

HAFCO METALMASTER

ALUMINIUM SAW OPERATION MANUAL



Model.
ALU-350A
Order Code S851

Edition No :AS-350-1

Date of Issue :11/2019

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OPERATION MANUAL

MACHINE DETAILS

| | |
|----------------------|---------------|
| MACHINE | ALUMINIUM SAW |
| MODEL NO. | ALU-350A |
| SERIAL NO. | |
| DATE OF MANF. | |

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NOTE:

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



NOTE:

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

HAFCO
PRODUCT SPECIFICATION

MODEL:

CAPACITY:

SER. NO:

MFG DATE:

WEIGHT:

VOLTS:

MOTOR Kw:

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Made in China

FIG.1



OPERATION MANUAL

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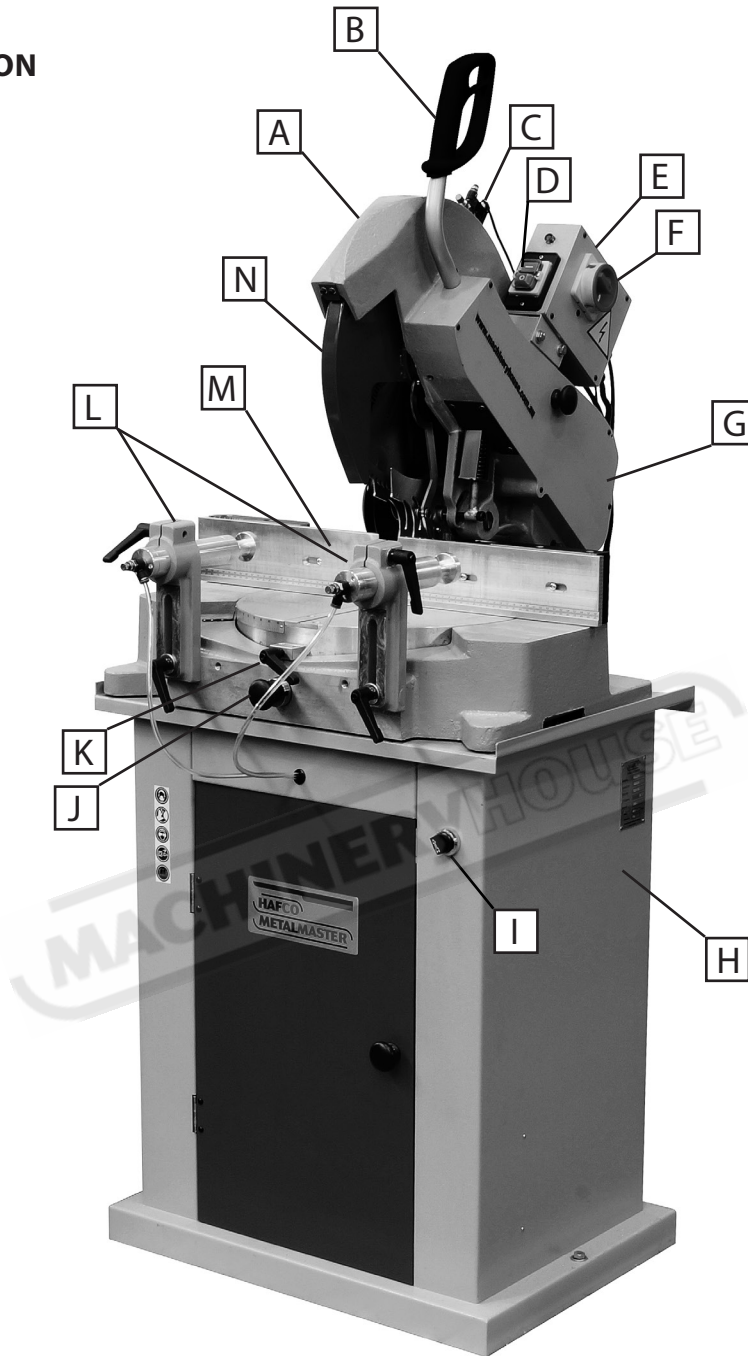
OPERATION MANUAL

1.1 SPECIFICATIONS

| | |
|--|-------------------------------------|
| Order Code | S851 |
| Model | ALU-350A |
| Cutting Head Action (Auto-Manual) | Auto & Manual |
| Operation Type | Swivel - Dual Mitre & Compound Left |
| Round Capacity @ 90° / 45° (mm) | 100 / 100 |
| Square Capacity @ 90° / 45° (mm) | 100 / 100 |
| Rectangle Capacity @ 90° / 45° (mm) | 100 x 195 / 100 x 135 |
| Compound Rectangle Capacity @ 45° x 45° (mm) | 135 x 35 |
| Compound Square Capacity @ 45° x 45° (mm) | 70 x 70 |
| Blade Size (D x B x T) (mm) | 350 x 30 x 3 |
| Number of Teeth (No.) | 120 |
| Vice Clamping Fixture | Pneumatic |
| Coolant System | Spray Mist |
| Table Working Height (with Stand) (mm) | 885 |
| Blade Speeds (R.P.M.) | 3300 |
| Motor Power (kW/hp) | 1.5/2 |
| Voltage (V) | 415 |
| Machine Dimension (mm) | 700 x 700 x 1400 |
| Nett Weight (kg) | 110 |

OPERATION MANUAL

1.2 IDENTIFICATION



| | | | |
|----------|---------------------|----------|--------------------------|
| A | Blade Guard | H | Base |
| B | Trigger Handle | I | Pneumatic Vice Switch |
| C | Mist Coolant | J | Turntable Swivel Locator |
| D | ON/OFF Switches | K | Turntable Swivel Clamp |
| E | Control Box | L | Pneumatic Vices |
| F | Master Power Switch | M | Fence |
| G | Belt Guard | N | Movable Blade Guard |

OPERATION MANUAL

2.1 GENERAL METALWORKING SAFE PRACTICES

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



WARNING

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

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

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



- ✓ Always wear safety glasses or goggles.
- ✓ Wear appropriate safety footwear.
- ✓ Wear respiratory protection where required.
- ✓ Gloves should never be worn while operating the machine, and only worn when handling the workpiece.
- ✓ Wear hearing protection in areas > 85 dBA. If you have trouble hearing someone speak from one metre (three feet) away, the noise level from the machine may be hazardous.
- ✓ DISCONNECTION THE MACHINE FROM POWER when making adjustments or servicing.
- ✓ Check and adjust all safety devices before each job.
- ✓ Ensure that guards are in position and in good working condition before operating.
- ✓ Ensure that all stationary equipment is anchored securely to the floor.
- ✓ Ensure all machines have a start/stop button within easy reach of the operator.
- ✓ Each machine should have only one operator at a time. However, everyone should know how to stop the machine in an emergency.

OPERATION MANUAL**2.1 GENERAL METALWORKING SAFE PRACTICES Cont.**

- ✓ Ensure that keys and adjusting wrenches have been removed from the machine before turning on the power. Appropriate storage for tooling should be provided.
- ✓ Ensure that all cutting tools and blades are clean and sharp. They should be able to cut freely without being forced.
- ✓ Stop the machine before measuring, cleaning or making any adjustments.
- ✓ Wait until the machine has stopped running to clear cuttings with a vacuum, brush or rake.
- ✓ Keep hands away from the cutting head and all moving parts.
- ✓ Avoid awkward operations and hand positions. A sudden slip could cause the hand to move into the cutting tool or blade.
- ✓ Return all portable tooling to their proper storage place after use.
- ✓ Clean all tools after use.
- ✓ Keep work area clean. Floors should be level and have a non-slip surface.
- ✓ Use good lighting so that the work piece, cutting blades, and machine controls can be seen clearly. Position any shade lighting sources so that they do not cause any glare or reflections.
- ✓ Ensure there is enough room around the machine to do the job safely.
- ✓ Obtain first aid immediately for all injuries.
- ✓ Understand that the health and fire hazards can vary from material to material. Make sure all appropriate precautions are taken.
- ✓ Clean machines and the surrounding area when the operation is finished.
- ✓ Use proper lock out procedures when servicing or cleaning the machines or power tools.

DO NOT

- × Do not distract an operator. Horseplay can lead to injuries and should be strictly prohibited.
- × Do not wear loose clothing, gloves, necktie's, rings, bracelets or other jewellery that can be come entangled in moving parts. Confine long hair.
- × Do not handle cuttings by hand because they are very sharp. Do not free a stalled cutter without turning the power off first. Do not clean hands with cutting fluids.
- × Do not use rags or wear gloves near moving parts of machines.
- × Do not use compressed air to blow debris from machines or to clean dirt from clothes.
- × Do not force the machine. It will do the job safer and better at the rate for which it was designed.



BEFORE OPERATING ANY MACHINE, TAKE TIME TO READ AND UNDERSTAND ALL SAFETY SIGNS AND SYMBOLS. IF NOT UNDERSTOOD SEEK EXPLANATION FROM YOUR SUPERVISOR.

2.1 GENERAL METALWORKING SAFE PRACTICES Cont.

HAZARDS ASSOCIATED WITH MACHINES include, but are not limited to:

- Being struck by ejected parts of the machinery
- Being struck by material ejected from the machinery
- Contact or entanglement with the machinery
- Contact or entanglement with any material in motion

Health Hazards (other than physical injury caused by moving parts)

- Chemicals hazards that can irritate, burn, or pass through the skin
- Airborne items that can be inhaled, such as oil mist, metal fumes, solvents, and dust
- Heat, noise, and vibration
- Ionizing or non-ionizing radiation (X-ray, lasers, etc.)
- Biological contamination and waste
- Soft tissue injuries (for example, to the hands, arms, shoulders, back, or neck) resulting from repetitive motion, awkward posture, extended lifting, and pressure grip)

Other Hazards

- Slips and falls from and around machinery during maintenance
- Unstable equipment that is not secured against falling over
- Safe access to/from machines (access, egress)
- Fire or explosion
- Pressure injection injuries from the release of fluids and gases under high pressure
- Electrical Hazards, such as electrocution from faulty or ungrounded electrical components
- Environment in which the machine is used (in a machine shop, or in a work site)

WARNING

Machines are safeguarded to protect the operator from injury or death with the placement of guards. Machines must not be operated with the guards removed or damaged.

OPERATION MANUAL

2.2 MITRE SAW SAFETY

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



Safety glasses must be worn at all times in work areas



Long and loose hair must be contained.



Long and loose hair must be contained.



Sturdy footwear must be worn at all times in work areas



Close fitting/protective clothing must be worn



Rings and jewellery must not be worn.

PRE-OPERATIONAL SAFETY CHECKS

- ✓ Locate and ensure you are familiar with all machine operations and controls.
- ✓ Ensure all guards are fitted, secure and functional. Do not operate if guards are missing or faulty.
- ✓ Ensure the saw base is properly secured to the floor by bolts
- ✓ Ensure the saw is operated on an RCD protected circuit.
- ✓ Check workspaces and walkways to ensure no slip/trip hazards are present.
- ✓ Keep table and work area clear of all tools, and aluminium off-cuts.
- ✓ Start the mist coolant before using the machine.

OPERATIONAL SAFETY CHECKS

- ✓ Ensure all adjustments are secure before making a cut.
- ✓ Use clamps to secure and support the workpiece to a stable platform. Make sure that the workpiece is clamped hard up against the fence.
- ✓ Before turning on the saw, perform a dry run of the cutting operation to ensure no problems will occur when the cut is made.
- ✓ Avoid reaching over the saw line. Do not cross arms when cutting.
- ✓ When pulling the saw down with your right hand, keep the left hand, especially the thumb, well clear of the line of cut.
- ✓ After finishing the cut, release the switch, hold the saw arm down and wait for blade to stop before removing work or off-cut piece.
- ✓ Before making any adjustments, disconnect the machine from the power source and bring the machine to a complete standstill.

DON'T

- ✗ Do not use faulty equipment. Immediately report suspect equipment.
- ✗ Do not exceed the maximum cut for the machine.
- ✗ Do not cut more than one workpiece at a time.
- ✗ Do not start the saw with the blade touching the workpiece. Allow the blade to reach full speed first.

POTENTIAL HAZARDS AND INJURIES

- Saw may grab and 'kick-back' toward operator.
- Flying metal chips and airborne coolant.
- Contact with rotating blade.
- Eye injuries.

2.3 SITE PREPARATION

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

To handle the machine, the slings should be positioned so the machine is level when lifted.

When lifting the machine only certified lifting slings should be used. Ensure that when lifting, the machine does not tip over. Check that the lifting slings do not interfere with the hydraulic pipes or electrical conduits.

Failure to follow these instructions could cause damage to the machine.

When selecting the site for the machine, consider the largest size of workpiece that will be processed through the machine and provide enough space around the machine for operating the machine safely. Consideration should be given to the installation of auxiliary equipment. Leave enough space around the machine to open or remove doors/covers as required for the maintenance and service as described in this manual.

It is recommended that the machine is anchored to the floor to prevent tipping or shifting. It also reduces vibration that may occur during operation.

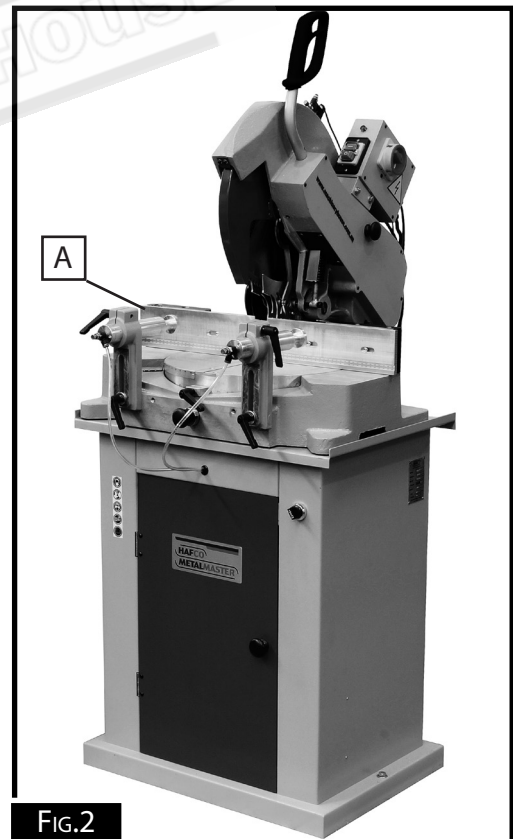
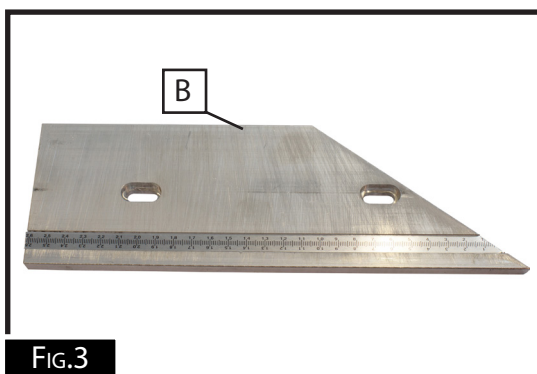
2.4 SHIPPING CONTENTS

Contents of the Carton

1 Machine body (A) FIG 2

1 Backgauge Seat Right Plate (B FIG 3)

1 Operating Instructions/Parts List (Not shown)



3.1 ASSEMBLY

You will find the replacement vise plates in side of the machine stand.

Attention:

The vise plate is only used for 90 degree cutting (saw arm angle)

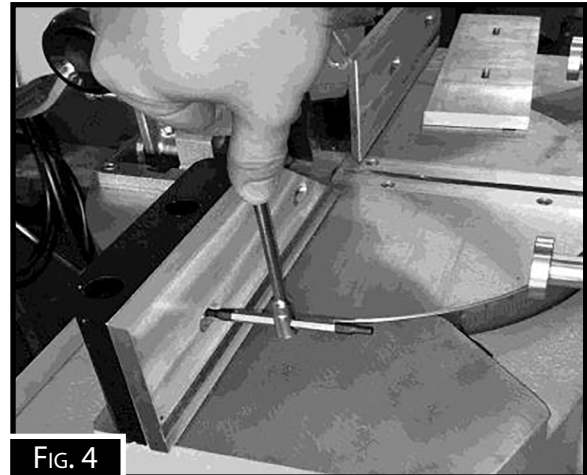


FIG. 4

3.2 BASIC CONTROLS

Main Isolating Switch: This switch isolates all the power from the machine. (A in Fig.5)

Motor ON/OFF Switch: This switch energizes the power to the controls (B in Fig.5)

Trigger Switch: This switch starts and stops the rotation of the blade (C in Fig. 5)

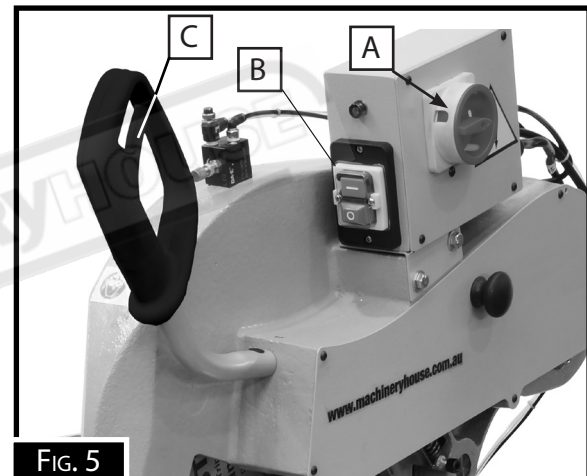


FIG. 5

Pneumatic Vise Control: This toggle switch controls the ON/OFF feature of the pneumatic vises. The control has three functions. (Fig. 6)

1. **On:** Closes the Pneumatic vises
2. **OFF:** Opens the Pneumatic vises

3. **Auto:** Automatically closes the vises when the arm of the saw is pulled down to start the cut and after the cut is finished and the saw is returned to its up right position then releases the vises, ready for the material to move to the stop.



FIG. 6



OPERATION MANUAL

3.3 ELECTRICAL INSTALLATION

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

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

ELECTRICAL REQUIREMENTS

Nominal Voltage.....415V
Cycle.....50 Hz
Phase.....Three Phase
Power Supply Circuit..... 15 Amps
Full Load Current.....3.2 Amps

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

3.4 FULL-LOAD CURRENT RATING

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

Full-Load Current Rating for these machine at 415V is 3.2 Amps

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

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



3.5 COMPRESSED AIR SUPPLY

The saw needs to be connected to the air supply, (Fig.7) that is regulated at 6 - 8 bar. If the machine is installed on a multi use air line then an additional regulator may need to be installed. Various functions of the saw are carried out by the use of the compressed air.

When using this saw situations may arise where machine parts & materials are clamped together and could potentially pose a serious safety issue to an inexperienced operator. Operators should be thoroughly instructed about these hazards.



FIG. 7

3.6 PNEUMATIC VICE CLAMPS

Air-actuated cylinders are used to operate the Pneumatic Vice Clamps. The clamping action is ideal for quick clamping in production operations, and yet is also suitable to use on short run jobs.

Clamp Adjustment:

Adjustment is done by first releasing the levers & then moving the cylinder holders to the left or right, up or down or moving the cylinders in or out.

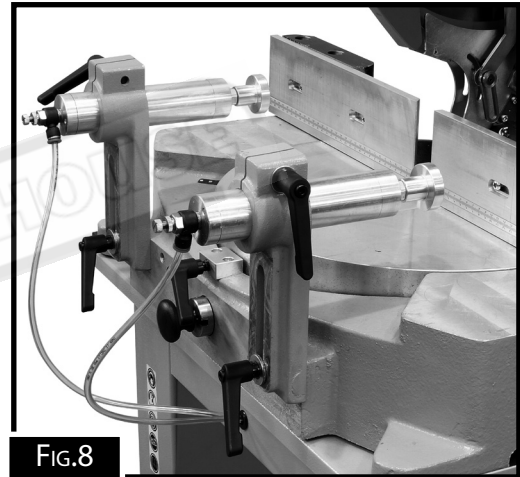


FIG.8

3.7 OIL MIST COOLANT

It is important that the blade is kept cool and lubricated to prevent jamming.

For this reason a mist coolant system has been installed on the machine. The coolant mist is adjusted similar to a spray gun with two controls. One for the coolant and one for the air supply. The correct quantity is trial and error and should be set before cutting.

Hafco Metalmaster recommend the use of Aluminium Spray mist oil, (Hafco Code is S070)

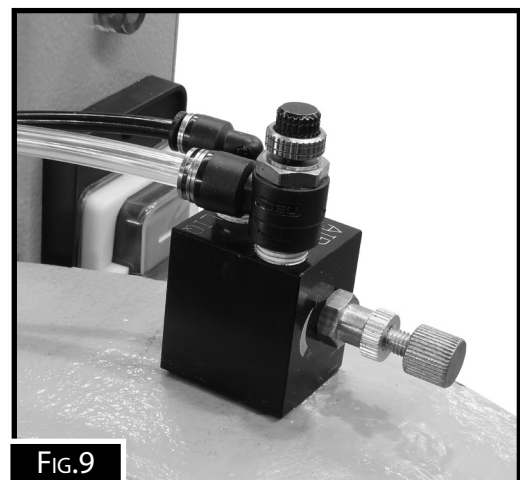


FIG.9

⚠ WARNING

Hafco recommend that footwear with anti-slip soles be worn at all times. Any spills will result in potentially hazardous slippery surfaces & should be dealt with promptly to prevent physical injury resulting from falls. Some coolants mixed with sawdust or old rags could become a fire hazard

4 OPERATION

4.1 SETTING AND ADJUSTMENT

Adjustment of the table angle.

The turntable can be turned right or left.

Preset points at 15°, 22 1/2°, 30°, 45° and in center position at 90° are set into the table.

To turn the table to these positions,

1. Release the lock lever (C in Fig 10).
2. Pull out the locating pin (D in Fig 10) and move the saw motor arm by rotating the turntable.
3. When the fixed pointer, located on the base is indicating the required setting on the scale (Fig.11) (marked on the turntable), release the locating pin. (D in Fig.10) If the desired angle is one of the following angles, 15°, 22 1/2°, 30°, 45° or 90°, then the pin will locate in the preset position for that angle.
4. Once the angle has been set then tighten the lever lock (C in Fig.10) to prevent the turntable moving during the operation.

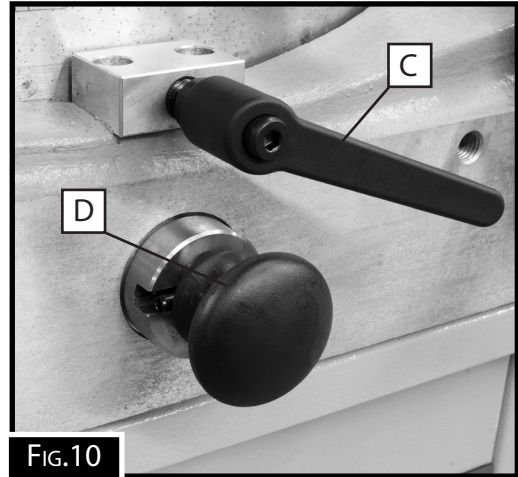


FIG.10

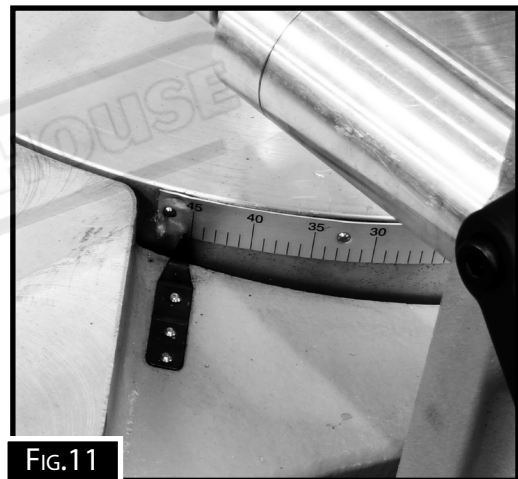


FIG.11

4.2 SETTING AND ADJUSTMENT Cont.

Adjusting the arm angle

The saw motor arm can only be tilted to the left and to a maximum angle of 45°. (Fig.12)

The arm is tilted as follows:

1. Undo the lock screw, (L in Fig.13), at the back of the machine.
2. Using the hand-grip, tilt the saw motor arm to the required angle on the scale next to the hinge. (Fig.13)
3. Once you have tilted the motor arm to the angle, lock the screw again (L in Fig.14)

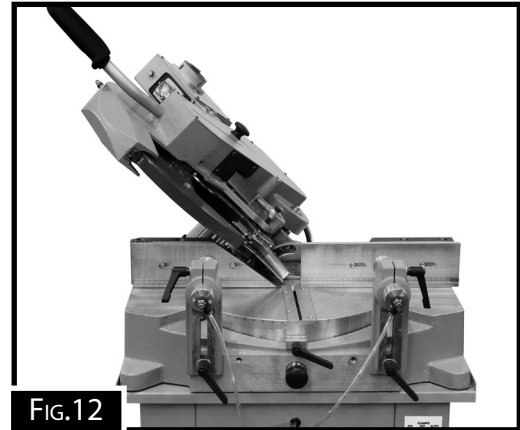


FIG.12

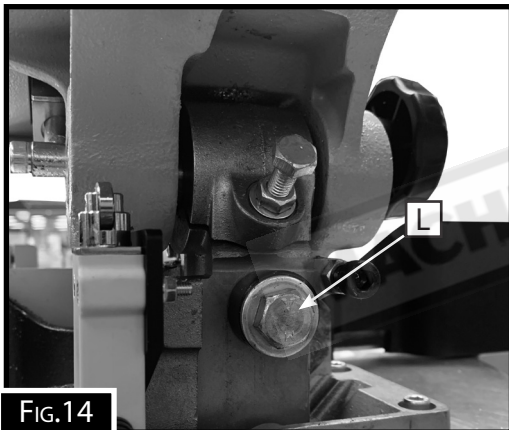


FIG.14

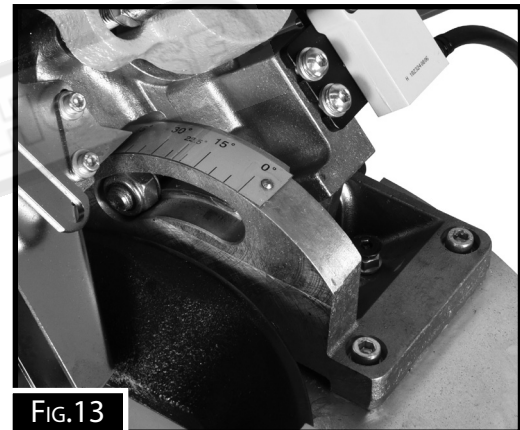


FIG.13

Setting Pnuematic Vise Clamps

Adjustment is done by first releasing the levers & then moving the cylinder holders to the left or right, up or down or moving the cylinders in or out. For your safety and for effective clamping it is important the pneumatic clamps are set within 4mm of the workpiece. (Fig.15)

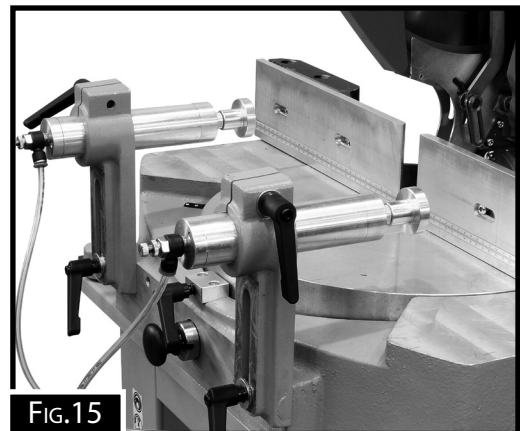


FIG.15

NOTE: During the adjustment operations, keep a firm hold on the handle and make sure to avoid pinch and crush points.

4.3 CUTTING OPERATION MANUAL MODE

1. Connect the pressure air supply to the male socket (Fig 16).
2. Push green button of the main switch (B in Fig 17) to power the machine.
3. Position the material to be cut on the working base pushed against the fence.
4. Clamp workpiece by turning the toggle switch to ON (Fig 18).

NOTE: For your safety and for effective clamping it is important the pneumatic clamps are set within 4mm of the workpiece.

5. Use the handle (A in Fig.17) to lower the blade close to the material to be cut, then press the trigger (C In Fig.17) to start the blade and pull down gradually until you have completed the cut.
6. When you have completed the cut, release the trigger (C In Fig.17) and return the saw/motor arm back to its upright position.
7. Release the material by turning the toggle switch to OFF (Fig 18).

NOTE: Pushing down harder on the handle does not necessarily mean that the cut will be faster, in fact this can lead to the motor overloading, and result in a less efficient operation.

AUTOMATIC MODE

1. Connect the pressure air supply to the male socket (Fig 16).
2. Push green button of the main switch (B in Fig 17) to Power the machine.
3. Position the material to be cut on the working base pushed against the fence.
4. Select toggle switch to AUTO (Fig 18).

NOTE: For your safety and for effective clamping it is important the pneumatic clamps are set within 4mm of the workpiece.

5. Use the handle (A in Fig.17) to lower the blade, this will activate the pneumatic clamps, when close to the material then press the trigger (C In Fig.17) to start the blade and pull down gradually until you have completed the cut.
6. When you have completed the cut, release the trigger (C In Fig.17) and return the saw motor arm back to its upright position which will automatically release the material.



FIG.16

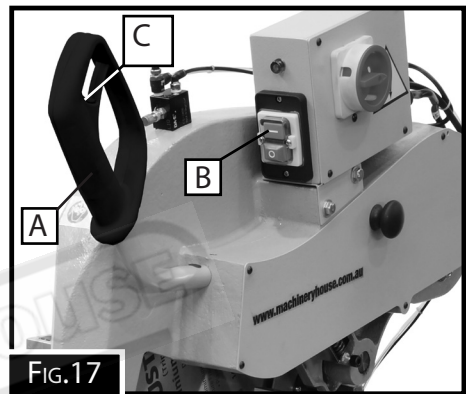


FIG.17

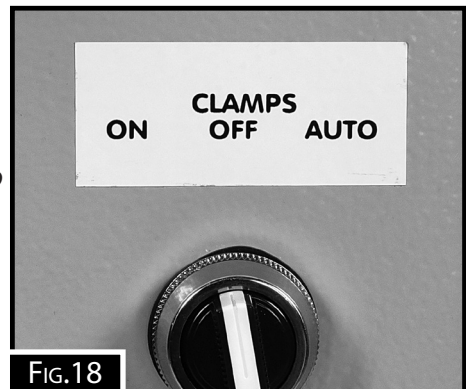


FIG.18

OPERATION MANUAL

MAINTENANCE

Maintenance must be carried out by qualified staff. It is compulsory to disconnect the machine from both the power and the air supply when adjusting or repairing the machine.

5.1 LUBRICATION SCHEDULE.

1. Lubricate the saw head pivot shaft & rotary table, after every 40 hours of operation with, Shell Alvania No.1 grease or equivalent.
2. Clean the vice & lubricate any moving joints or sliding surfaces with good quality oil.
3. Clean the machine regularly & keep the machined surfaces lightly oiled to protect from rust & corrosion.
4. Disconnect the air line and place some drops of air tool oil in the connector on the machine to prevent corrosion of the pneumatic system.

5.2 TROUBLESHOOTING.

Review the troubleshooting and procedures in this section if a problem develops with your machine. If you need replacement parts then follow the procedure in beginning of the spare parts section or if additional help with a procedure is required, then contact you distributor.

Note: Make sure you have the model of the machine, serial number, and manufacture date before calling.

| Problem | Possible Cause | Solution |
|----------------|---|--|
| Teeth breaking | Incorrect lubricant/coolant fluid. | Ensure proper coolant flow. |
| | Material too hard | Check the cutting speed, feed speed and air pressure parameters and the type of blade you are using. |
| | Blade not worn--in correctly | With a new blade it is necessary to start cutting at half feeding speed. After the wearing--in period (a cutting surface of about 300 cm ² for hard materials and about 1000 cm ² for soft materials) the cutting and feed speeds can be brought up to normal values |
| | Blade with excessively fine tooth pitch | Replace the blade with a larger tooth pitch |
| | New blade inserted in a partially completed cut | Start a new cut as the material may be work hardened. |
| | Work piece not clamped firmly in place | Check the vise, jaws and clamping pressure. |

OPERATION MANUAL

Troubleshooting Cont.

| Problem | Possible Cause | Solution |
|-----------------------------|--|--|
| Rapid tooth wear | Feed speed too slow | The blade runs over the material without removing it: increase feed speed |
| | Cutting pressure too high | Reduce cutting pressure. |
| | Blade speed too high | The teeth slide over the material without cutting it: reduce the blade speed |
| | Incorrect fluid concentration | Check and use the correct concentration |
| | Insufficient coolant | Check the coolant level and clean coolant lines and nozzles. |
| | Material defective | The materials may have oxides or sand on the surface, or in section, such as under-cooled inclusions. These areas, are much harder than the blade, and cause the teeth to break. Discard or clean the materials. |
| Broken blade | Feed speed too high | Reduce blade speed. |
| | Teeth in contact with material before starting the cut | Always check the position of the blade before starting a new job. |
| | Insufficient coolant | Check the coolant level and clean coolant lines and nozzles |
| Spindle motor will not turn | Electrical power supply | Check: the cables, plug and socket. Also check that the motor connections are in place. |
| | Transformer | Check that the voltages are present both on the input and output. Otherwise replace |
| | Contactors | Check that the contactor closes when powered and that it is not causing short circuits. Change if any of these problems are found. |
| | Thermal relay | Make sure it is closed. If it has tripped to protect the motor, check the amperage setting, reset, and check the motor. Change if necessary |
| | Motor | Check that it has not burnt out, that it turns freely and that there is no moisture in the connection terminal board box. The winding can be rewound or replaced. |

5.3 REPLACING THE BLADE

During the life of the saw the blade will need to be removed to be sharpened or replaced.

WARNING The blade teeth are sharp and can cut very easily. For this operation, wear leather work gloves for protection.

To Change The Blade.

1. DISCONNECT THE MACHINE FROM THE BOTH POWER AND THE AIR SUPPLY.
2. Raise the motor arm to its fully up position
3. Release the mechanism of the internal guard by pushing the point (N in Fig 19), and push up the guard (O in Fig 19).
4. Place a 6 mm wrench inside the center hole (Fig.20) of the belt guard to stop the shaft from moving. At the same time, place an 8mm hex key in the set screw (S in Fig 21) and loosen the screw
5. Remove screw (S in Fig.21) and remove outer flange (R in Fig. 21)
6. Mount or remove the blade by taking it out from the bottom. When refitting the blade, make sure the teeth are facing in the direction shown by the arrow on the saw arm . To complete the blade installation, replace the outer flange, R , and then replace and tighten the screw S.
7. Pull down the internal guard back to its initial position and reconnect the guard opening mechanism.
8. Using the handle pull the saw down and ensure that the inner safety guard is working correctly. Do not use the saw until the guard is working correctly.

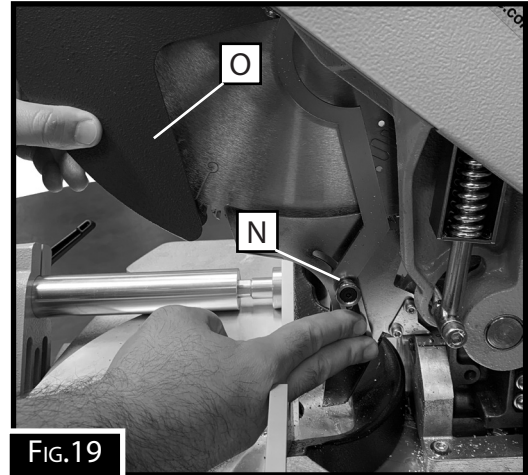


FIG. 19

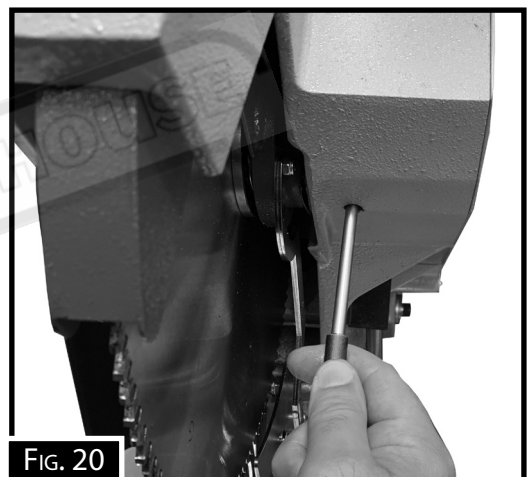


FIG. 20

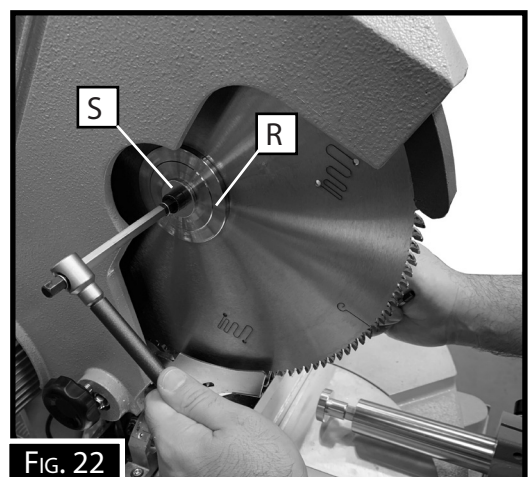


FIG. 22

SPARE PARTS SECTION

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

HOW TO ORDER SPARE PARTS

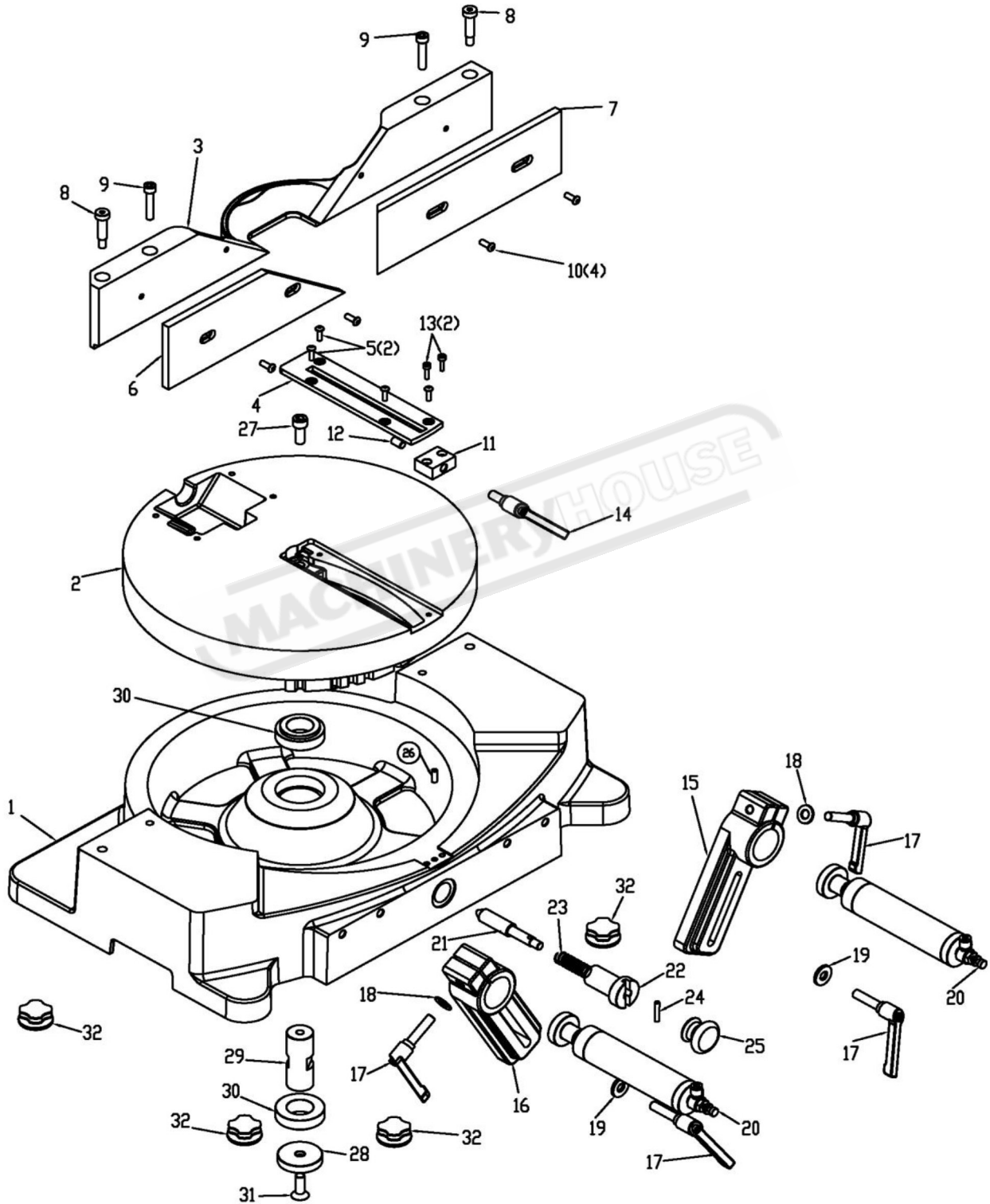
1. Have your machines **model number, serial number & date of manufacture** on hand, these can be found on the specification plate mounted on the machine
2. A scanned copy of your parts list/diagram with required spare part/s identified
3. Go to www.machineryhouse.com.au/contactus and fill out the enquiry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





OPERATION MANUAL

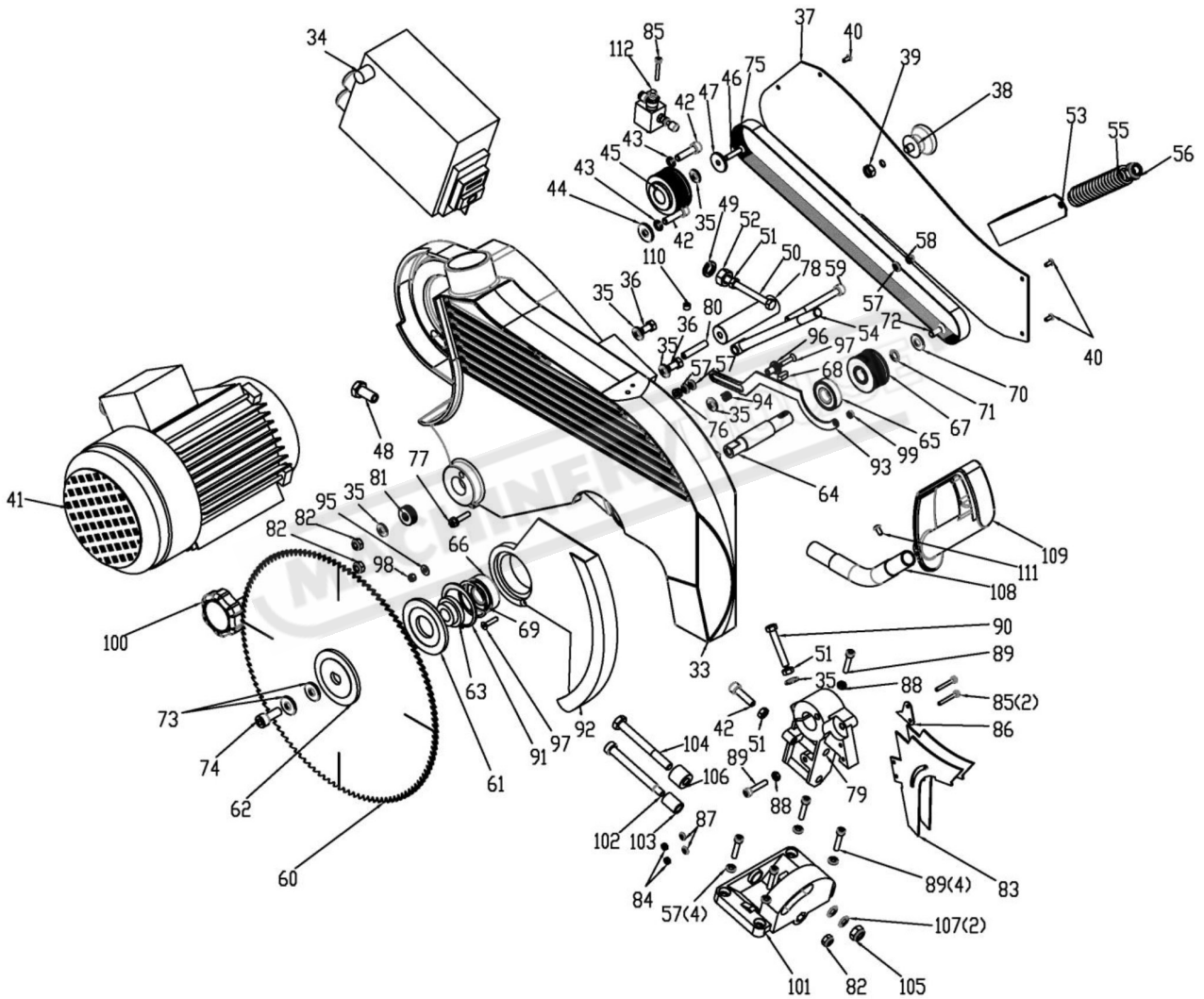
TURNTABLE SPARE PARTS DIAGRAM





OPERATION MANUAL

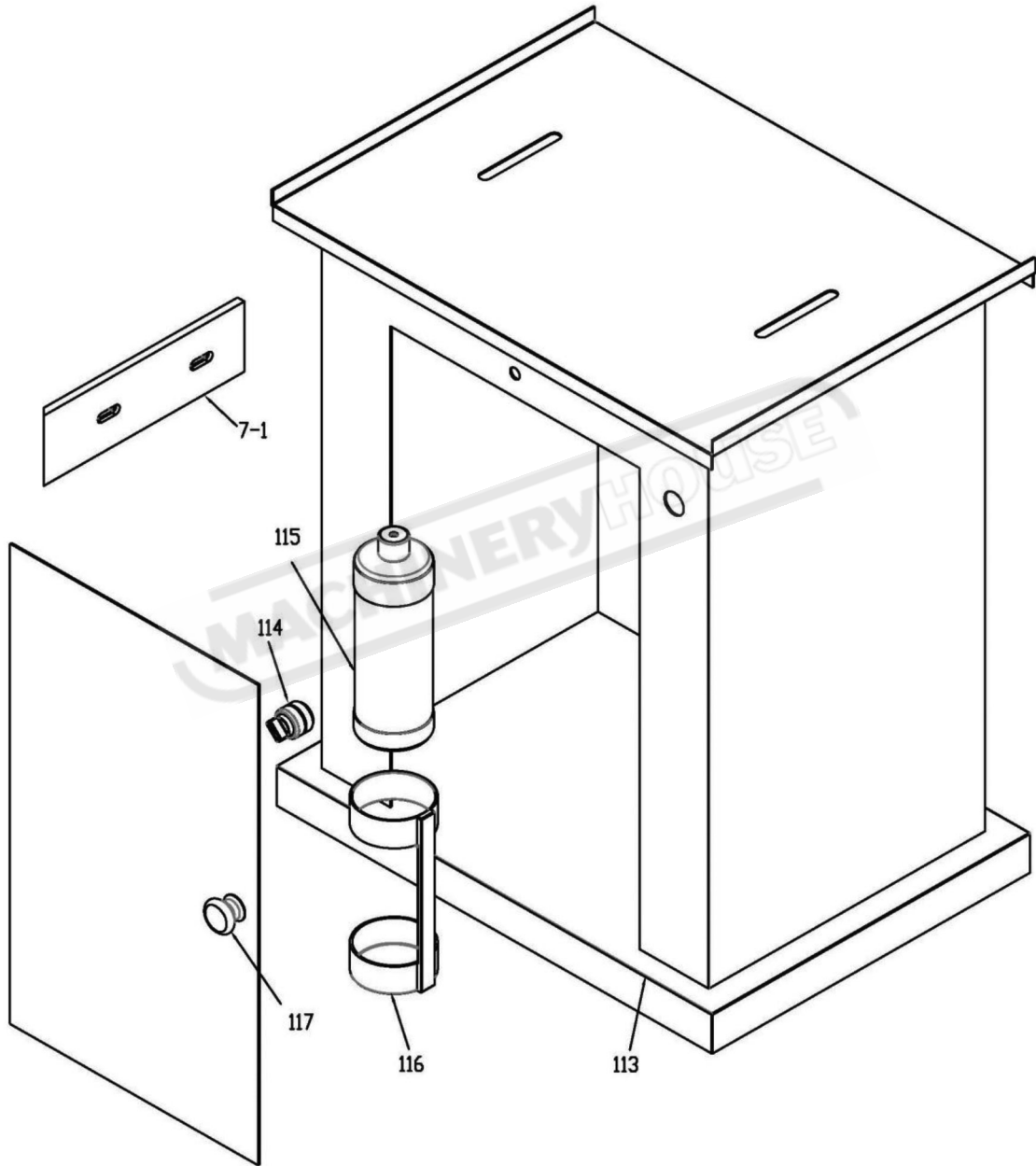
SAW ARM SPARE PARTS DIAGRAM





OPERATION MANUAL

STAND SPARE PARTS DIAGRAM



OPERATION MANUAL

SPARE PARTS LIST

| Part No. | Description | Size | Qty |
|----------|-----------------------------------|-----------|-----|
| 1 | Base | | 1 |
| 2 | Round Plate | | 1 |
| 3 | Backgage Seat | | 1 |
| 4 | Blade Plate | | 1 |
| 5 | Screw | M5x16 | 4 |
| 6 | Backgage Seat Left Plate | | 1 |
| 7 | Backgage Seat Right Plate | 45 degree | 1 |
| 7-1 | Backgage Seat Right Plate | 90 degree | 1 |
| 8 | Screw | M8x13 | 2 |
| 9 | Screw | M8x40 | 2 |
| 10 | Screw | M6x16 | 4 |
| 11 | Round Plate Seat | | 1 |
| 12 | Round Plate Seat Soft Column | | 1 |
| 13 | Screw | M5x16 | 2 |
| 14 | Flexible Pin | M10x20 | 1 |
| 15 | Pneumatic Clamping Rod Right Seat | | 1 |
| 16 | Pneumatic Clamping Rod Left Seat | | 1 |
| 17 | Flexible Pin | M10x40 | 4 |
| 18 | Washer | M10x22x10 | 2 |
| 19 | Washer | M10x25x10 | 2 |
| 20 | Pneumatic Clamping | | 2 |
| 21 | Round Plate Pin | | 1 |
| 22 | Round Plate Pin Seat | | 1 |
| 23 | Spring | 15x5x43 | 1 |
| 24 | Pin Spring | 5x26 | 1 |
| 25 | Round Plate Pin Handle | | 1 |
| 26 | Screw | M6x16 | 1 |
| 27 | Screw | M10x25 | 1 |
| 28 | Base Bearing Plate | | 1 |
| 29 | Swivel Shaft | | 1 |
| 30 | Bearing | 32006 | 2 |
| 31 | Screw | M10x24 | 1 |
| 32 | Rubber Plate | | 4 |
| 33 | Bow Saw | | 1 |
| 34 | Power Box | | 1 |
| 35 | Washer | M8 | 6 |
| 36 | Screw | M8 | 2 |
| 37 | Bow Saw Power | | 1 |
| 38 | Bow Saw Power Handle | | 1 |
| 39 | Screw | | 1 |

OPERATION MANUAL

SPARE PARTS LIST

| Part No. | Description | Size | Qty |
|----------|-----------------------------|----------|-----|
| 40 | Screw | M4x10 | 5 |
| 41 | Motor | | 1 |
| 42 | Screw | | 3 |
| 43 | Spring Washer | M8 | 2 |
| 44 | Washer | M8 | 1 |
| 45 | Motor Belt | | 1 |
| 46 | Screw | M6x26 | 1 |
| 47 | Washer | M6 | 1 |
| 48 | Screw | M12x8 | 1 |
| 49 | Spring Washer | M12 | 1 |
| 50 | Screw | M8x80 | 1 |
| 51 | Nut | M8 | 3 |
| 52 | Nut | M12 | 1 |
| 53 | Flexible Seat | | 1 |
| 54 | Flexible Seat Handle | | 1 |
| 55 | Flexible Seat Handle Spring | | 1 |
| 56 | Nut | M12 | 1 |
| 57 | Washer | M6 | 7 |
| 58 | Nut | M6 | 1 |
| 59 | Screw | M8x30x90 | 1 |
| 60 | Blade | | 1 |
| 61 | Blade Within Clip | | 1 |
| 62 | Blade Outer Clip | | 1 |
| 63 | Blade Seat | | 1 |
| 64 | Blade Shaft | | 1 |
| 65 | Bearing | 6203 | 1 |
| 66 | Bearing | 6204 | 1 |
| 67 | Blade Belt | | 1 |
| 68 | Key | 6x6x15 | 1 |
| 69 | C-Ring | 20 | 1 |
| 70 | Blade Belt Washer | M8xT1 | 1 |
| 71 | Blade Belt Washer | M8xT2 | 1 |
| 72 | Screw | M8x15 | 1 |
| 73 | Washer | M10 | 2 |
| 74 | Screw | M10x25 | 1 |
| 75 | Belt | | 1 |
| 76 | Nut | M6 | 1 |
| 77 | Screw | M6 | 1 |
| 78 | Swivel Shaft | | 1 |
| 79 | Swivel Up Seat | | 1 |

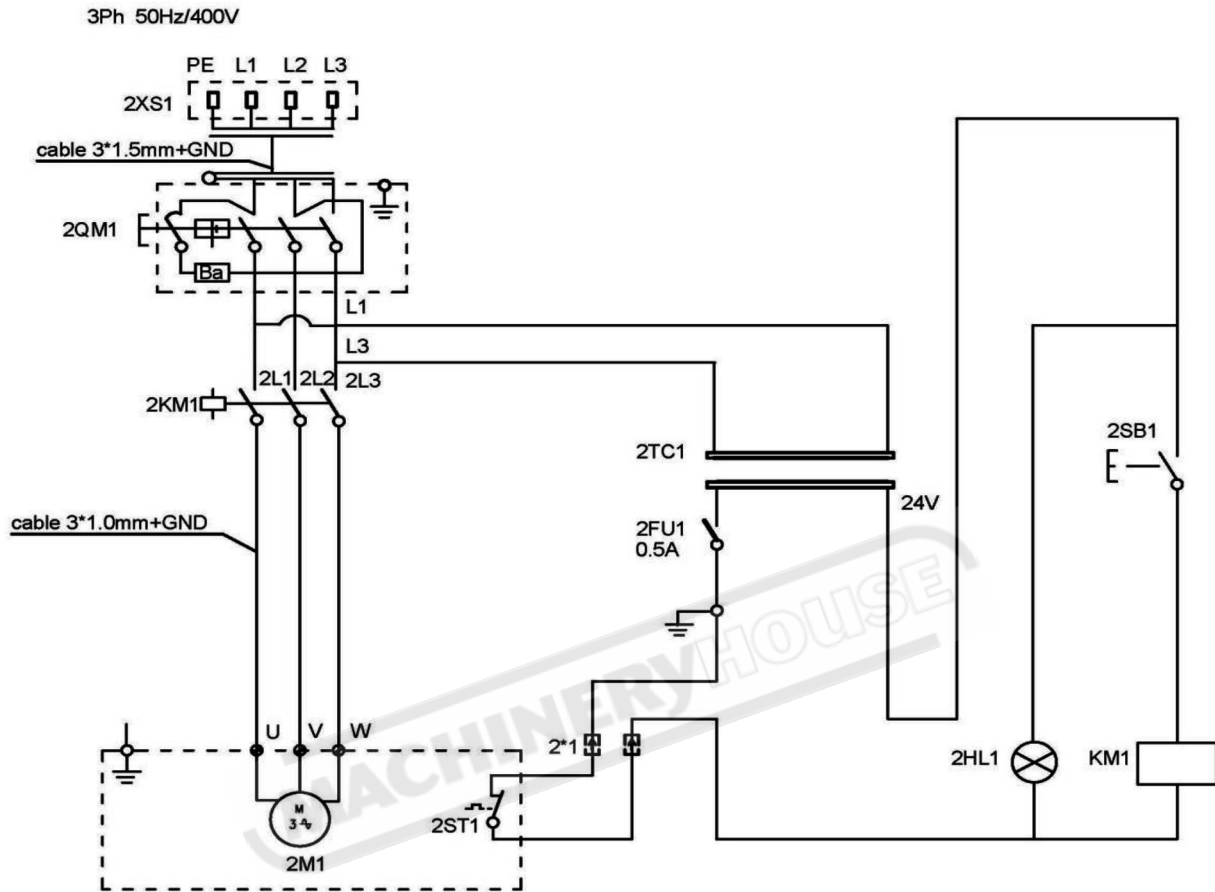
OPERATION MANUAL

SPARE PARTS LIST

| Part No. | Description | Size | Qty |
|----------|----------------------------------|-----------|-----|
| 80 | Screw | M8x40 | 1 |
| 81 | Bearing | 51100 | 1 |
| 82 | Nut | M8 | 3 |
| 83 | Blade Down Cover | | 1 |
| 84 | Nut | M4 | 2 |
| 85 | Screw | M4x30 | 3 |
| 86 | Swivel Up Seat | | 1 |
| 87 | Washer | M4 | 2 |
| 88 | Nut | M6 | 2 |
| 89 | Screw | M6x130 | 6 |
| 90 | Screw | M8x50 | 1 |
| 91 | C-Ring | 55 | 1 |
| 92 | Blade Outer Cover | | 1 |
| 93 | Blade Outer Cover Support | | 1 |
| 94 | Blade Outer Cover Support Spring | | 1 |
| 95 | Washer | | 1 |
| 96 | Blade Spring Bushing | | 1 |
| 97 | Screw | M5x120 | 2 |
| 98 | Nut | M5 | 1 |
| 99 | Set Slide Nut | M5 | 1 |
| 100 | Swivel Seat Handle | | 1 |
| 101 | Swivel Down Seat | | 1 |
| 102 | Swivel Down Screws | | 1 |
| 103 | Swivel Down Bushing | | 1 |
| 104 | Screw | M10x30x90 | 1 |
| 105 | Set Slide Nut | M10 | 1 |
| 106 | Swivel Down Up Bushing | | 1 |
| 107 | Washer | 10x16x10 | 2 |
| 108 | Wire Handle Pipe | | 1 |
| 111 | Screw` | | 1 |
| 109 | Wire Handle | | 1 |
| 110 | Screw | M8x6 | 1 |
| 112 | Oil Mist Device | | 1 |
| 113 | Machine Stand | | 1 |
| 114 | Power Knob | | 1 |
| 115 | Oil Mist Bottle | | 1 |
| 116 | Oil Mist Bottle Holder | | 1 |
| 117 | Machine Stand Door | | 1 |

OPERATION MANUAL

WIRING DIAGRAM



| Item | Description | Brand No. | Specification |
|------|------------------------------------|-------------------------|---------------------------------|
| 2KM1 | Magnetic Switch For Motor | S-P09-S/AC24V (Shihlin) | AC 600V AZ1=1TH=20A CE |
| 2QM1 | Main Power Switch | KJD-18 400V (Kedu) | AC3-7.5A AC-15-6A AC-1-13.5A CE |
| 2SB1 | Trigger Switch | CMV100D | UI:380V ITH:10A AC-15 DC-13 CE |
| 2M1 | Motor | | 3Ph 400V 50Hz |
| 2HL1 | Pilot Light | | 24V DC |
| 2FU1 | Fuse | | 0.5 Amp |
| 2ST1 | Temperature Over Load (Int. Motor) | | |
| 2TC1 | Transformer | | 400V/24V/10AV |



WARNING

General Machinery Safety Instructions

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

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



Aluminium Cutting Saw Safety Instructions

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

- 1. Maintenance.** Make sure the saw is turned off and disconnect from the main power supply and make sure all moving parts have come to a complete stop before any inspection, adjustment or maintenance is carried out.
- 2. Saw Condition.** Saw must be maintained for a proper working condition. Never operate a saw that has damaged or worn parts. Scheduled routine maintenance should be performed on a scheduled basis.
- 3. Blade Condition.** Never operate a saw with a dull, cracked or badly worn blade. Before using a saw inspect blades for missing teeth and cracks.
- 4. Replacing Blade.** Make sure teeth are facing the correct direction. Wear gloves to protect hands.
- 5. Hand Hazard.** Keep hands and fingers clear from blade and vice clamping area. Hands can be crushed in vice and also from machine head.
- 6. Leaving a saw Unattended.** Always turn the saw off and make sure all moving parts have come to a complete stop before leaving the saw. Do not leave saw running unattended for any reason.
- 7. Avoiding Entanglement.** Blade guard must be used at all times. Remove loose clothing, belts, or jewelry items. Never wear gloves while machine is in operation. Tie up long hair and use the correct hair nets to avoid any entanglement with the saw moving parts.
- 8. Understand the machines controls.** Make sure you understand the use and operation of all controls.
- 9. Power outage.** In the event of a power failure during use of the saw, turn off all switches to avoid possible sudden start up once power is restored.
- 10. Work area hazards.** Keep the area around the saw clean from oil, tools, chips. Pay attention to other persons in the area and know what is going on around the area to ensure unintended accidents.
- 11. Workpiece Handling.** Workpieces must be supported with table, vice, roller conveyor/stands, or other support fixtures. Unsupported workpieces may cause the machine to tip over and fall. Flag long pieces of material to avoid tripping hazards. Never hold a workpiece with your hands during the cut process.
- 12. Hearing protection and hazards.** Always wear hearing protection as noise generated from saw blade and workpiece vibration, material handling, and power transmission can cause permanent hearing loss over time.
- 13. Hot surfaces.** Workpieces, machine surfaces and chips become hot due to friction and can burn you.
- 14. Starting position.** Never turn the saw on when the blade is resting on the workpiece.
- 15. Guards.** Do not operate saw without the blade guard in place. Ensure all guards removed to do maintenance or change blades on the machine are refitted correctly in place before the machine is used again.
- 16. Call for help.** If at any time you experience difficulties, stop the machine and call your nearest branch service department for help.

PLANT SAFETY PROGRAM

NEW MACHINERY HAZARD IDENTIFICATION, ASSESSMENT & CONTROL

Aluminium Cutting Saw

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

| Item No. | Hazard Identification | Hazard Assessment | Risk Control Strategies <small>(Recommended for Purchase / Buyer / User)</small> |
|---|-------------------------------|-------------------|---|
| A | ENTANGLEMENT | HIGH | Eliminate, avoid loose clothing / Long hair etc. |
| B | CRUSHING | MEDIUM | Secure & support Long / heavy material. Keep hands clear of clamping vice. |
| C | CUTTING, STABBING, PUNCTURING | MEDIUM | Isolate main power switch before changing blade, cleaning or adjusting. Check blade is tight and in good condition before starting. Make sure blade guard is down in correct position when machine is on. |
| D | SHEARING | MEDIUM | Make sure all guards are secured shut when machine is on. Isolate power to machine prior to any checks or maintenance. |
| F | STRIKING | HIGH | Support long heavy jobs and stand clear of offcuts falling. Remove all loose objects around moving parts. Wear safety glasses. |
| H | ELECTRICAL | MEDIUM | All electrical enclosures should only be opened with a tool that is not to be kept with the machine. Machine should be installed & checked by a Licensed Electrician. |
| O | OTHER HAZARDS, NOISE. | HIGH | Wear hearing protection as required. |
| Plant Safety Program to be read in conjunction with manufactures instructions | | | |



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Authorised and signed by:

Safety officer:

Manager:

Revised Date: 18th June 2015