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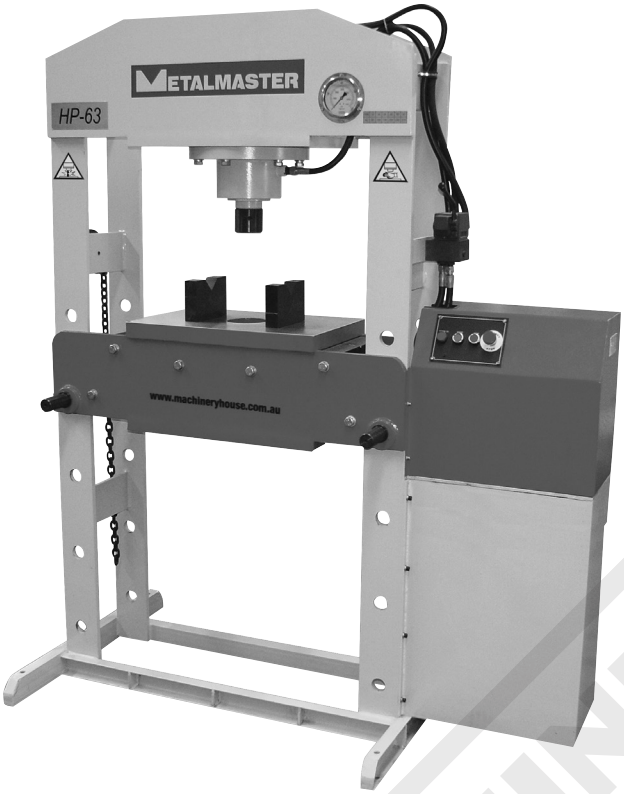

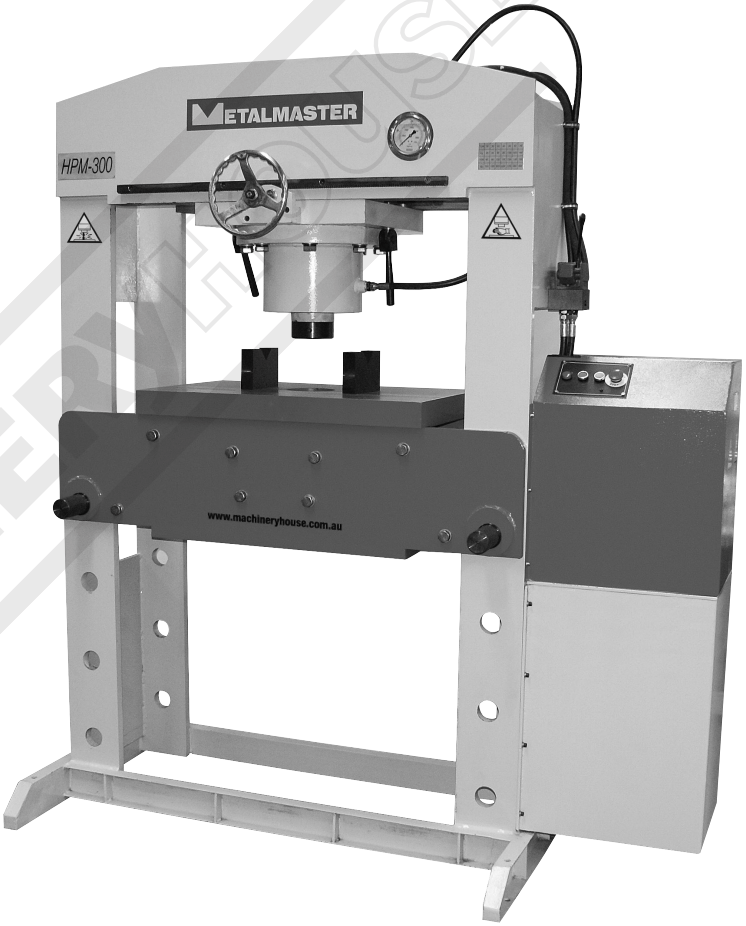

MACHINERY HOUSE

Edition : 3.0
Date: (03/25)

Instruction Manual

MOTORISED HYDRAULIC PRESS

	HP-63T	HPM-63T	HP-100T	HPM100T	HPM-150T	HPM200T	HPM-300T
Order Code:	(P400)	(P400M)	(P402)	(P402M)	(P404M)	(P406M)	(P408M)

MACHINE DETAILS

MACHINE	Motorised Hydraulic Press
MODEL NO.	
SERIAL NO.	
DATE OF MANF.	

DISTRIBUTED BY

MACHINERYHOUSE

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NOTE:
This manual is only for your reference. At the time of the compiling of this manual every effort to be exact with the instructions, specifications, drawings, and photographs of the machine was taken. Owing to the continuous improvement of the METALMASTER machine, 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 any electric machine.

SAFETY SYMBOLS

The purpose of safety symbols is to attract your attention to possible hazardous conditions

⚠WARNING ***indicates a potentially hazardous situation causing injury or death***

⚠CAUTION ***indicates an alert against unsafe practices.***

Note: Used to alert the user to useful information

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)

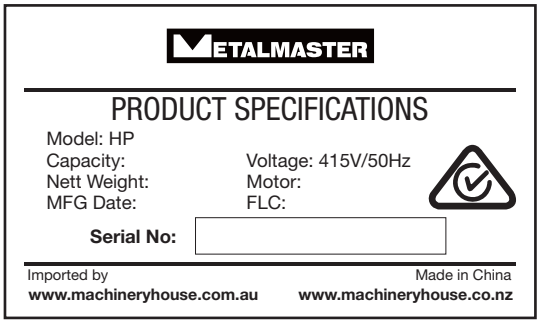

FIG.1

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MOTORISED SERIES ELECTRIC HYDRAULIC PRESS

1 Performance characteristics and application:

Metalmaster Electric hydraulic press is a developed product based on the experiences found in the manufacture of press brakes and other hydraulic machines. They are formed with a frame, bench beam, bolt, table plates, high pressure hoses, oil tanks, electrical boxes, and pumping stations, etc. (See figure 2).

2. Performance Characteristics:

1. Metalmaster electric hydraulic presses utilize a single acting cylinder and operate through a manual selector valve to control the up and down stroke.
2. The main column is equipped with a table and beam that can be moved up and down by using the stroke of the cylinder to set the distance between the sizing block and cylinder spindle nose. The special lifting chains can be used to adjust the table up and down by using the cylinder. The table beam is them secured at the height with the 2 pins.
3. The pins are fitted with safety clips to ensure that the pins cannot be withdrawn during operation.
4. The electrical control system is equipped with an emergency stop button, which is conveniently located to allow for a quick response if an emergency occurs.
5. Metalmaster Hydraulic presses are designed to meet the safety standards. Modifications to the machines should not be made and may void your warranty. Please read the “Risk Assessment” sheet and safety instructions supplied with the machine before operating.

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CAUTION

A prepared list of safety guidelines can never be complete. Every workshop environment is different. Always consider Safety first, as it applies to your individual working conditions. Use this machine and other machinery with caution and respect. Failure to do so could result in serious Personal injury, damage to equipment, or poor work results.

WARNING

Before operating any machine, take time to read and understand all safety signs and symbols. If not understood seek explanation from your supervisor or an experienced operator.

1.1 SPECIFICATIONS

Order Code	P400	P400M	P402	P402M
MODEL	**HP-63T**	**HPM-63T**	**HP-100T**	**HPM100T**
(Tonne) Pressing Capacity	63	63	100	100
(Type) Hydraulic Ram Operation	Motorised	Motorised	Motorised	Motorised
(Yes / No) Sliding Ram (left-right	No	Yes	No	Yes
(mm) Width Between Front Posts	895	895	1050	1050
(mm) Width Between Side Posts	275	275	310	310
(mm) Table Top Opening - (Front to Back)	325	325	363	363
(mm) Ram To Table (Max.)	900	900	900	900
(mm) Cylinder Stroke	300	300	350	350
(mm) Ram Diameter	Ø80	Ø80	Ø100	Ø100
(kW / hp) Motor Power	4 / 5.3	4 / 5.3	7.5 / 10	7.5 / 10
(V) Voltage	415	415	415	415
(mm) Floor Space (W x D x H)	1700 x 1000 x 2070	1700 x 1000 x 2070	1920 x 1000 x 2220	1920 x 1000 x 2220
(kg) Nett Weigh	869	912	1342	1384

1.2 INCLUDED ACCESSORIES

- ❑ Heavy one piece steel work plate
- ❑ Pair of double sided pressing blocks (Vee & Flat)
- ❑ Table raising and lowering chains

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1.3 IDENTIFICATION

Order Code	P404M	P406M	P408M
MODEL	**HPM-150T**	**HPM-200T**	**HPM-300T**
(Tonne) Pressing Capacity	150	200	300
(Type) Hydraulic Ram Operation	Motorised	Motorised	Motorised
(Yes / No) Sliding Ram (left-right	Yes	Yes	Yes
(mm) Width Between Front Posts	1100	1250	1300
(mm) Width Between Side Posts	400	420	510
(mm) Table Top Opening - (Front to Back)	465	500	600
(mm) Ram To Table (Max.)	900	700	860
(mm) Cylinder Stroke	350	350	370
(mm) Ram Diameter	Ø130	Ø160	Ø200
(kW / hp) Motor Power	7.5 / 10	7.5 / 10	22 / 30
(V) Voltage	415	415	415
(mm) Floor Space (W x D x H)	1970 x 1100 x 2150	2150 x 1110 x 2210	2380 x 1210 x 2525
(kg) Nett Weigh	1792	2400	3900

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1.3 IDENTIFICATION

Become familiar with the names and locations of the controls and features shown below to better understand the instructions in this manual.

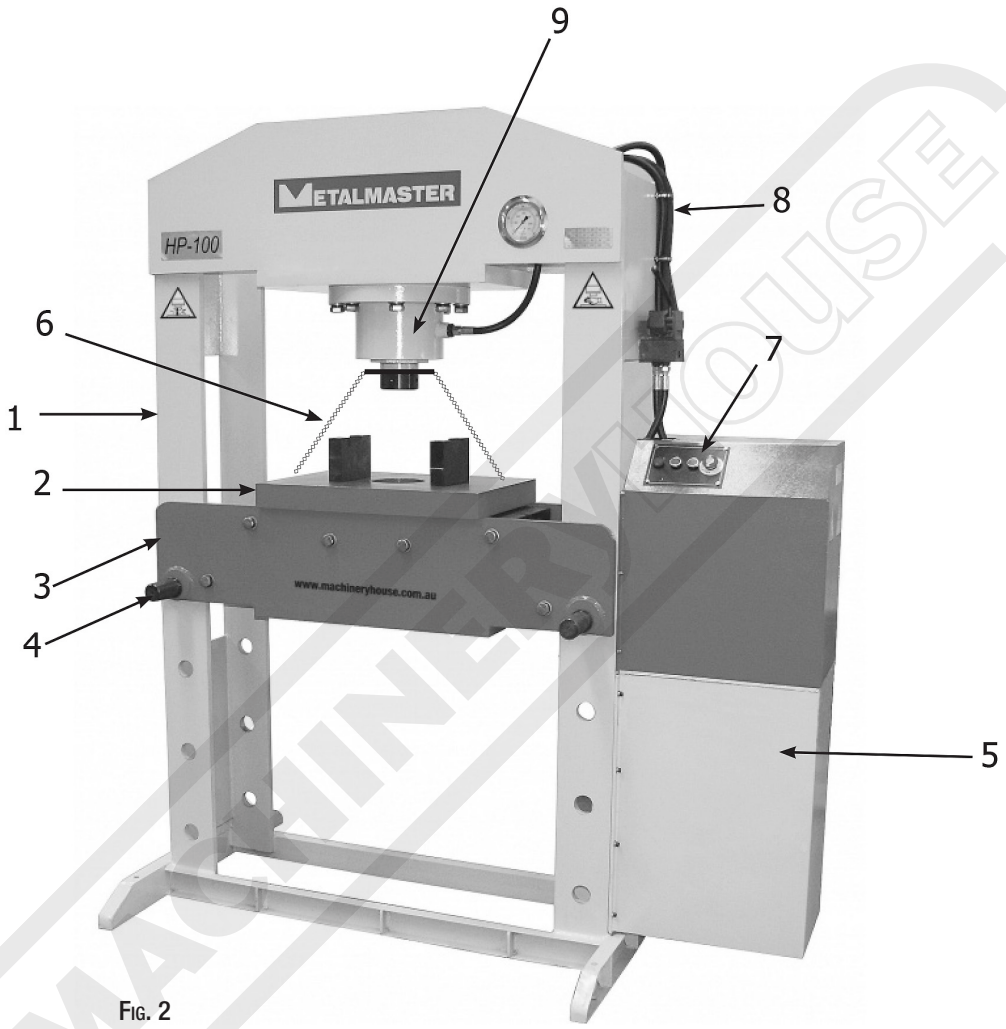

FIG. 2

1	Main Frame	**6**	Lifting Tool
2	Table Plate	**7**	Control Box
3	Bench Beam	**8**	High Pressure Hose
4	Pins	**9**	Cylinder
5	Pump		

2.1 GENERAL METALWORKING MACHINE SAFETY

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

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.
- ✓ DISCONNECT 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.

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2.1 GENERAL METALWORKING MACHINE SAFETY 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

- × Distract an operator. Horseplay can lead to injuries and should be strictly prohibited.
- × Wear loose clothing, gloves, neck-ties, rings, bracelets or other jewellery that can become entangled in moving parts. Confine long hair.
- × 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.
- × Use rags or wear gloves near moving parts of machines.
- × Use compressed air to blow debris from machines or to clean dirt from clothes.
- × Force the machine. It will do the job safer and better at the rate for which it was designed.

CAUTION

Before operating any machine, take time to read and understand all safety signs and symbols. If not understood seek explanation from your supervisor.

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2.1 GENERAL METALWORKING MACHINE SAFETY 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)

- Chemical 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 on a work site)

WARNING

Machines are safeguarded to protect the operator from injury or death with the placement of guards. Reduce risk by keeping any included guards/covers/doors installed, fully functional and positioned for maximum protection.

CAUTION

It must be determined by the operator that the materials being processed through the machine are NOT a potentially hazardous to operator or personnel working nearby.

MACHINERY HOUSE

2.2 SPECIFIC SAFETY FOR HYDRAULIC PRESS

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

Close fitting/protective clothing must be worn

Sturdy footwear must be worn at all times in work areas

Rings and jewelery must not be worn.

PRE-OPERATIONAL SAFETY CHECKS

1. Ensure you are familiar with the operation of the hydraulic press.
2. Check for any hydraulic fluid leaks.
3. The press table must be clean and steel weights are flat and secure on press table.
4. Any forming die or cutting die must be inspected for safe use i.e. no cracks.
5. Ensure safety glasses or goggles are available and are worn by all persons in the vicinity.
6. Any test piece, project or material (work piece) to be pressed must be of an appropriate thickness and safe to use on this equipment.
7. Faulty equipment must not be used. Immediately report suspect machinery.

OPERATIONAL SAFETY CHECKS

1. Place your test piece, project or material (work piece) securely on the press table.
2. Ensure the pressure valve is closed before operation.
3. Use the press handle, in a pumping action, to slowly lower the press hammer.
4. Use your shoulder muscles when operating – NOT your lower back.
5. Keep hands and fingers away from all clamping and moving parts.
6. Carefully and accurately align the press hammer face with the work piece for even force to be applied.
7. Once the press hammer makes contact with the work piece, closely watch the PSI gauge and note the pressure applied.
8. Once the work piece is pressed sufficiently, release the hammer pressure at the release valve.
9. DO NOT apply excessive force with the press.

HOUSEKEEPING

1. After use, clean the press down and return any tools and equipment to the appropriate storage areas – including the press handle.
2. Place all scrap or waste in the appropriate bin.

POTENTIAL HAZARDS

- Beware of high forces applied
- Pinch and squash
- Eye injuries – flying or shattering objects
- Laceration injuries
- Potentially uneven forces being applied to the work piece.

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3. POWER SUPPLY

3.1 ELECTRICAL REQUIREMENTS

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 : Make sure that the power supply is correct to handle the machines requirements.

ELECTRICAL REQUIREMENTS

Nominal Voltage.....415V
Cycle.....50 Hz
Phase.....Three Phase

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

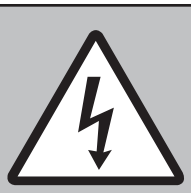
3.2 FULL-LOAD CURRENT RATING

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 can be found on the motor nameplate.

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.



WARNING

These machines must be connected to a permanent earth wiring system. Due to the complexity and high voltage, the installation MUST be done by a qualified electrician.

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4 SET-UP

4.1 UNPACKING

This machine was carefully packaged for safe transport. When unpacking, separate all enclosed items from packaging materials and inspect them for shipping damage. If items are damaged, please contact your distributor.

NOTE: Save all the packaging materials until you are completely satisfied with the machine and have resolved any issues with the distributor, or the shipping agent.

When unpacking, check the packing list to make sure that all parts shown are included. If any parts are missing or broken, please contact your distributor.

4.2 CLEAN - UP

The unpainted surfaces of the machine have been coated with a waxy oil to protect them from corrosion during shipment. Remove the protective coating with a solvent cleaner or a citrus based degreaser.

Optimum performance from your machine will be achieved when you clean all moving parts or sliding contact surfaces that are coated with rust prevented products.

It is advised to avoid chlorine based solvents, such as acetone or brake parts cleaner, as they will damage painted surfaces and strip metal should they come in contact. Always follow the manufacturer's instructions when using any type of cleaning product.

4.3 SITE PREPARATION

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.

4.4 LIFTING INSTRUCTIONS

⚠WARNING ***This machine is extremely heavy. Serious personal injury may occur if safe moving methods are not followed. To be safe, you will need assistance and power equipment when moving the machine. When lifting make sure that the tines do not damage any hoses.***

On the day that the machine arrives, make sure that a forklift or lifting device, 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.

4.5 ANCHORING TO THE FLOOR

The machine is best mounted on a concrete slab.
Masonry anchors with bolts are the best way to anchor machinery, because the anchors sit flush with the floor surface, making it easy to unbolt and move the machine later, if needed. (Fig. 4.1)

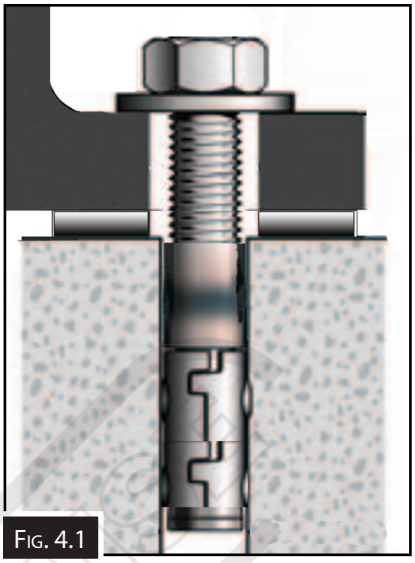

FIG. 4.1

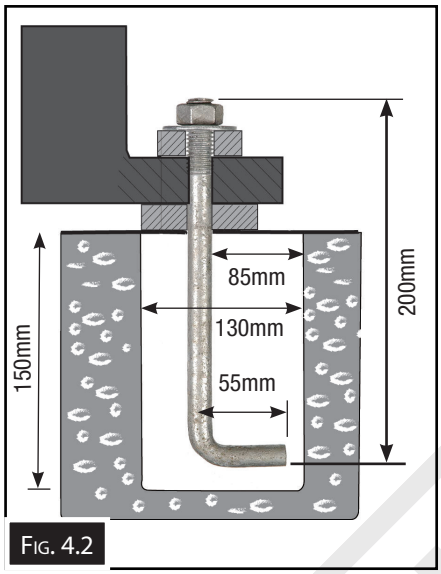

FIG. 4.2

In some case a suitable foundation may not be available and a new one may need to be prepared.

The foundation should be concrete approximately 250mm thick with pockets left clear for the hold down bolts. The hold down bolts can be "L" shape as per the example in Fig. 4.2

4.6 MACHINE LEVELING

To set your machine up so that it operates to optimum performance, apply the following procedure

After your machine has been anchored to a concrete slab floor, it then needs to be leveled. Loosen the hold down bolts and place a level on the surface of the working table. Metal shims need to be placed under the corner of the base of the machine until level. Once level then tighten the hold down bolts. (Fig. 4.3).

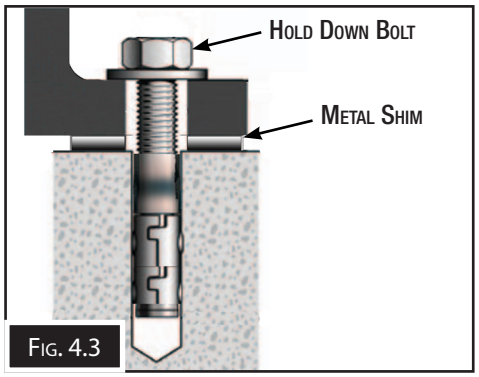

FIG. 4.3

CAUTION

The machine must not rest on supports other than those defined in Fig. 4.3

4.7 CHECKING THE OIL

Before operating the press remove the plastic seal under the oil filler cap (Fig.3) so the tank can breathe.
Check the oil level by viewing the site glass (Fig.4.4)

Fig. 4.4

FILLING THE PRESS WITH OIL
It is extremely important that new, clean, light hydraulic oil be used in this press, Superdraulic 46 or an equivalent. It is strongly recommended that the oil be filtered to remove any possible dirt. The piston should be in its maximum upper position when filling the reservoir. Fill the reservoir to the upper level on the site glass.

UNDER NO CIRCUMSTANCES USE OLD DIRTY OIL.

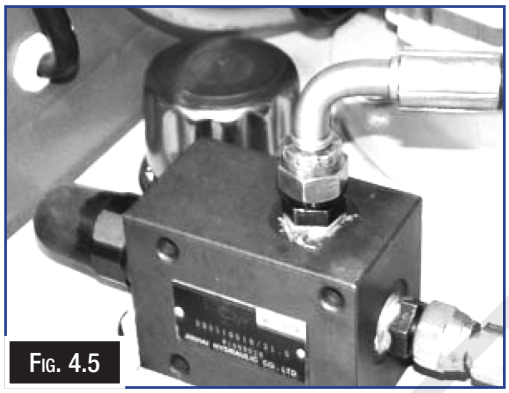

Fig. 4.5

5. OPERATION

5.1 CONTROLS

The operator should acquaint themselves with the use of the following controls:

1. Main isolating switch is situated on the back of the machine and must be turned “ON”.

2. On/Off control panel contains the start and stop buttons and emergency stop. To operate the press the ON button is presses to start the pump. Under an emergency or if the pump needs to be stopped the large red stop button can be pressed. To unlock the emergency stop twist the red knob.

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5. OPERATION AND CONTROLS Cont.

3. The handle attached to the operating valve is used to move the ram up and down. The handle is spring loaded and returns to the neutral position when released. The ram is a single speed ram but does reduce in speed under load.

5.2 SPINDLE NOSE

1. The threaded spindle nose cap is designed for use with the chain retaining plate used to raise and lower the beam.

2. The threaded nose cap **must not** be used as a fine adjuster when pressing and must at all times be adjusted so that there is no gap between the cap and the spindle

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WARNING

Take care when operating this machine. Crush Points can occur between the Ram and the workpiece or between the workpiece and the table.

WARNING

A hydraulic hose burst can can have devastating effects. Hydraulic fluid has the capacity to travel at lightning speed. Hydraulic fluid in the eyes can cause blindness or hydraulic poisoning. Always wear safety glasses

5.3 RAISING AND LOWERING THE BEAM

FIXED HEAD MODELS

HP-63T & HP-100T

The operator should familiarize themselves with the method of lowering and raising the beam before any attempt is made.

1. Loosen the spindle cap so that the chain retaining plate can be fitted between the spindle and the spindle cap.
2. Mount the chain retaining plate between the spindle and spindle cap and tighten the spindle cap making sure that the plate is mounted firm and securely.
3. The ends of the chain are then secured to the anchor points on the beam making sure that the chain lengths are the same so that the beam will be level when it is lifted.
4. With the ends of the chain secured to the anchor points on the beam slowly take the weight of the beam until the locating pins are loose.
5. With the pins now loose, remove the pins and raise or lower the beam using the cylinder. When the beam is at the desired height locate place the pins in the nearest pin hole.

NOTE! Never use fingers to locate or line up the pin locating holes.

SLIDING HEAD MODELS

HPM-63T, HPM-100T, HPM-150T, HPM-200T & HPM-300T

The operator should familiarize themselves with the method of lowering and raising the beam before any attempt is made.

1. Ensure the sliding head is positioned in the centre of the frame and sliding head is clamped in place.
2. Loosen the spindle cap so that the chain retaining plate can be fitted between the spindle and the spindle cap.
3. Mount the chain retaining plate between the spindle and spindle cap and tighten the spindle cap making sure that the plate is mounted firm and securely
4. Lower the chains through the centre of the table and secure to the anchor points on the beam making sure that the chain lengths are the same so that the beam will be level when it is lifted
5. With the ends of the chain secured to the anchor points on the beam slowly take the weight of the beam until the locating pins are loose.
6. With the pins now loose, remove the pins and raise or lower the beam using the cylinder. When the beam is at the desired height locate place the pins in the nearest pin hole.

NOTE! Never use fingers to locate or line up the pin locating holes.

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5.4 SLIDING HEAD ADJUSTMENT

METALMASTER also supply a range of hydraulic presses with a Sliding Work Head. These presses allow for an expansion of many workshop applications. Once unlocked the head slides easily to the left and to the right.

To move the head first unlock the two clamps on the head, one on the R/H side and one on the left. If there is no hand wheel the head will slide very smoothly from side to side with no pressure on the cylinder. (Fig 1.)

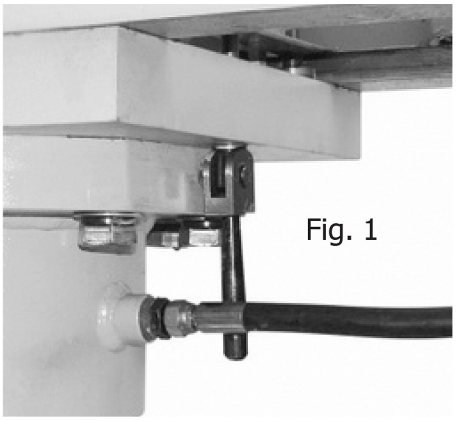

Fig. 1

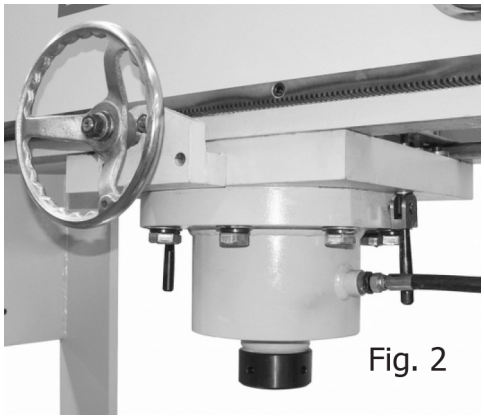

Fig. 2

Some larger models use a rack and pinion driven by a hand wheel to move the head.(Fig.2)

Note! The head should always be secured before it is used

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6. CARE AND MAINTENANCE

1. Before any maintenance is commenced switch the isolating switch to “OFF” If the power is supplied through a switch and plug if possible remove the plug from the power point.
2. Periodically check the joints and seals for leaks which could cause the machines performance to be restricted.

Note ! Before examining the machine for leaks move the cylinder rod to the lowest position (except when examine the cylinder)

3. Remove and wash the oil filter every six months.
4. As the hydraulic oil will degrade and become impure, it should be changed every two years of operation.
5. Keep the press surfaces clean an free of dirt and maintain the press regularly to insure the press remains in good working order.
6. If the machine is not to be used for a long period of time, it should be cleaned and machine parts should be coated with rust preventing oil. Remove the oil from the oil tank. Raise the cylinder rod to the top position and place a piece of wood between the cylinder rod and the table to avoid the cylinder rod dropping due to the dead weight of the cylinder.
7. The machine should be stored in a dry place with a temperature not lower than 15 C
8. The pressure should never be adjusted unless under the supervision of the manufacturers staff or service persons.
9. Always use the press and its hydraulic system as designed to be used by the manufacturer.

6.1 CHANGING THE OIL

The hydraulic oil is the primary medium for transmitting pressure and also must lubricate the running parts of the pump. Replace the hydraulic oil at least every two years.

1. Remove top cover and motor assembly and move aside enough to access the top of the tank.
2. Using a suitable container and a siphon pump, drain the oil from the tank.
3. Clean the inside of the tank.
4. Remove and clean the suction filter.
5. Install the filter.
6. Check the drained oil. If there are metal particles visible, or if the oil has a gray color. This can indicate worn out parts in the cylinder or the hydraulic unit.
7. Take care to prevent dirt and water getting inside the oil tank. Replace the cover.
8. Fill with hydraulic oil Tellus #46 BRAND or an equivalent with similar specifications.
9. Replace the oil fill cap.
10. Purge air from the hydraulic system

MACHINERY HOUSE

6.2 AIR PURGE

When starting up for the first time or when maintenance on the hydraulic system has been performed, the hydraulic system needs to be purged.

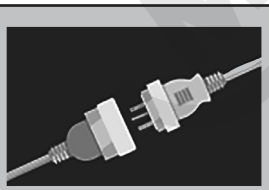
TO PURGE THE HYDRAULIC SYSTEM

1. Make sure there is no work piece on the table.
2. Start the hydraulic unit.
3. If not already fully retracted, using the directional control valve to fully retract the ram.
4. Extend the ram to the fully lowered position.
5. Now fully retract the ram.
6. Repeat this complete cycle at least 6 times to be sure all air is out of the system.

NOTE: Air in the hydraulic system can cause unexpected piston movement and poor overall press operation.

WARNING

The machine is the sole responsibility of the owner for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training, proper inspection and maintenance, manual availability and comprehension. The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.



WARNING

Always disconnect the power to the machine before servicing or doing maintenance to the machine.

MACHINERYHOUSE

6.3 TROUBLESHOOTING

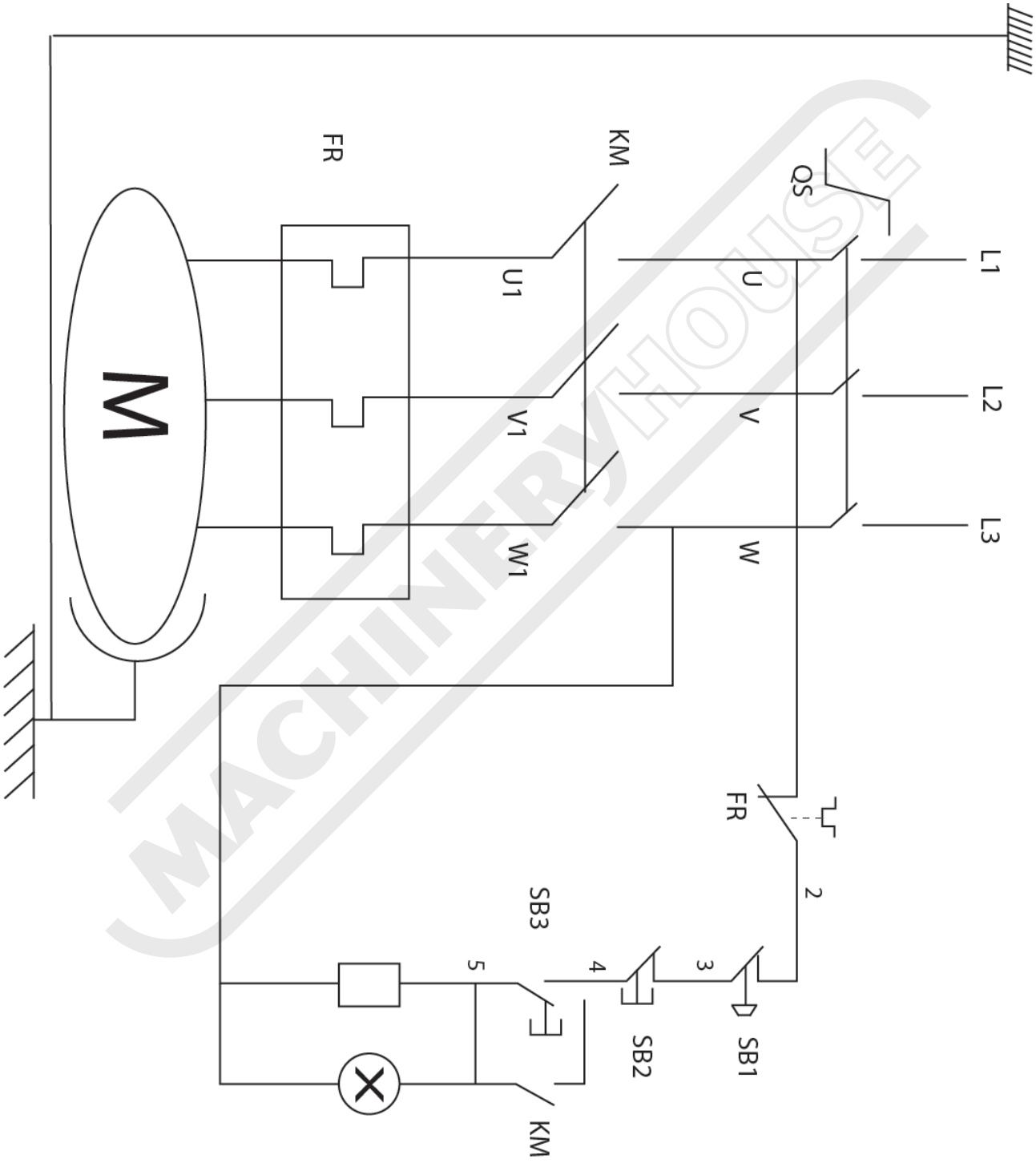
Review the troubleshooting advice in this section if a problem develops with the machine. If replacement parts or additional help is required, contact your local dealer.

NOTE: Before contacting your dealer make sure you have the model, serial number and manufacture date of your machine available.

Problem	Cause	Solution
Machine does not start, or power supply overload trips after startup.	1. Emergency Stop button not reset. 2. Master power switch in OFF position. 3. Electrical safety switch at fault. 4. Incorrect power supply voltage or circuit size. 5. Power supply circuit breaker tripped or fuse blown. 6. Start capacitor at fault. 7. Thermal overload relay has tripped. 8. Motor at fault.	1. Rotate button head to reset. 2. Turn master switch to ON position. 3. Replace emergency switch. 4. Ensure correct power supply voltage and circuit size. 5. Ensure circuit is sized correctly and free of shorts, and replace fuse. 6. Test/replace. 7. Reset: Contact dealer if continues 8. Test/repair/replace.
Motor stalls after running	1. Magnetic switch contactor at fault 2. Motor bearings at fault. 3. Motor at fault	1. Test all legs for power/replace. 2. Test/replace bearings. 3. Test/repair/replace.
Ram will not move.	1. Pump not on. 2. Pressure set too low. 3. Fluid level too low. 4. Obstruction in hydraulic line. 5. Motor at fault. 6. Motor coupling has failed. 7. Pump has seized. 8. Pressure valve at fault. 9. Hydraulic ram has failed.	1. Ensure START button has been reset 2. Adjust pressure valve to correct PSI . 3. Check and fill tank to proper level. 4. Check hydraulic lines for obstruction. 5. Test/repair/replace. 6. Test/repair/replace. 7. Test/repair/replace. 8. Test/repair/replace. 9. Test/repair/replace
Ram moves slowly or is weak.	1. Pressure set too low. 2. System leaking. 3. Filter clogged. 4. Obstruction in hydraulic line. 5. Pressure valve at fault. 6. Ram control valve at fault. 7. Ram seals at fault. 8. Motor at fault	1. Adjust pressure valve to correct PSI 2. Clean/locate, repair leak. 3. Check/clean/replace. 4. Check hydraulic lines for obstructions. 5. Test/repair/replace. 6. Test/repair/replace. 7. Test/repair/replace. 8. Test/repair/replace.
Ram moves erratically.	1. Air in hydraulic system. 2. Fluid level too low. 3. Air getting into system. 4. Hydraulic fluid contaminated.	1. Purge air from hydraulic system (Page 26). 2. Check and fill tank to proper level. 3. Tighten seal, or replace fittings, gaskets or seals. 4. Drain and replace hydraulic fluid.

MACHINERY HOUSE

6.4 WIRING DIAGRAM



MACHINERY HOUSE

⚠WARNING

General Machinery Safety Instructions

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

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

⚠WARNING

Electric Hydraulic Press Safety Instructions

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

1. **Maintenance.** Make sure the Press 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. Check oil levels and fill to correct oil levels if necessary. Apply oil to surface of ram to maintain good lubrication.

2. **Press Condition.** Press must be maintained for a proper working condition. Never operate a Press that has low oil levels, damaged or worn parts. Scheduled routine maintenance should performed on a scheduled basis. Check all hoses, pressure head, and support rods for cracks or damage. Replace if necessary.

3. **V-Block Condition.** Never operate a Press with damaged or badly worn V-blocks. Replace if required.

4. **Pump Direction.** Pump rotation must be in arrow direction otherwise the pump will be damaged.

5. **Hands and Fingers.** Always keep hands and fingers away from the ram during operation to prevent contact. Serious injury may occur if hands or fingers enter the ram's path. Additionally, avoid placing hands near table support holes to further reduce the risk of injury.

6. **Gloves & Glasses.** Always wear leather gloves while handling the workpiece. Do not use gloves when operating the machine. Wear approved safety glasses when using this machine.

7. **Authorized and trained personnel.** The machine must be operated by authorized and trained personnel. The machine is designed to be operated be a single user. Using the machine with more than one operator is forbidden, except for certain maintenance situations.

8. **Power outage.** In the event of a power failure during use of the machine, turn off all switches to avoid possible sudden start up once power is restored.

9. **Work area hazards.** Keep the area around the Press clean from oil, tools, objects & chips. Pay attention to other persons in the area and know what is going on around the area to ensure unintended accidents.

10. **Guards/Covers.** Accidental contact with moving parts during operation can lead to severe injuries, including entanglement, impact, cutting, or crushing. To minimize this risk, ensure that all guards, covers, and doors are properly installed, fully functional, and positioned for optimal protection.

11. **Entanglement.** Loose clothing, gloves, neckties, jewelry, or long hair can get caught in moving parts, leading to entanglement, amputation, crushing, or strangulation. To reduce this risk, remove or securely fasten these items to prevent contact with moving parts.

12. **Bed Support Rods.** Always ensure that bed support rods evenly support the press bed. Failing to do so could cause the bed to drop accidentally during setup or operation, leading to a risk of crushing injuries.

13. **Workpiece Position.** Positioning workpieces off-center below the hydraulic ram can cause them to be ejected unexpectedly, potentially striking the operator or bystanders with great force. Always ensure the workpiece is centered to evenly distribute the force, and immediately stop and retract the ram if the workpiece shifts during operation.

14. **Workpiece Support.** When a part is pressed free, the workpiece may shift suddenly or fall, posing a risk of crushing injury to your foot or leg. Use a catch basket and support long or awkward workpieces with stands, chains, or an assistant to ensure safety during pressing operations.

15. **Overloading Press.** Do not over exceed the press capacity indicated on the gauge.

16. **Warning Labels.** Take note of any warning labels on the machine and do not remove them.

17. **Support arms.** Do not use support arms for intermediate storage of workpieces.

18. **Material Hazard.** Do not compress springs or other objects that could be ejected from the press. Do not compress objects that could shatter. Serious injury can occur.

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

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

21. **Secure Press.** Make sure you bolt the machine down so it is secure and level when in operation.

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

PLANT SAFETY PROGRAM

NEW MACHINERY HAZARD IDENTIFICATION, ASSESSMENT & CONTROL

Electric Hydraulic Press

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 (Recommended for Purchase / Buyer / User)
B	CRUSHING	HIGH	Do not exceed maximum capacity. Check equipment for damage prior to use. Wear safety boots. Never put any part of your body between hydraulic ram and material. Always support material properly on hydraulic press. Ensure press is bolted down on level solid ground. Ensure table is as close as possible to ram and support pins are correctly positioned before using.
C	CUTTING, STABBING OR PUNCTURING	MEDIUM	Ensure work material is held firmly. Wear gloves to prevent cuts from sharp material.
E	STRIKING	MEDIUM	Use equipment in the correct manner as to avoid parts being ejected out under pressure. 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.	LOW	Wear hearing protection as required.
Plant Safety Program to be read in conjunction with manufactures instructions			

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

Manager: .....

Revised Date: 12th March 2012

FOR EXHIBITION MACHINERY

ENVIRONMENT PROTECTION

Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of in a manner which is compatible with the environment. When the product becomes completely unserviceable and requires disposal, drain any fluids (if applicable) into approved containers and dispose of the product and fluids according to local regulations.

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