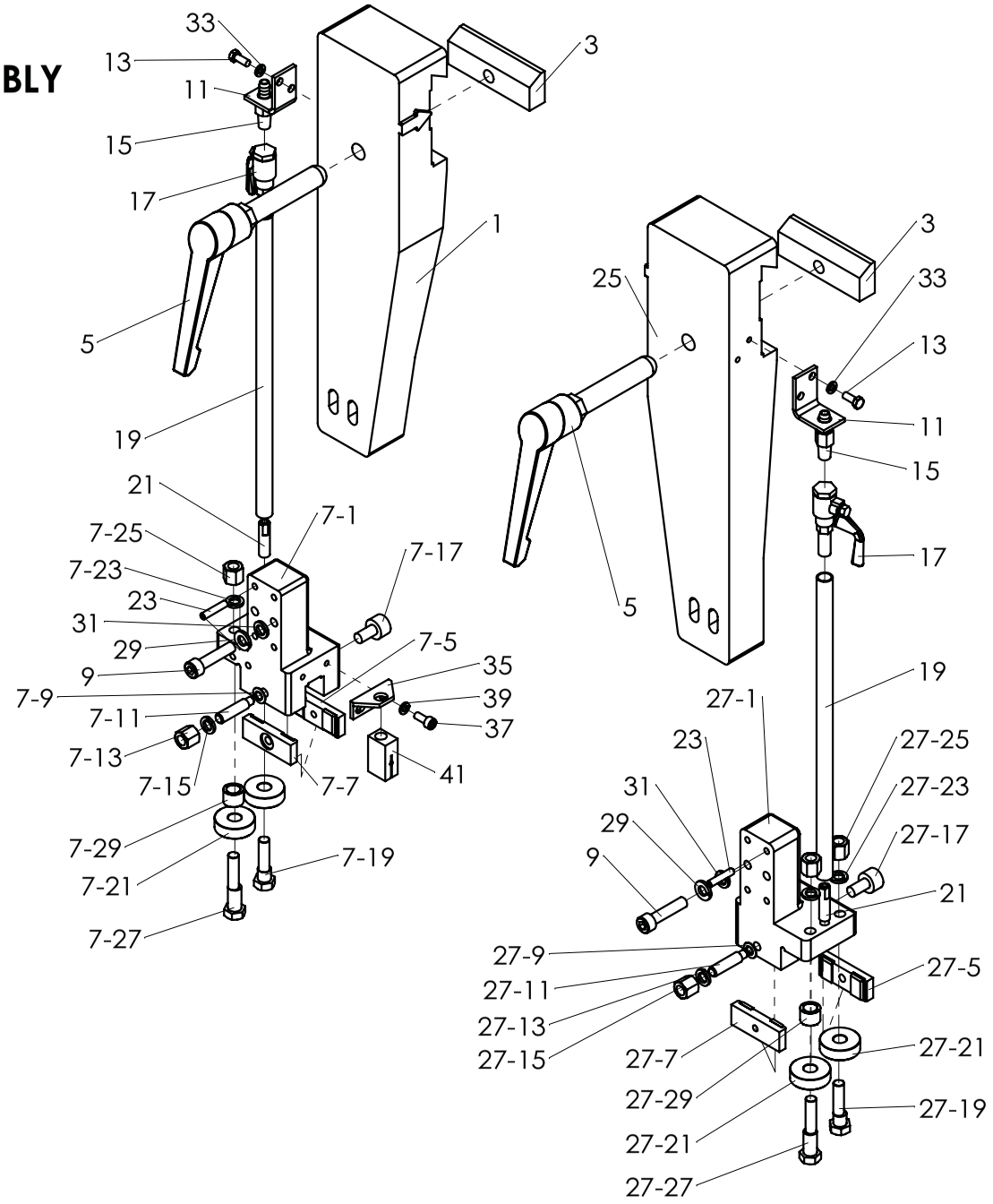
PART B
SAW BOW ASSEMBLY
PART NO:M500M-30000



PART B
SAW BOW ASSEMBLY
PART NO:M500M-30000

ITEM	PART NO.	PART NAME	PART NAME (CH)	PART SPEC.	COUNT	UNIT
1	MER-3001C	saw bow	鋸弓		1	PCS
2	MER-3101	idle wheel	上輪	25W	1	PCS
3	MER-3102	idle wheel shaft	上輪軸		1	PCS
4	PP-58103	snap ring	扣環	R62	2	PCS
5	PP-14255	bearing	軸承	6007Z	2	PCS
6	MER-3103	bearing washer	上輪軸承墊圈		1	PCS
7	MBR-9127	washer	上軸鎖緊墊圈		1	PCS
8	MER-3112A	screw	油嘴螺絲	M12xP1.75x25	1	PCS
9	MER-3104	cover	上輪箱蓋		1	PCS
12	AHA-0666	cosen plate	COSEN銘牌	CS-224 1t	1	PCS
13	MER-3105	drive wheel	下輪		1	PCS
14	MER-3107	washer	下輪鎖緊墊圈		1	PCS
15	PBA-8-35	screw	有頭內六角螺絲	M8x35L	1	PCS
16	MER-3106	cover	下輪箱蓋		1	PCS
18	M500M-3097B	serial plate	機型銘牌	MH-500M CS255	1	PCS
19	MBR-9104A	U slot	U型槽		1	PCS
20	PP-16045B	reducer	減速機	80# 1/30 軸長29（出軸徑ψ35）D080ZD03B30B(工機)	1	PCS
21	MBR-91819	tension module	張力調整組	PART B1	1	PCS
22	M500M-32200	wire brush assembly	鋼刷座組	PART D	1	PCS
40	AER-3015A	motor base plate	馬達底板		1	PCS
41	MER-3011	set pipe	馬達底板關節軸		1	PCS
42	PBH3-D418-C	motor	馬達	3HP 3φ 60HZ 230/460V 8.3/4.2A 4P(位移)(群策)	1	PCS
43	MJA-2011C	reducer pulley	減速機皮帶輪(有段)		1	PCS
44	SJY-1119C	motor pulley	馬達皮帶輪(有段)		1	PCS
45	PP-56131	belt	皮帶	1030VA 23-22	1	PCS
46	MJA-2068	adjusting plate	馬達調整滑板		1	PCS
47	PBA-10-15	screw	有頭內六角螺絲	M10x15L	2	PCS
48	MER-3009A	bracket	長調整固定塊		1	PCS
49	MER-3009B	bracket	短調整固定塊		1	PCS
50	SJY-1127	fixed nut	固定螺母		1	PCS
51	SJY-1126	fixed handle lever	馬達調整固定把手		1	PCS
52	PP-52040	black ball	塑膠球	3/8"	1	PCS
53	S500M-3101	slide plate	鋸臂滑板		1	PCS
54	S500M-3111	ruler plate	鋸臂銘板	CS-247	1	PCS
58	MER-3014	pulley cover	普利護蓋(有段)		1	PCS
59	PLA-10-20	screw	外六角螺絲	M10x20L	1	PCS

PART C
GUIDE BRACKET ASSEMBLY
PART NO: M500M-31000



PART C
GUIDE BRACKET ASSEMBLY
PART NO: M500M-31000

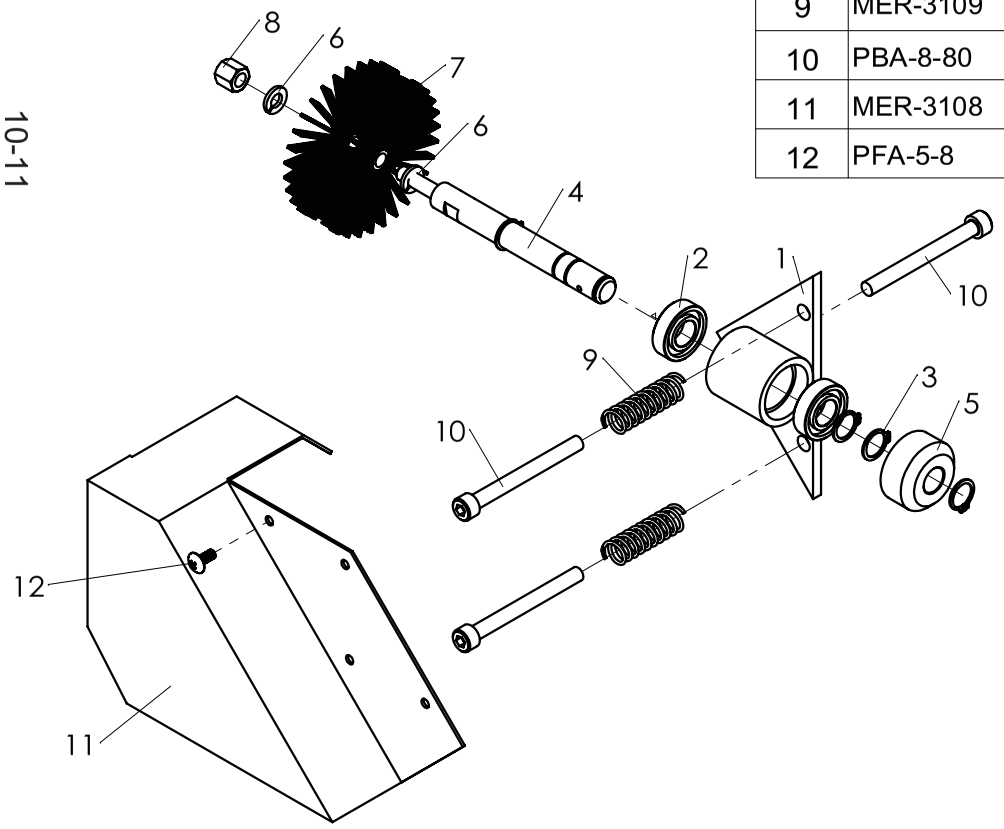
ITEM	PART NO.	PART NAME	PART NAME(CH)	PART SPEC.	COUNT	UNIT
1	S500M-3103	left guide arm	活動鋸臂		1	PCS
3	MJA-2032	clamp block	鋸臂固定塊		2	PCS
5	PP-52111J	guide arm handle set	鋸臂把手組		2	PCS
7-1	S500M-3131	left insert holder	左導輪座		1	PCS
7-5	MBR-9106	fixed insert	固定鎢鋼片		1	PCS
7-7	MBR-9107	movable insert	活動鎢鋼片		1	PCS
7-9	PP-57300	spring	蝶型彈簧	6.2x12.5x0.5	1	PCS
7-11	MER-3207	adjusting bolt	鎢鋼片調整螺栓		1	PCS
7-13	PQA-8	spring washer	彈簧華司	M8	1	PCS
7-15	POA-8-125	nut	螺母	M8	1	PCS
7-17	PBA-8-16	bolt	有頭內六角螺絲	M8x16L	1	PCS
7-19	MER-3209	fixed bolt	軸承固定軸(短)		1	PCS
7-21	PP-14270	bearing	軸承	6200VV	2	PCS
7-23	PQA-8	spring washer	彈簧華司	M8	2	PCS
7-25	POA-8-125	nut	螺母	M8	2	PCS
7-27	MER-3208	fixed bolt	軸承固定螺絲(長)		1	PCS
7-29	AHA-0708A	washer	導輪墊圈		1	PCS
9	PBA-8-35	bolt	有頭內六角螺絲	M8x35L	4	PCS
11	MJA-2041	bracket	水龍頭座板		2	PCS
13	PLA-5-12	hexagon head bolt	外六角螺絲	M5x12L	4	PCS
15	MJA-2043	coolant nozzle	水管接頭		2	PCS
17	PP-43132A	switch button valve	開關閥	1/8"	2	PCS
19		hose	水管	1/4x1500L	2	PCS
21	MAB-6014	fixed coolant nozzle	固定塊水管接頭		2	PCS
23	PAA-5-25	set screw	止付螺絲	M5x25L	8	PCS
25	S500M-3105	right guide arm	固定鋸臂		1	PCS
27-1	S500M-3161	right insert holder	右導輪座		1	PCS
27-3	MJS-9008	insert	下壓鎢鋼片		1	PCS
27-5	MBR-9106	fixed insert	固定鎢鋼片		1	PCS
27-7	MBR-9107	movable insert	活動鎢鋼片		1	PCS
27-9	PP-57300	spring	蝶型彈簧	6.2x12.5x0.5	1	PCS
27-11	MER-3207	adjusting bolt	鎢鋼片調整彈簧		1	PCS
27-13	PQA-8	spring washer	彈簧華司	M8	1	PCS
27-15	POA-8-125	nut	螺母	M8	1	PCS
27-17	PBA-8-16	screw	有頭內六角螺絲	M8x16L	1	PCS
27-19	MER-3209	fixed bolt	軸承固定軸(短)		1	PCS

PART C
GUIDE BRACKET ASSEMBLY
PART NO: M500M-31000

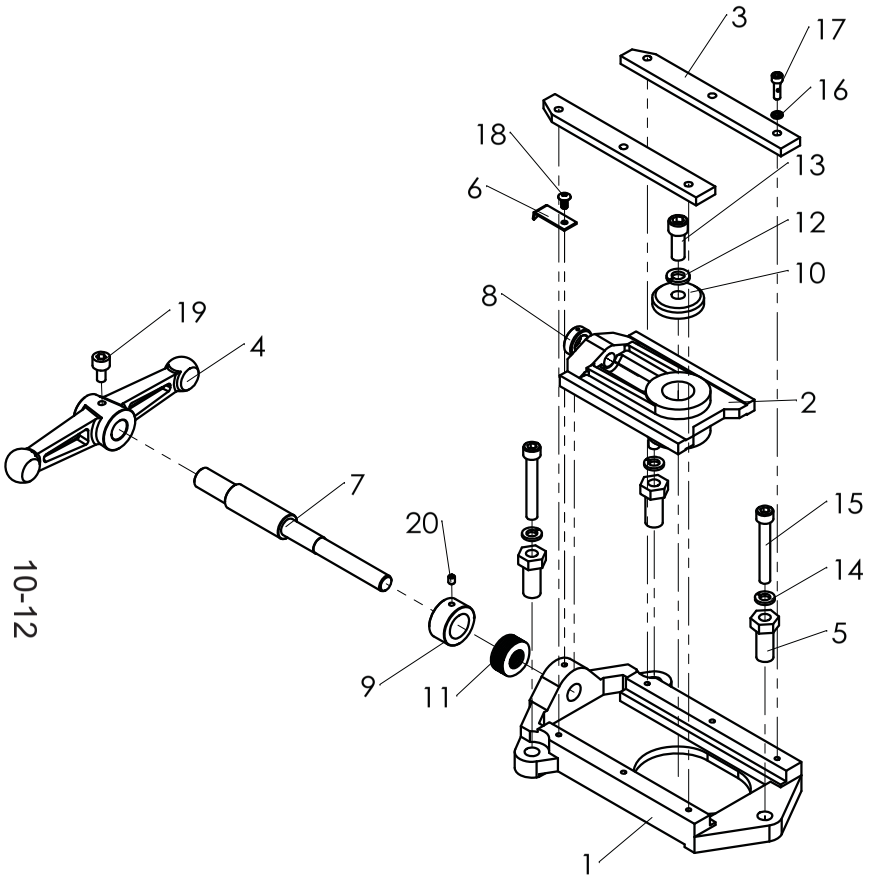
ITEM	PART NO.	PART NAME	PART NAME(CH)	PART SPEC.	COUNT	UNIT
27-21	PP-14270	bearing	軸承	6200VV	1	PCS
27-23	PQA-8	spring washer	彈簧華司	M8	2	PCS
27-25	POA-8-125	nut	螺母	M8	2	PCS
27-27	MER-3208	fixed bolt	軸承固定軸(短)		2	PCS
27-29	AHA-0708A	washer	導輪墊圈		1	PCS
29	PQA-8	spring washer	彈簧華司	M8	4	PCS
31	PPA-8	washer	平面華司	M8	4	PCS
33	PQA-5	spring washer	彈簧華司	M5	4	PCS
35	SJY-1134A	bracket	水龍頭固定座		1	PCS
37	PBA-5-10	screw	有頭內六角螺絲	M5x10L	2	PCS
39	PQA-5	spring washer	彈簧華司	M5	2	PCS
41	SJY-1152	coolant block	鋸帶冷卻頭		1	PCS

PART D
WIRE BRUSH ASSEMBLY
PART NO:M500M-32200

ITEM	PART NO.	PART NAME	PART NAME (CH)	PART SPEC.	COUNT	UNIT
1	MBR-9132-B	bearing holder	鋼刷軸承座		1	PCS
2	PP-14250	bushing	軸承	6002ZZ	2	PCS
3	PP-52097	C-ring	扣環	S15	4	PCS
4	MBR-9129	brush shaft	鋼刷軸		1	PCS
5	MBR-9131	brush drive wheel	鋼刷傳動輪		1	PCS
6	PPA-8	washer	平面華司	∅8	2	PCS
7	PP-58002	wire brush	鋼刷		2	PCS
8	POA-8-125	nut	螺母	M8	1	PCS
9	MER-3109	spring	鋼刷壓縮彈簧		2	PCS
10	PBA-8-80	screw	有頭內六角螺絲	M8x80L	3	PCS
11	MER-3108	cover	鋼刷護蓋		1	PCS
12	PFA-5-8	screw	丸頭螺絲(十字)	M5x8L	1	PCS

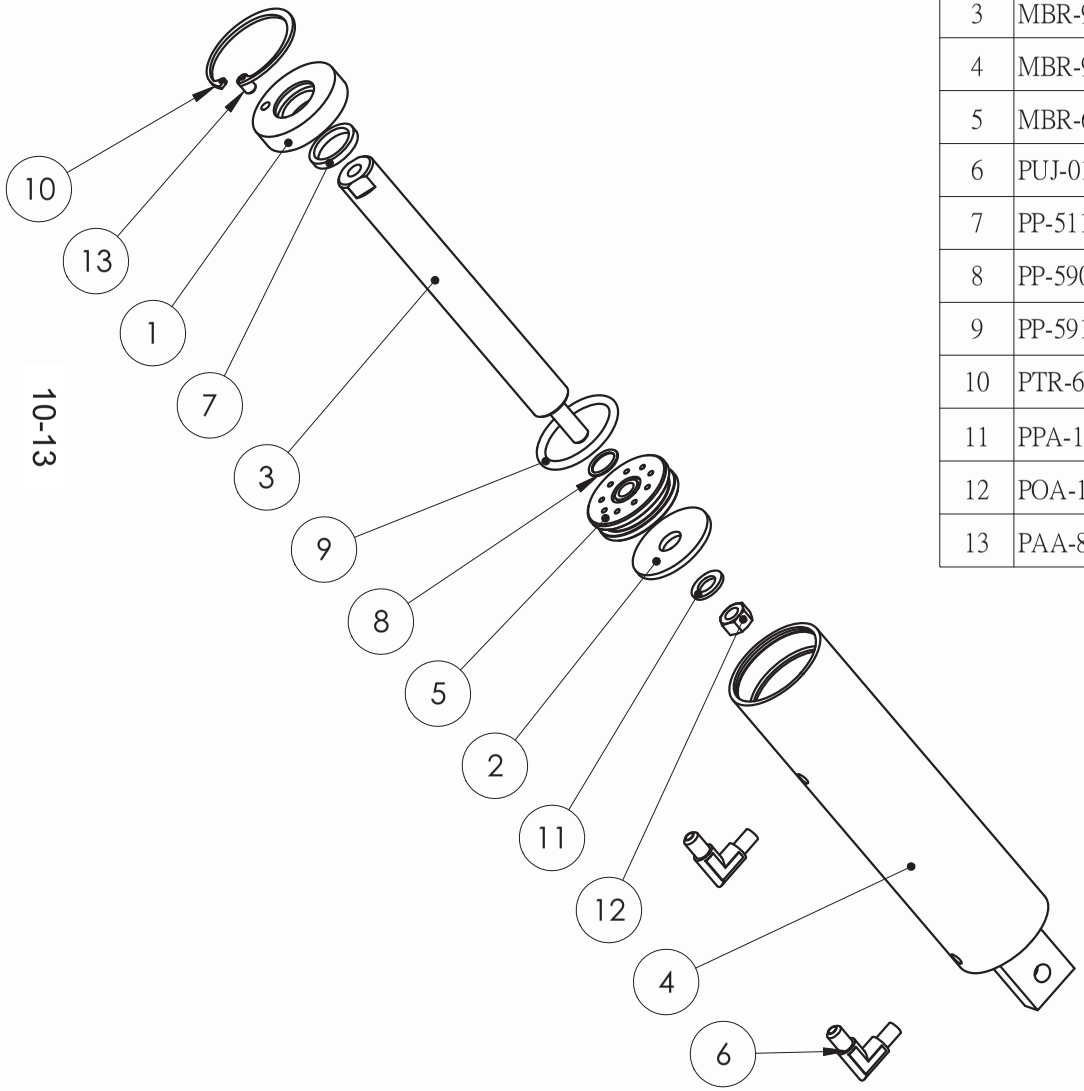


PART B1
TENSION MODULE ASSEMBLY
PART NO: MBR-91819



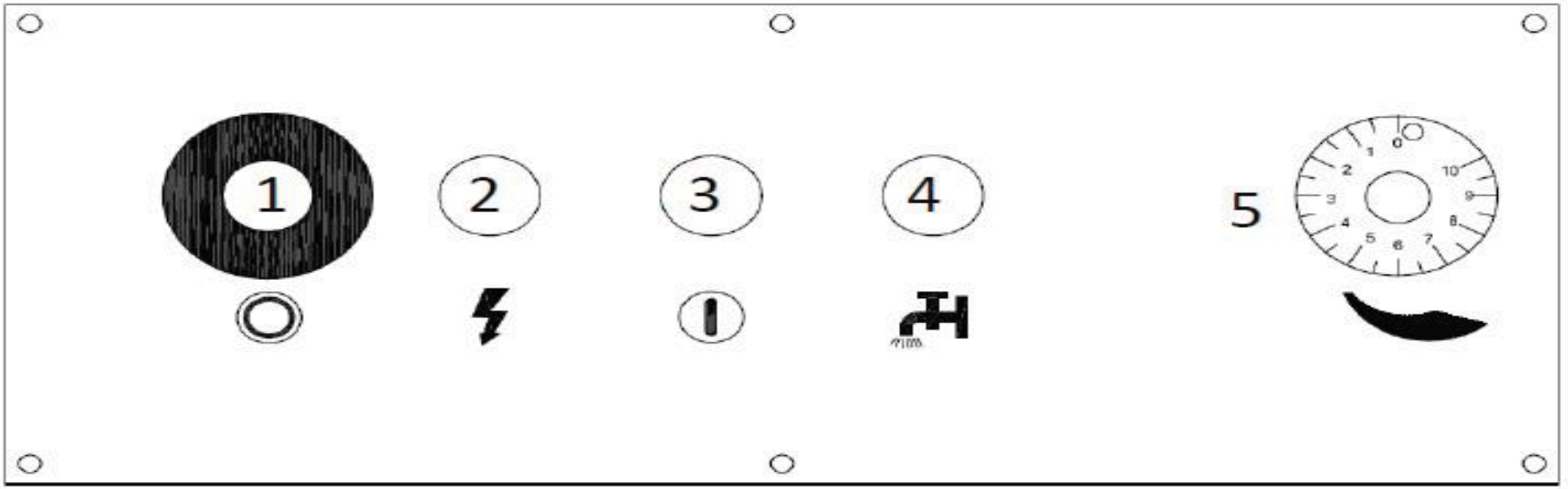
ITEM	PART NO.	PART NAME	PART NAME (CH)	PART SPEC.	COUNT	UNIT
1	MBR-9181	tension body	張力滑座		1	PCS
2	MBR-9182	slide piece	張力滑板		1	PCS
3	MBR-9184	guide plate	壓板		2	PCS
4	MER-3002	handle bar	張力把手		1	PCS
5	SJY-1104	adjusting bolt	張力調整螺絲		3	PCS
6	AHR-2056	pointer	張力指針		1	PCS
7	MBR-9128A	blade tension screw	張力螺桿		1	PCS
8	MBR-9185	collar	張力定位圈		1	PCS
9	AER-3105	ring	張力指示環		1	PCS
10	MBR-9127	washer	下軸鎖緊墊圈		1	PCS
11	PP-57200	spring	蝶型彈簧		6	PCS
12	PQA-12	spring washer	彈簧華司	M12	1	PCS
13	PBA-12-30	bolt	有頭內六角螺絲(公)	M12x30L	1	PCS
14	PQA-10	spring washer	彈簧華司	M10	3	PCS
15	PBA-10-70	bolt	有頭內六角螺絲(公)	M10x70L	3	PCS
16	PQA-6	spring washer	彈簧華司	M6	1	PCS
17	PLA-6-20	Hexagon head bolt	外六角螺絲	M6x20L	1	PCS
18	PFA-5-8	screw	丸頭螺絲	M5x8L	1	PCS
19	PBA-8-16	bolt	有頭內六角螺絲(公)	M8x16L	1	PCS
20	PAA-6-8	set screw	止付螺絲(公)	M6x8L	1	PCS

PART A2
CYLINDER MODULE ASSEMBLY
PART NO: MBR-91600



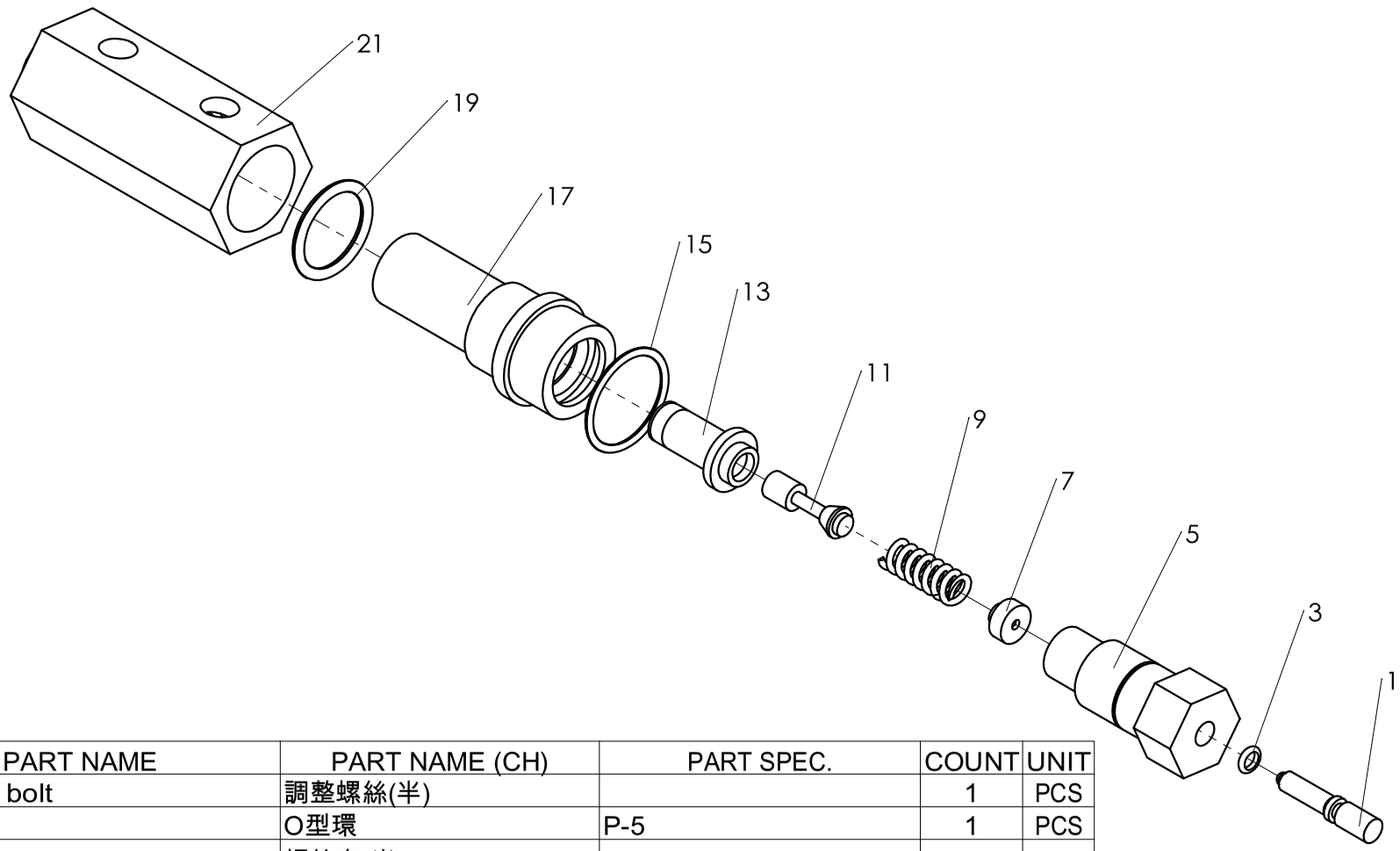
ITEM	PART NO.	PART NAME	PART NAME IN CHINESE	PART SPEC.	QTY
1	MBR-9159	Hydraulic cylinder front cap	油缸前蓋		1
2	MBR-9160	Piston Rubber	活塞橡膠		1
3	MBR-9163	Piston rod	活塞		1
4	MBR-9164	Tube	缸管		1
5	MBR-6168	Piston (saw bow)	活塞(鋸弓)		1
6	PUJ-010-020-05	Elbow joint	彎接頭		2
7	PP-51150	U type oil seal	U型油封	UHS-28x35.5x5	1
8	PP-59074A	O-ring	O型環	P-18	1
9	PP-59150	O-ring	O 型環	P-53	1
10	PTR-65	Snap ring	戒子\扣環		1
11	PPA-12	Flat washer	平面華司	12	1
12	POA-12-175A	Nut	螺帽(公)(染黑)	M12xP1.75	1
13	PAA-8-12	Socket set screw	止附螺絲	M8x12L	1

CONTROL PANEL BUTTONS



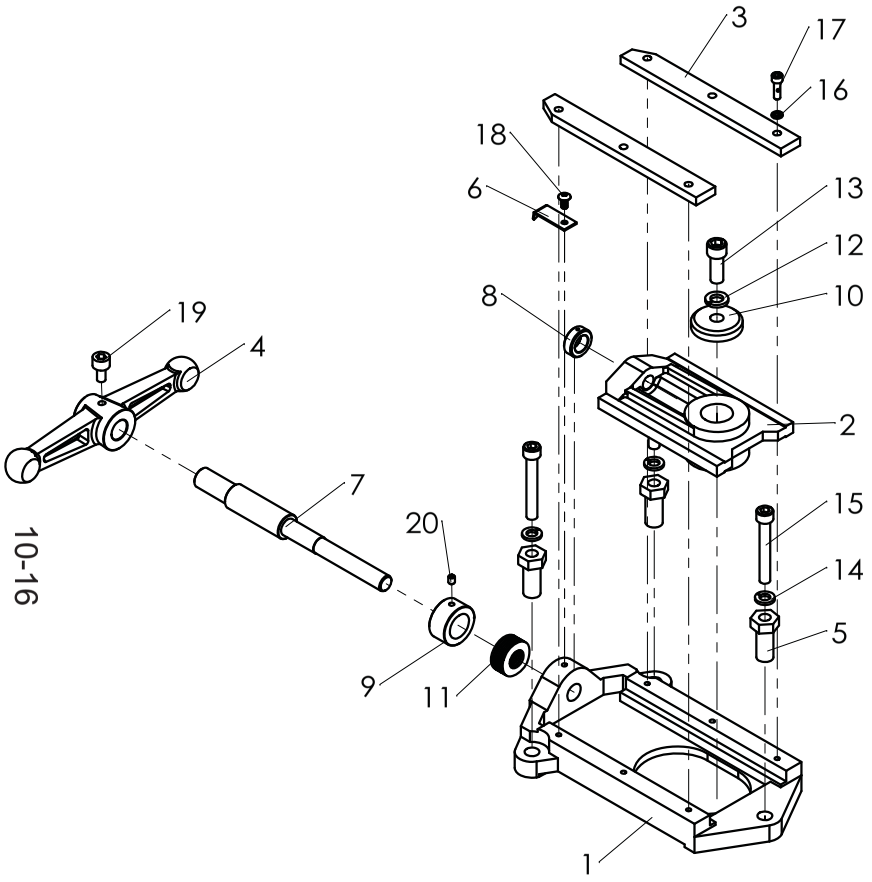
No.	PART NUMBER	PART Name IN ENG.	PART Name IN CHI.	Q'TY
1	EP-90666A	Emergency stop button	緊急停止按鈕	1
2	EP-90615	Power indicator lamp	電源指示燈	1
3	EP-90660A	Saw blade start button	鋸刀啟動按鈕	1
4	EP-90645A	Coolant pump selector	冷卻泵浦選擇	1
5	EP-90769	Blade descend speed control knob	鋸刀下降速度控制旋鈕	1

PART A1
RELIEF VALVE ASSEMBLY
PART NO: ACA-10100



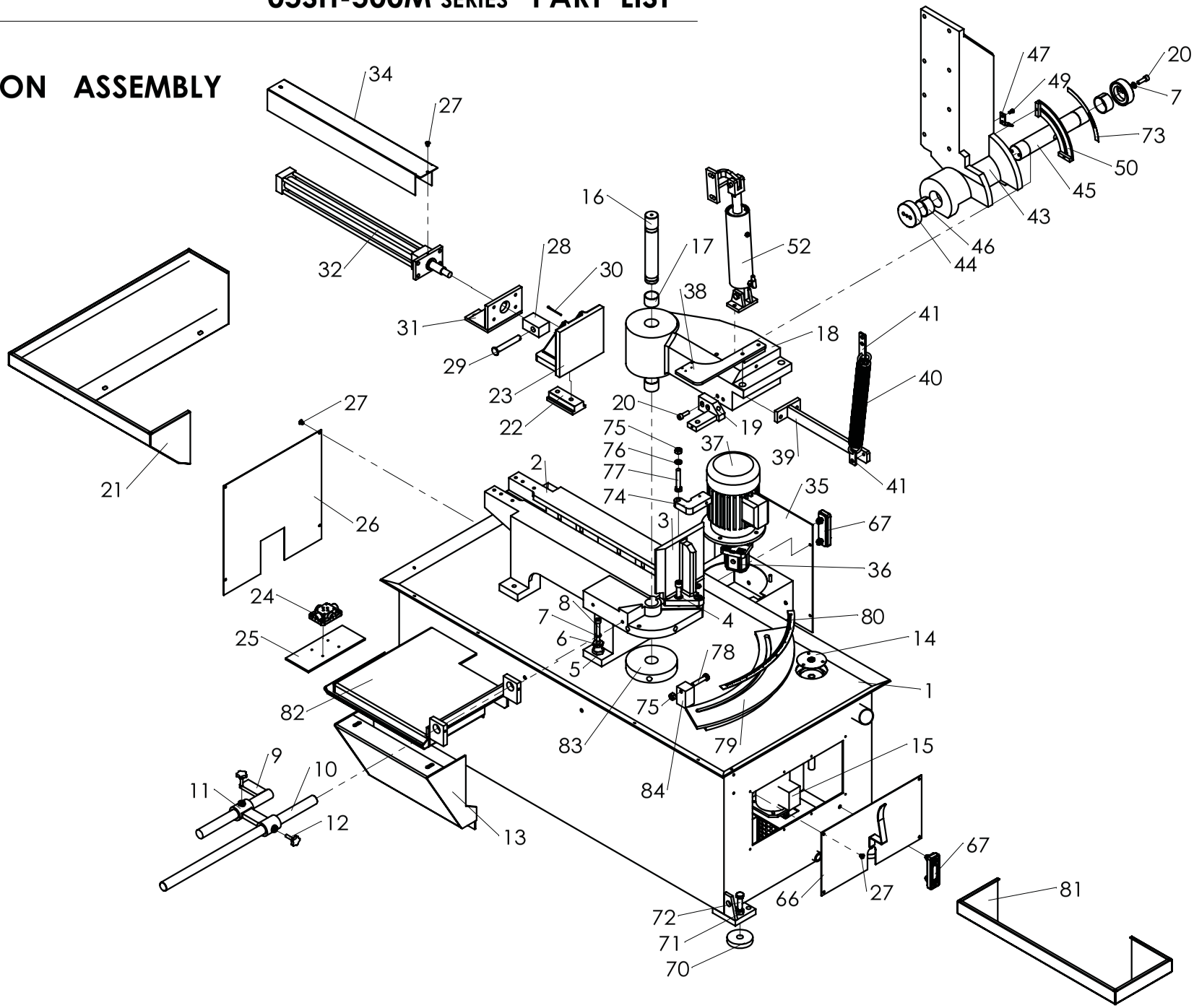
ITEM	PART NO.	PART NAME	PART NAME (CH)	PART SPEC.	COUNT	UNIT
1	ACA-1010B	adjusting bolt	調整螺絲(半)		1	PCS
3	PP-59010	o-ring	O型環	P-5	1	PCS
5	ACA-1010A	valve sleeve	螺栓套(半)		1	PCS
7	ACA-1010C	spring seat	彈簧底座(半)		1	PCS
9	ACA-1010D	spring	彈簧(半)		1	PCS
11	ACA-1010E	valve pluger	閥塞(半)		1	PCS
13	ACA-1010F	valve port	閥口(半)		1	PCS
15	PP-59085	o-ring	O型環	P-22.4	1	PCS
17	ACA-1010	valve frame	洩壓閥本體		1	PCS
19	PP-59101	o-ring	O型環	P-26	1	PCS
21	SKM-1040	valve seat	減壓閥固定座		1	PCS

PART B1
TENSION ASSEMBLY
PART NO: MBR-91819



ITEM	PART NO.	PART NAME	PART NAME (CH)	PART SPEC.	COUNT	UNIT
1	MBR-9181	tension body	張力滑座		1	PCS
2	MBR-9182	slide piece	張力滑板		1	PCS
3	MBR-9184	guide plate	壓板		2	PCS
4	MER-3002	handle bar	張力把手		1	PCS
5	SJY-1104	adjusting bolt	張力調整螺絲		3	PCS
6	AHR-2056	pointer	張力指針		1	PCS
7	MBR-9128A	blade tension screw	張力螺桿		1	PCS
8	MBR-9185	collar	張力定位圈		1	PCS
9	AER-3105	ring	張力指示環		1	PCS
10	MBR-9127	washer	下軸鎖緊墊圈		1	PCS
11	PP-57200	spring	蝶型彈簧		6	PCS
12	PQA-12	spring washer	彈簧華司	M12	1	PCS
13	PBA-12-30	bolt	有頭內六角螺絲(公)	M12x30L	1	PCS
14	PQA-10	spring washer	彈簧華司	M10	3	PCS
15	PBA-10-70	bolt	有頭內六角螺絲(公)	M10x70L	3	PCS
16	PQA-6	spring washer	彈簧華司	M6	1	PCS
17	PLA-6-20	Hexagon head bolt	外六角螺絲	M6x20L	1	PCS
18	PFA-5-8	screw	丸頭螺絲	M5x8L	1	PCS
19	PBA-8-16	bolt	有頭內六角螺絲(公)	M8x16L	1	PCS
20	PAA-6-8	set screw	止付螺絲(公)	M6x8L	1	PCS

PART A
MACHINE FOUNDATION ASSEMBLY
PART NO: S500M-10000



PART A
MACHINE FOUNDATION ASSEMBLY
PART NO: S500M-10000

ITEM	PART NO.	PART NAME	PART NAME (CH)	PART SPEC.	COUNT	UNIT
1	S500M-1001	base	底座		1	PCS
2	MER-2001T	bed	床面		1	PCS
3	S500M-2201	Fixed vise	固定虎鉗		1	PCS
4	PBA-14-40	bolt	有頭內六角螺絲(公)	M14x40L	3	PCS
5	AHA-0611	Adjusting nut	調整螺母		1	PCS
6	AHA-0610	Adjusting bolt	調整螺絲		1	PCS
7	PQA-10	Spring washer	彈簧華司(公)	M10	4	PCS
8	PBA-10-70	bolt	有頭內六角螺絲(公)	M10x70L	4	PCS
9	MBR-9037	stopper	定寸桿		1	PCS
10	MBR-9039	depth bar	定寸滑桿		1	PCS
11	MBR-9036	stopper bracket	定寸滑座		1	PCS
12	PP-53009	screw	梅花螺絲	10x22L	2	PCS
13	S500M-1203	bracket	托架支撐塊		1	PCS
14	M3L-8-09B	fliter plate	漏水網		1	PCS
15	PP-32051-CE-AM55	coolant pump	浸水幫浦	1/8HP 3ψ 200-240V/380-440V 0.43/0.32A 180L (你好)	1	PCS
16	S500M-1155	joint axis	旋轉軸		1	PCS
17	PP-13230	du-bushing	乾式軸承	4030	2	PCS
18	S500M-1171	turning joint base	旋轉關節座		1	PCS
19	S500M-3019	Saw bow positioning plate	鋸弓定位板		1	PCS
20	PBA-10-30	bolt	有頭內六角螺絲(公)	M10x30L	2	PCS
21	MER-1008	water collectimg plate	左集水板		1	PCS
22	MBR-9028	sling bracket	虎鉗滑塊		1	PCS
23	MBR-9031	movable vise	活動虎鉗		1	PCS
24	SJM-4043	oil circuit block	油路板		1	PCS
25	SER-2006	plate	油路板底板		1	PCS
26	MER-1010	cover	左邊蓋		1	PCS
27	PFA-6-10	screw	止付螺絲	M6x10L	8	PCS
28	SER-2002	rapid draw lever link plate	虎鉗快速拉桿連接塊		1	PCS
29	MBR-9027	pin	帶頭銷B		1	PCS
30	PUA-010-120	spilt pin	開口銷	1/8 1/1/4"	1	PCS
31	SER-2001A	cylinder fixture	活動虎鉗油缸固定座		1	PCS
32	HFA40L510E50	cylinder	油壓缸	FAφ40x510L,外牙M18x1.5 E:50	1	PCS
34	SER-2003C	cover	虎鉗油壓缸護蓋		1	PCS
35	SJY-2105C	hydraulic box	油壓箱		1	PCS
36	PP-32202	hydraulic pump	油壓幫浦	RSP 205A	1	PCS
37	PHH05D-D417-J	motor	油壓馬達	1/2HP 4P 60HZ 230/460V 1.8/0.9A,須加裝PP-70700-1*4	1	PCS

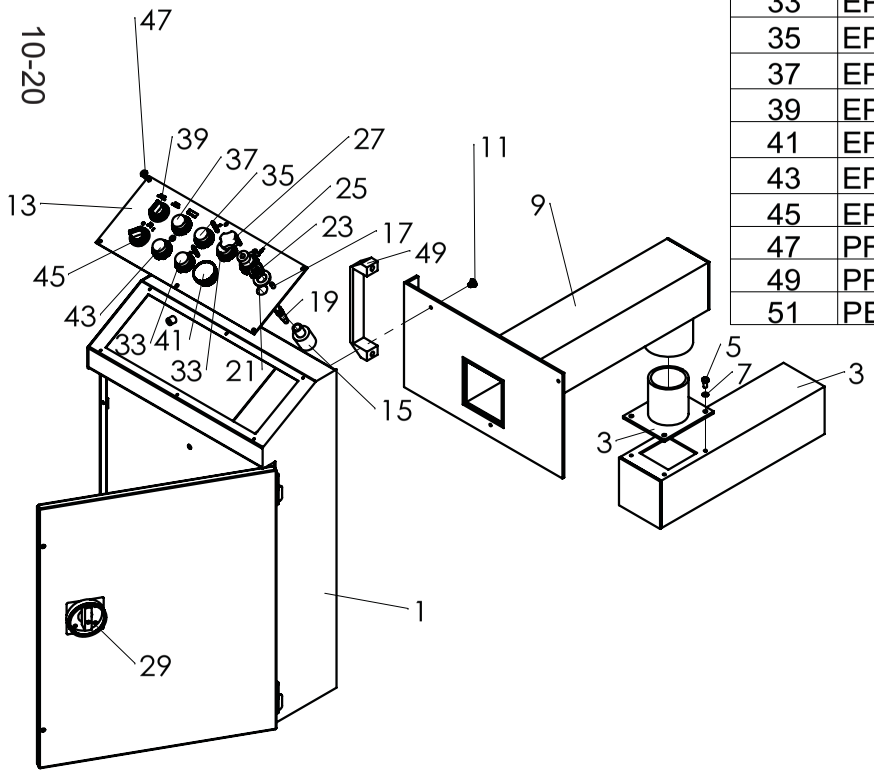
PART A
MACHINE FOUNDATION ASSEMBLY
PART NO: S500M-10000

ITEM	PART NO.	PART NAME	PART NAME (CH)	PART SPEC.	COUNT	UNIT
38	S500M-3209	limit switch bracket	限動開關座		1	PCS
39	MER-2004	spring hanging bracket	彈簧掛桿		1	PCS
40	MAE-1039C	spring	彈簧		1	PCS
41	MER-2006A	spring hanging plate	回程彈簧勾片 (長、短各一)		2	PCS
43	BAMER-2107W	joint base	關節座		1	PCS
44	MER-2106	joint axis cover	關節軸蓋		1	PCS
45	S500M-1155	joint axis	關節軸		1	PCS
46	PP-13002	du-bushing	乾式軸承	BM5030 F65 (NDC)	1	PCS
47	MER-3215	lower limit stopper	下限擋板		1	PCS
49	PBA-6-10	bolt	有頭內六角螺絲	M6x10L	1	PCS
50	SER-3210A	upper limit slide bracket	上限滑板		1	PCS
52	SBR-91600	cylinder module	鋸弓油壓缸組		1	PCS
53	PP-21030A	water level gauge	水面計	3"	1	PCS
66	MER-1002	cover	泵門板		1	PCS
67	PP-21030	oil level gauge	油面計	3"	1	PCS
70	BAAHR-1055	base support	底座墊塊		4	PCS
71	POA-14-20	nut	螺母(公)	M14	4	PCS
72	PLA-14-45	hexagon head bolt	外六角頭螺絲(公)	M14x45L	4	PCS
73	SER-3216A	plate	銘牌(上限滑板高度)		1	PCS
74	SER-2011	stopper block	角度擋塊		1	PCS
75	POA-12-175	nut	螺母(公)	M12	1	PCS
76	PQA-12	spring washer	彈簧華司	M12	1	PCS
77	PLA-12-70	hexagon head bolt	外六角頭螺絲(公)	M12x70L	1	PCS
78	PLA-12-55	hexagon head bolt	外六角頭螺絲(公)	M12x55L	1	PCS
79	MER-1006B	turninng slide	旋轉軌道		1	PCS
80	MER-2002D	angle scale	角度銘板		1	PCS
81	MER-1009	water collecting plate	右集水板		1	PCS
82	SER-9033	pallet	托盤		1	PCS
83	MER-2104	turning base	旋轉座		1	PCS
84	MER-2007A	block	角度定位板		1	PCS

05SH-500M SERIES PART LIST

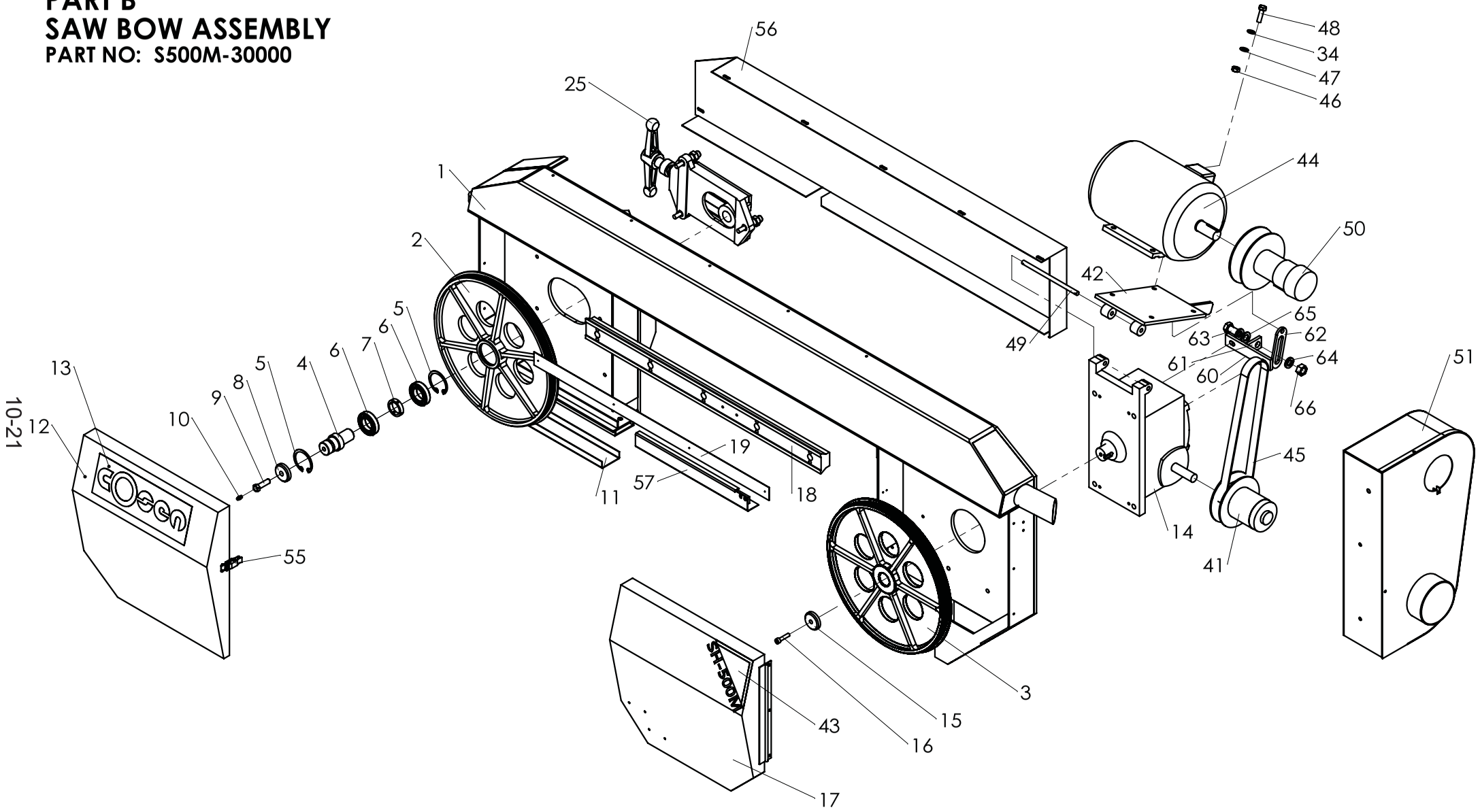
PART E
ELECTRIC BOX ASSEMBLY
PART NO: S500M-13000

ITEM	PART NO.	PART NAME	PART NAME (CH)	PART SPEC.	COUNT	UNIT
1	S500M-1301	control box	控制箱(含線路板)		1	PCS
3	MER-5007	rotate base	控制箱旋轉固定座		1	PCS
5	PLA-6-12	hexagon head bolt	外六角螺絲	M6x12L	4	PCS
7	PQA-6	spring washer	彈簧華司	M6	4	PCS
9	MER-5006	rotate bracket	控制箱旋轉座		1	PCS
11	PFA-6-10	screw	丸頭螺絲(十字)	M6x10L	3	PCS
13	SER-2007-CE	data plate	控制面板	CS-358	1	PCS
15	S500M-1741	flow control valve	流量控制閥本體		1	PCS
17	SJY-2108	pointer rid	指針擋桿		1	PCS
19	S500M-1743	adjusting rod	流量調整桿		1	PCS
21	PPA-16	washer	平面華司	M16	1	PCS
23	MAJ-4010	nut	六角螺帽	M16x1.5	1	PCS
25	MAJ-4007A	pointer&bracket	指針及座		1	PCS
27	PP-52123	knob	梅華調整把手	ENF63 ψ7.8 不要牙	1	PCS
29	EP-90280A	power switch	分離式電源開關		1	PCS
31	EP-90755-1	indicating lamp(White)	指示燈(白)	FNLD22-WE	1	PCS
33	EP-90662C-3	push button(Black)	按鈕開關(黑)	NHD-NPB22-E10B	2	PCS
35	EP-90662C-4	push button(Yellow)	按鈕開關(黃)	NHD-NPB22-E11Y	1	PCS
37	EP-90663D-1	push button(Green)	按鈕開關(綠)	NHD-NPB22-E10G	1	PCS
39	EP-90757B-1	select switch button	選擇開關(自動復歸)	FNSS22-S020B	1	PCS
41	EP-90666-2	interlocking switch	連鎖式開關	FNPB22-R01R	1	PCS
43	EP-90662C-2	push button(Red)	按鈕開關(紅)	FNPB22-F01R	1	PCS
45	EP-90757A-1	select switch button	選擇開關(手動復歸)	FNSS22-S320B	1	PCS
47	PFA-5-8	screw	丸頭螺絲(十字)	M5x8L	6	PCS
49	PP-52081	screw	握手	M.443 140L BLACK	1	PCS
51	PBA-8-12	bolt	有頭內六角螺絲	M8x12L	2	PCS



2018/10/30

PART B
SAW BOW ASSEMBLY
PART NO: S500M-30000

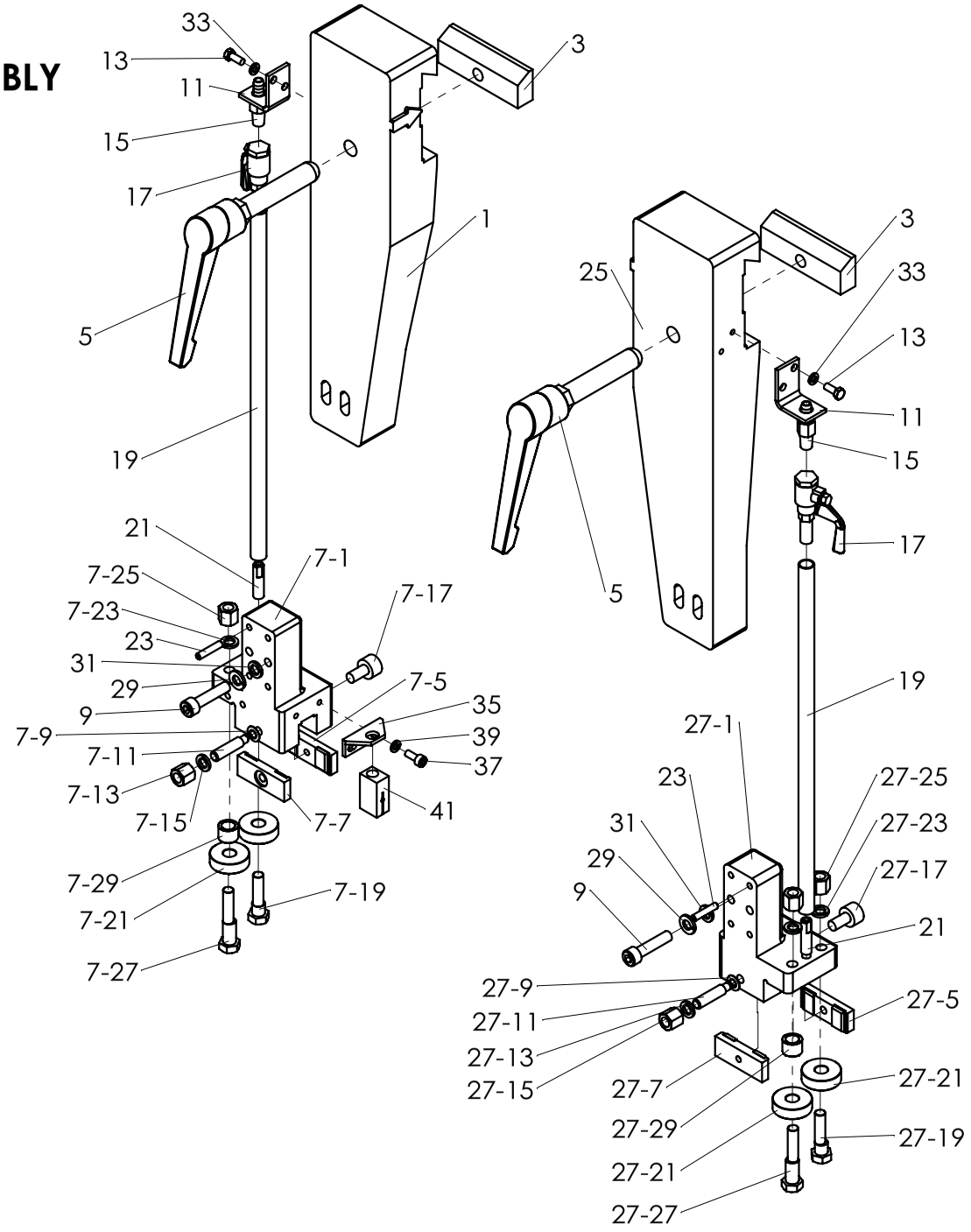


2018/11/1

PART B
SAW BOW ASSEMBLY
PART NO: S500M-30000

ITEM	PART NO.	PART NAME	PART NAME(CH)	PART SPEC.	COUNT	UNIT
1	S500M-3001	saw bow	鋸弓		1	PCS
2	MER-3101	idle wheel	上輪		1	PCS
3	MER-3105	drive wheel	下輪		1	PCS
4	MER-3102	idle wheel shaft	上輪軸		1	PCS
5	PP-58103	snap ring	扣環	R62	2	PCS
6	PP-14255	bearing	軸承	6007Z (KOYO)	2	PCS
7	MER-3103	washer	上輪軸承墊圈		1	PCS
8	MBR-9127	washer	下軸鎖緊墊圈		2	PCS
9	MER-3112A	screw	油嘴螺絲		1	PCS
10	PUC-020	grease nipple	油嘴	1/4-28UNF	1	PCS
11	MBR-9104A	u slot	U型槽		1	PCS
12	S500M-3003	cover	上輪箱蓋		1	PCS
13	C320G-3099A	cosen plate	COSEN銘牌	CS-224	1	PCS
14	PP-16045B	reducer	減速機	80#1/30軸長29（出軸徑ψ35）D080ZD03B30B(工機)	1	PCS
15	MER-3107	washer	下輪鎖緊墊圈		1	PCS
16	PBA-8-35	bolt	有頭內六角螺絲(公)	M8x35L	1	PCS
17	S500M-3005	cover	下輪箱蓋		1	PCS
18	S500M-3101	slide plate	鋸臂滑板		1	PCS
19	S500M-3111	ruler plate	鋸臂銘板	CS-247	1	PCS
25	MBR-91819	tension assembly	張力調整座		1	PCS
34	PQA-10	spring washer	彈簧華司	M10	4	PCS
41	PP-16210-2	reducer pulley	減速機皮帶輪		1	PCS
42	AER-3015A	motor base plate	馬達底板		1	PCS
43	S500M-3097B	serial plate	機型銘牌	SH-500M	1	PCS
44	PBH3-D417-N	motor	馬達	3HP 3φ 4P 60HZ 230/460V 8.1 / 4.1A(九益) /全位	1	PCS
50	PP-16210	motor pulley	馬達皮帶輪		1	PCS
45	PP-56030	belt	皮帶	1030VA 23-22	1	PCS
46	POA-10-15	nut	螺母	M10	4	PCS
47	PPA-10	washer	平面華司	M10	4	PCS
48	PLA-10-35	hexagon head bolt	外六角螺絲	M10x35L	4	PCS
49	MER-3011	set pipe	馬達底板關節軸		1	PCS
51	AER-1030-CE	pulley cover	普利護蓋(無段)		1	PCS
55	PP-52090	snap fastener	蓋扣	彈簧雙扣42# 4m/m孔位	2	PCS
56	S500M-3018	plate	鋸弓後蓋		1	PCS
57	MBR-9105	cover	鋸帶護蓋		1	PCS
60	MER-3009A	bracket	長調整固定塊		1	PCS
61	MER-3009B	bracket	短調整固定塊		1	PCS
62	MJA-2068	adjusting plate	馬達調整滑板(一)		1	PCS
63	PLA-16-30	screw	外六角螺絲(公)	M16x30L	1	PCS
64	PQA-16	spring washer	彈簧華司(公)	M16	2	PCS
65	PPA-16	washer	平面華司(公)	M16	1	PCS
66	POA-16-15	nut	螺母	M16	1	PCS

PART C
GUIDE BRACKET ASSEMBLY
PART NO: S500M-31000



PART C
GUIDE BRACKET ASSEMBLY
PART NO: S500M-31000

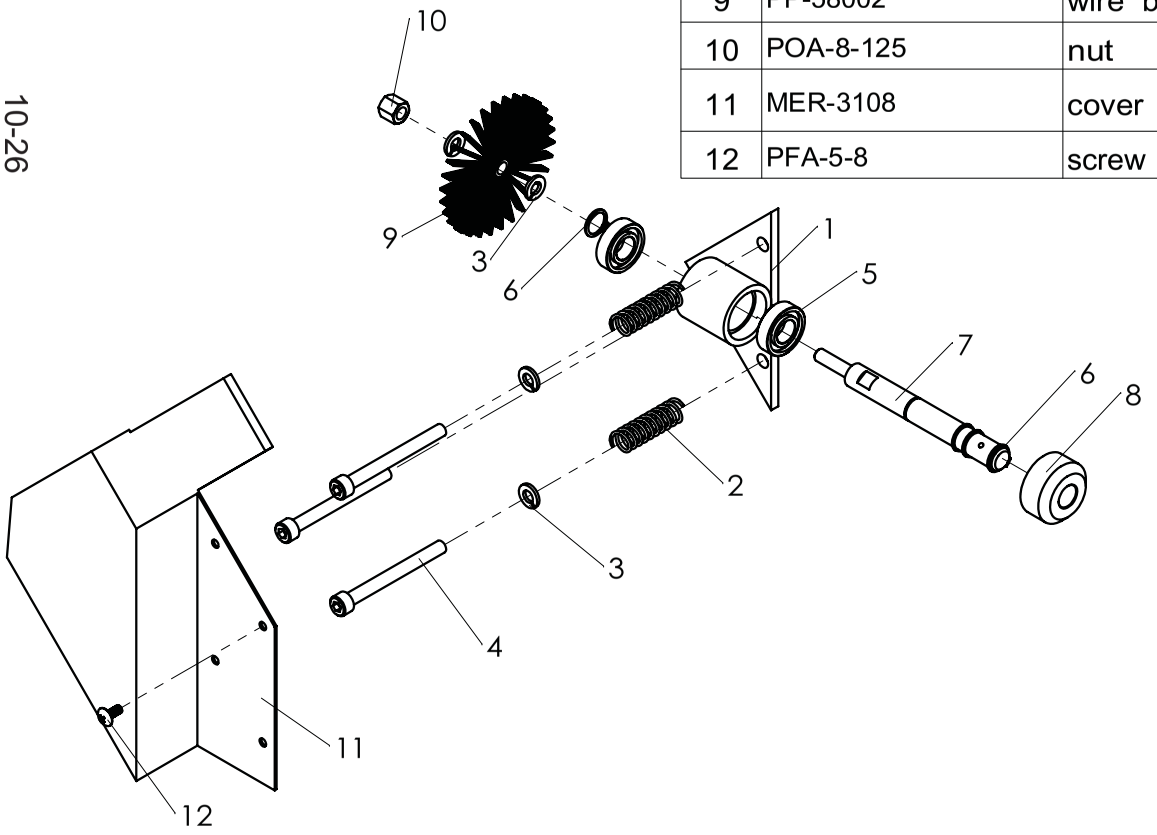
ITEM	PART NO.	PART NAME	PART NAME(CH)	PART SPEC.	COUNT	UNIT
1	S500M-3103	left guide arm	活動鋸臂		1	PCS
3	MJA-2032	clamp block	鋸臂固定塊		2	PCS
5	PP-52111J	guide arm handle set	鋸臂把手組		2	PCS
7-1	S500M-3131	left insert holder	左導輪座		1	PCS
7-5	MBR-9106	fixed insert	固定鎢鋼片		1	PCS
7-7	MBR-9107	movable insert	活動鎢鋼片		1	PCS
7-9	PP-57300	spring	蝶型彈簧	6.2x12.5x0.5	1	PCS
7-11	MER-3207	adjusting bolt	鎢鋼片調整螺栓		1	PCS
7-13	PQA-8	spring washer	彈簧華司	M8	1	PCS
7-15	POA-8-125	nut	螺母	M8	1	PCS
7-17	PBA-8-16	bolt	有頭內六角螺絲	M8x16L	1	PCS
7-19	MER-3209	fixed bolt	軸承固定軸(短)		1	PCS
7-21	PP-14270	bearing	軸承	6200VV	2	PCS
7-23	PQA-8	spring washer	彈簧華司	M8	2	PCS
7-25	POA-8-125	nut	螺母	M8	2	PCS
7-27	MER-3208	fixed bolt	軸承固定螺絲(長)		1	PCS
7-29	AHA-0708A	washer	導輪墊圈		1	PCS
9	PBA-8-35	bolt	有頭內六角螺絲	M8x35L	4	PCS
11	MJA-2041	bracket	水龍頭座板		2	PCS
13	PLA-5-12	hexagon head bolt	外六角螺絲	M5x12L	4	PCS
15	MJA-2043	coolant nozzle	水管接頭		2	PCS
17	PP-43132A	switch button valve	開關閥	1/8"	2	PCS
19		hose	水管	1/4x1500L	2	PCS
21	MAB-6014	fixed coolant nozzle	固定塊水管接頭		2	PCS
23	PAA-5-25	set screw	止付螺絲	M5x25L	8	PCS
25	S500M-3105	right guide arm	固定鋸臂		1	PCS
27-1	S500M-3161	right insert holder	右導輪座		1	PCS
27-3	MJS-9008	insert	下壓鎢鋼片		1	PCS
27-5	MBR-9106	fixed insert	固定鎢鋼片		1	PCS
27-7	MBR-9107	movable insert	活動鎢鋼片		1	PCS
27-9	PP-57300	spring	蝶型彈簧	6.2x12.5x0.5	1	PCS
27-11	MER-3207	adjusting bolt	鎢鋼片調整彈簧		1	PCS
27-13	PQA-8	spring washer	彈簧華司	M8	1	PCS
27-15	POA-8-125	nut	螺母	M8	1	PCS
27-17	PBA-8-16	screw	有頭內六角螺絲	M8x16L	1	PCS
27-19	MER-3209	fixed bolt	軸承固定軸(短)		1	PCS

PART C
GUIDE BRACKET ASSEMBLY
PART NO: S500M-31000

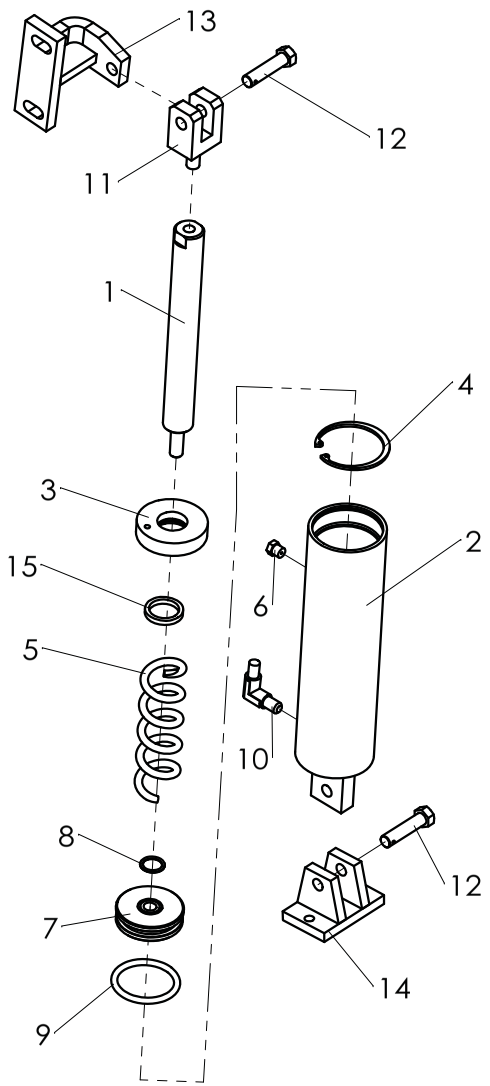
ITEM	PART NO.	PART NAME	PART NAME(CH)	PART SPEC.	COUNT	UNIT
27-21	PP-14270	bearing	軸承	6200VV	1	PCS
27-23	PQA-8	spring washer	彈簧華司	M8	2	PCS
27-25	POA-8-125	nut	螺母	M8	2	PCS
27-27	MER-3208	fixed bolt	軸承固定軸(短)		2	PCS
27-29	AHA-0708A	washer	導輪墊圈		1	PCS
29	PQA-8	spring washer	彈簧華司	M8	4	PCS
31	PPA-8	washer	平面華司	M8	4	PCS
33	PQA-5	spring washer	彈簧華司	M5	4	PCS
35	SJY-1134A	bracket	水龍頭固定座		1	PCS
37	PBA-5-10	screw	有頭內六角螺絲	M5x10L	2	PCS
39	PQA-5	spring washer	彈簧華司	M5	2	PCS
41	SJY-1152	coolant block	鋸帶冷卻頭		1	PCS

PART D
WIRE BRUSH ASSEMBLY
PART NO: S500M-32200

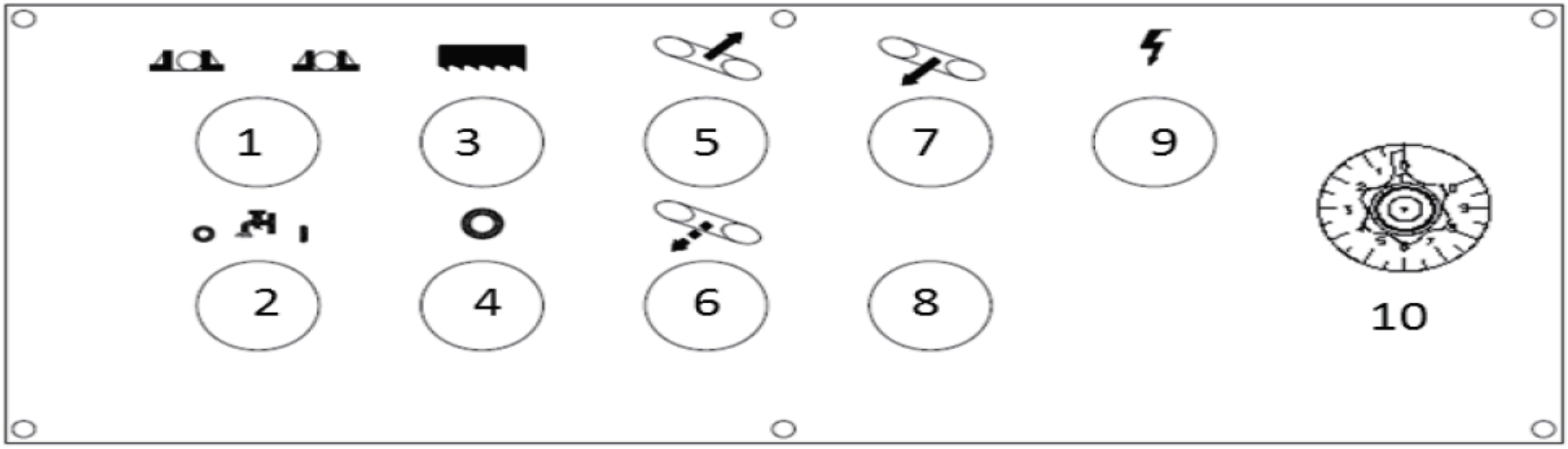
ITEM	PART NO.	PART NAME	PART NAME (CH)	PART SPEC.	COUNT	UNIT
1	MBR-9132-B	bearing-holder	鋼刷軸承座		1	PCS
2	MER-3109	spring	鋼刷壓縮彈簧		2	PCS
3	PPA-8	washer	平面華司	M8	4	PCS
4	PBA-8-80	bolt	有頭內六角螺絲(公)	M8x80L	3	PCS
5	PP-14250	bearing	軸承	6002ZZ	2	PCS
6	PP-52097	snap ring	扣環	S15	4	PCS
7	MBR-9129	brush shaft	鋼刷軸		1	PCS
8	MBR-9131	brush drive wheel	鋼刷傳動輪		1	PCS
9	PP-58002	wire brush	鋼刷	90m/m*8m/m*16T #0.3	1	PCS
10	POA-8-125	nut	螺母	M8	1	PCS
11	MER-3108	cover	鋼刷護蓋		1	PCS
12	PFA-5-8	screw	丸頭螺絲(十字)	M5x8L	1	PCS



PART A2
CYLINDER MODULE ASSEMBLY
PART NO: SBR-91600



ITEM	PART NO.	PART NAME	PART NAME (CH)	PART SPEC.	COUNT	UNIT
1	MBR-9163	piston rod	活塞桿		1	PCS
2	MBR-9164	cylinder	缸管		1	PCS
3	MBR-9159	cylinder front cap	油缸前蓋		1	PCS
4	PTR-65	snap ring	扣環	R65	1	PCS
5	PP-57402	spring	彈簧	7x35x150	1	PCS
6	C320G-1721		透氣螺絲		1	PCS
7	SBR-9168	piston	活塞(鋸弓)		1	PCS
8	PP-59074	o-ring	O型環	NOK P-18	1	PCS
9	PP-59150	oil seal	O型環	P-53	1	PCS
10	PP-20250	elbow joint	彎接頭		1	PCS
11	MER-2302	cylinder join bracket	油缸連接座		1	PCS
12	MAE-1031A	pin	油壓缸長插銷		1	PCS
13	MER-2303	cylinder bracket	油缸上固定座		1	PCS
14	S500M-3271	cylinder bracket	油缸下固定座		1	PCS
15	PP-51150	oil seal	U型油封	UHS 28x35.5x5	1	PCS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CONTROL PANEL BUTTONS

No.	PART NUMBER	PART Name IN ENG.	PART Name IN CHI.	Q'TY
1	EP-90757B-1*T	Vise open/clamp switch	虎鉗釋放/夾持按鈕	1
2	EP-90757A-1*T	Coolant on/off switch	冷卻泵浦 ON/OFF 開關	1
3	EP-90663D-1*T	Saw Blade start button	鋸刀啟動按鈕	1
4	EP-90662C-1*T	Saw Blade stop button	鋸刀停止按鈕	1
5	EP-90662C-4*T	Saw bow UP button	鋸弓上升按鈕	1
6	EP-90662C-3*T	Saw bow slowly down button	鋸弓下降按鈕(慢速)	1
7	EP-90662C-3*T	Saw bow DOWN button	鋸弓下降按鈕	1
8	EP-90666-2*T	Emergency stop button	緊急停止按鈕	1
9	EP-90755-1*T	Power indicator lamp	電源指示燈	1
10	PP-52123	Blade descend speed control knob	鋸刀下降速度控制旋鈕	1

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