METALMASTER

Edition : 2.0
Date: (04/26)

Instruction Manual

HYDRAULIC & PNEUMATIC PRESS
HPM-30

Order Code: (P130M)

MACHINE DETAILS

MACHINE.	**Hydraulic & Pneumatic Press**
MODEL NO.	**HPM-30**
SERIAL NO.	
DATE OF MANF.	

IMPORTED BY

AUSTRALIA

HARE&FORBES MACHINERYHOUSE

www.machineryhouse.com.au

NEW ZEALAND

MACHINERYHOUSE

www.machineryhouse.co.nz

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

METALMASTER

PRODUCT SPECIFICATIONS

Model: HPM-30 Weight: 166kg

Capacity: 30 Tonne MFG Date:

Serial No:

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Made in China

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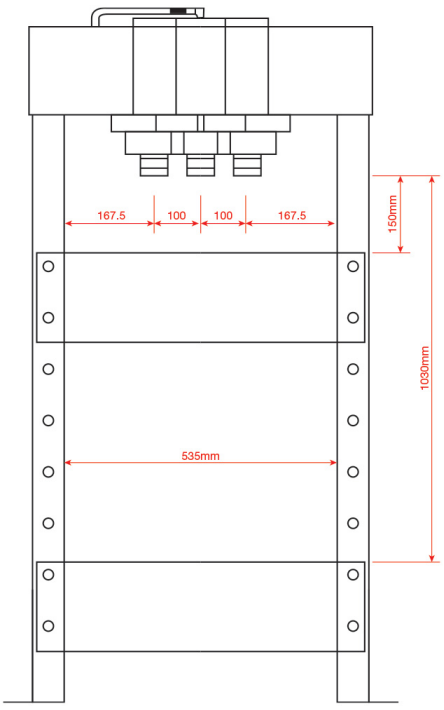
1.1 SPECIFICATIONS

Order Code	P130M
Model	**HPM-30**
Pressing Capacity (Tonne)	30
Hydraulic Ram Operation (Type)	Manual Hand Lever / Pneumatic System
Sliding Ram (left-right)	Yes
Width Between Front Posts (mm)	535
Table Top Opening - (Front to Back) (mm)	160
Ram To Table (Max.) (mm)	1035
Cylinder Stroke (mm)	155
Ram Diameter (mm)	ø70
Piston Diameter (mm)	ø80
Minimum Air Flow Rate required (L/Min)	200
Floor Space (W x D x H) (mm)	950 x 700 x 1800
Nett Weight (kg)	200

1.2 FEATURES

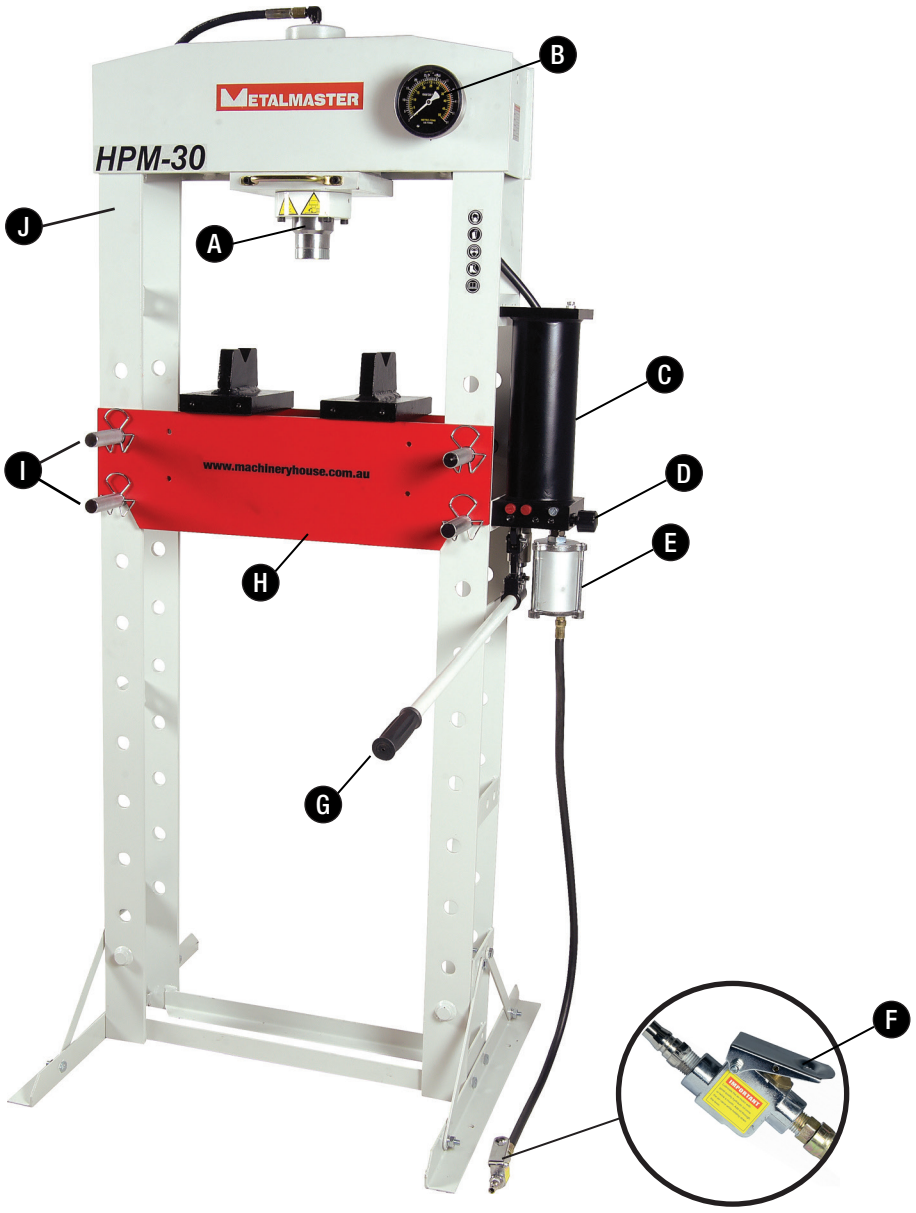
- Ideal for removing and installing - Bushing, Ball-joints, Bearings, Gears, Pulleys, etc
- Pneumatic or hand operation
- Heavy duty steel construction with robotic fully welded frame
- Hydraulics assembled in a temperature controlled clean room for maximum quality
- Hydraulics individually factory tested prior to shipping.
- Adjustable sliding head up to 200mm travel between the vertical post
- Metric / imperial pressure gauge included

NOTE: Minimum Air Flow Rate required is 200 L/min



1.3 IDENTIFICATION

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



A	Hydraulic Ram	**F**	Pneumatic Valve
B	Pressure Gauge	**G**	Pump Handle
C	Hydraulic Pump	**H**	Press Bed
D	Pump Relief Valve	**I**	Support Pins with Retaining Clips
E	Pneumatic Pump	**J**	Frame

2. IMPORTANT INFORMATION

2.1 GENERAL METALWORKING MACHINE SAFETY

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 where sounds are > 85 dBA. or if you have trouble hearing someone speak from one metre (three feet) away. Noise levels 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.

2.1 GENERAL SAFETY REQUIREMENTS 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, neckties, rings, bracelets or other jewellery that can become 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.

CAUTION!

It is impossible to cover all possible hazards. All workshop environments are different. These are designed as a guide to be used to compliment training and as a reminder to users prior to equipment use. Always consider safety first, as it applies to the individual working conditions.

2.1 GENERAL SAFETY REQUIREMENTS 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 on a work site)

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!

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.

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 jewellery 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.

3 SET-UP

3.1 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.

3.2 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 preventive products.

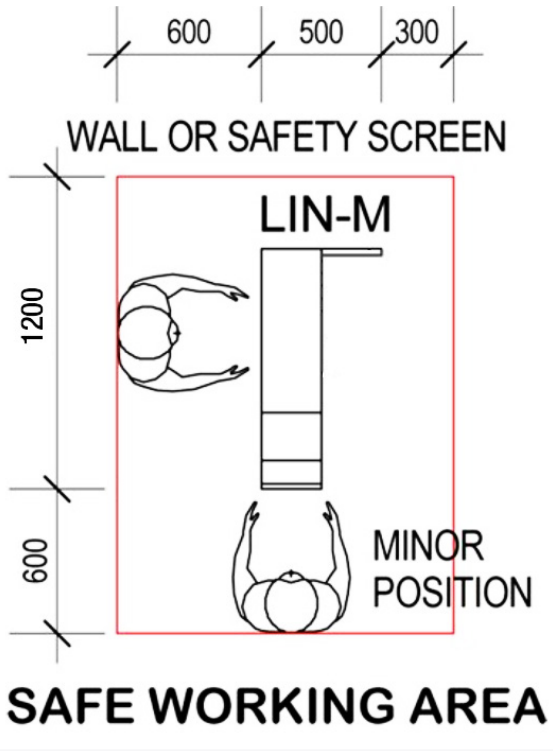
It is advised to avoid chlorine based solvents, such as acetone or brake parts cleaner, as they will damage painted surfaces and strip metal should they come in contact. Always follow the manufacturer's instructions when using any type of cleaning product.

3.3 SITE PREPARATION

When selecting the site for the machine, consider the largest size of work piece 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.

The machine should be installed with a Safe Working Area around it for safe operation or maintenance.



CAUTION!

It is impossible to cover all possible hazards. All workshop environments are different. These are designed as a guide to be used to compliment training and as a reminder to users prior to equipment use. Always consider safety first, as it applies to the individual working conditions.

3.4 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 shipping crate and removing the machine from the crate.***

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.

Lifting Point

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 or damage any parts of the machine.

WARNING!

Make sure everyone is away from the load before hoisting. The load must be under control when lowering loads suspended. Rigging and crane operation must be carried out by persons with approved qualifications.

3.5 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. 3.1)

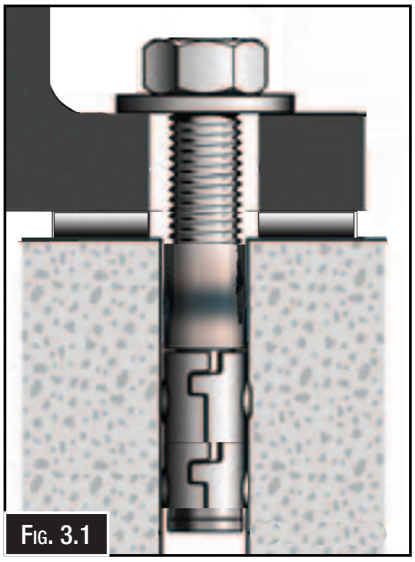


FIG. 3.1

3.6 ASSEMBLY

The machine must be fully assembled before it can be operated. First clean any parts that are coated in rust preventative to ensure the assembly process can proceed smoothly.

Base Support
Attach the base section and support to left and right connecting plate using M10 x 25mm bolts, M10 washer and lock washer and M10 nut. (Fig. 3.2)

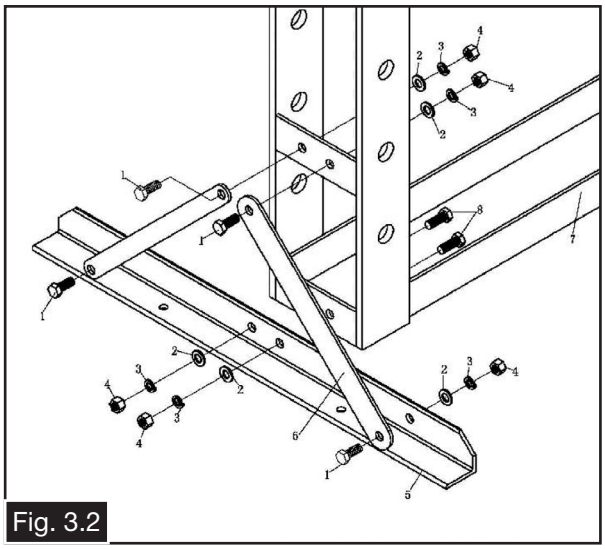


Fig. 3.2

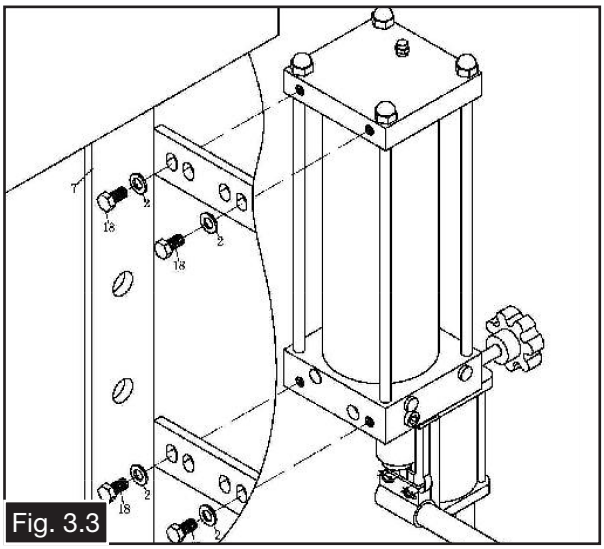


Fig. 3.3

Pump Assembly
Remove the caps sealing the hydraulic ram. Move the pump assembly to the outside of the post, and attach using use bolt M10 x 20mm and M10 washer and tighten on the right hand side connecting plate. (Fig. 3.3)

Pressure Gauge Assembly
Locate the pressure gauge and the banjo fitting assembly. Place the gauge on the front side of the press. Assemble the nylon ring to the gauge fitting then screw the pressure gauge onto the fitting and twist tight. Remark: twist as tight as possible, otherwise it will be leak. (Fig. 3.4)

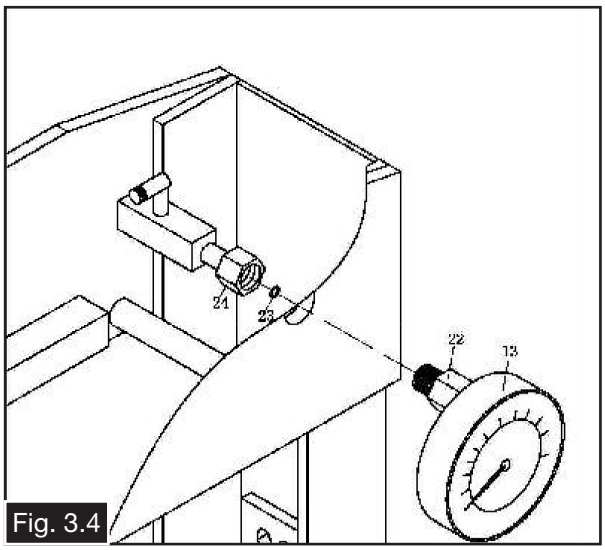


Fig. 3.4

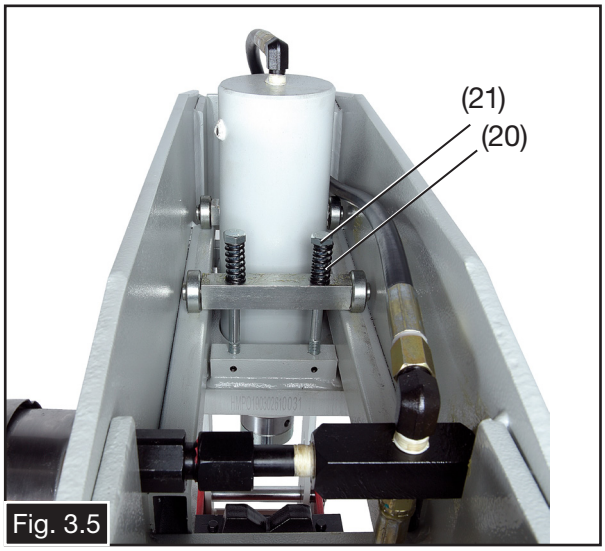


Fig. 3.5

Ram Assembly
Attach the ram assemble using the 4 M10 x 120mm bolts and the four springs. With the help of another person lift the ram assembly under the top plate and attach from above the four bolts and springs. (Fig. 3.5)

3.6 ASSEMBLY Cont.

Pump Handle Assembly
Slide the hydraulic pump handle onto the hydraulic pump handle socket and secure with the two screws in the socket. (Fig. 3.6)

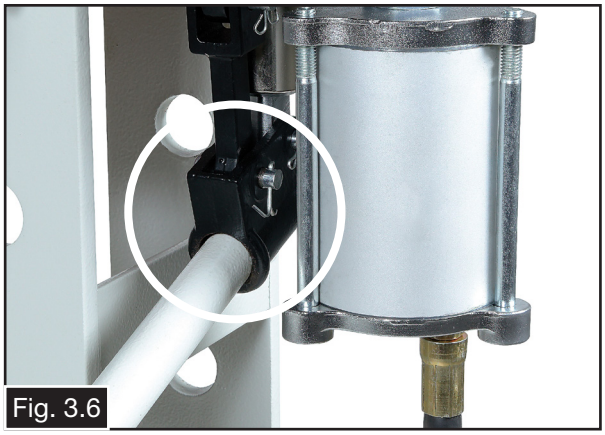


Fig. 3.6

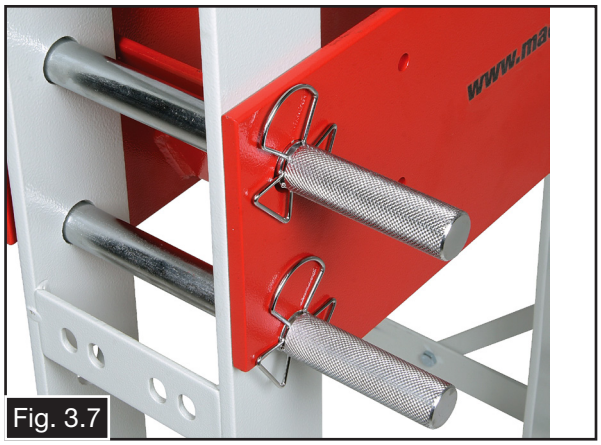


Fig. 3.7

Table Assembly
Raise the bed above the set of bed adjustment holes at the height required. Install the 4 support rods and attach the retaining safety clips. (Fig. 3.7)

4. OPERATION

This machine may perform many types of operations that are beyond the scope of this manual. Many of these operations may be dangerous or deadly if performed incorrectly.

The instructions in this section are written with the understanding that the operator has the necessary knowledge and skills to operate this machine. If at any time you are experiencing difficulties performing any operation, stop using the machine!

NOTE: Before using the press for the first time, the hydraulic system needs to have any air in the system removed. (See Bleeding The Hydraulic System Page 20)

4.1 OPERATION OVERVIEW

This overview purpose is to provide a novice machine operator with a basic understanding of how the machine is used during operation, and so that if the machine controls or components are mentioned later in this manual, it will be easy to understand. The overview is not intended to be an instructional guide and is only generic in nature. To learn more about the specific operation, read this entire manual and seek additional training from an experienced machine operator. Another source of information may be found in video's on websites or by reading trade magazines.

A Typical Operation:

1. Examine the work piece to make sure it is suitable for the pressing operation.
2. Lower the safety guard. (if fitted)
3. Ensure the bed frame is in its proper position and lock the bed frame insuring the pins are in place and the safety clips are secure.
4. Place the heel blocks (12) on the bed frame (11), then place the workpiece onto the heel block.

NOTE: The steel blocks must be used by pairs, not by piece!

5. Centre the ram over the work piece.
6. Close the release valve(35) by turning it clockwise until it is firmly closed.
7. Check that the work piece has not shifted position.
8. Raise the safety guard (if fitted) to the highest position possible to shield entire operating area.

4.1 OPERATION OVERVIEW Cont.

9. Connect the quick air valve (46) into the air supply, turn on the air valve (46) to let the pump work until the ram nears the workpiece, then turn off the air valve. With the air source unavailable, use the pump handle (44) until the ram touches the work piece.
10. Turn on the air valve (or pump the handle) to apply load onto the work piece (see pressure on the pressure gauge).
11. When the operation is finished, stop pumping the handle and slowly and carefully release the load from the work piece by turning the release valve (35) counterclockwise in small increments.
12. Once the ram has fully retracted, lower the safety guard (if fitted) and remove the work piece from bed frame.
13. Disconnect the air inlet fitting from the air source.

4.2 ADJUSTING THE PRESSURE

The Model HPM-30 is fitted with a hydraulic pump which can be manually operated by pumping the handle, or pneumatically operated by connecting the pneumatic valve to a pressurized air supply.

Forces applied to the workpiece are measured in U.S. tons and metric tons on the pressure gauge.

Adjusting Pressure Manually

The amount of force applied to the workpiece can be adjusted using the pump relief valve and the pump handle.

IMPORTANT: Always ensure breather valve is open before adjusting hydraulic pressure!

To Manually Adjust Pressure:

1. Rotate pump relief valve as needed depending on operation. (Fig. 4.1)
2. Rotate the pump relief valve fully clockwise, then use the pump handle to increase pressure.
3. Rotate the pump relief valve counter clockwise to release pressure.

Adjusting Pneumatic Pressure:

The amount of force applied to the workpiece can be adjusted using the pump relief valve and the pneumatic valve.

To Adjust Pressure By Air:

1. Close the release valve by turning it clock wise until tightly closed. (Fig. 4.1)
2. Connect the air hose inlet fitting onto the workshop air supply hose and press the trigger (Fig.4.2) to pump air in to the system until the ram nears the work piece, then release the trigger. Alternately the press can be used manually by pumping the handle until the ram nears the work piece. (Fig. 4.1)

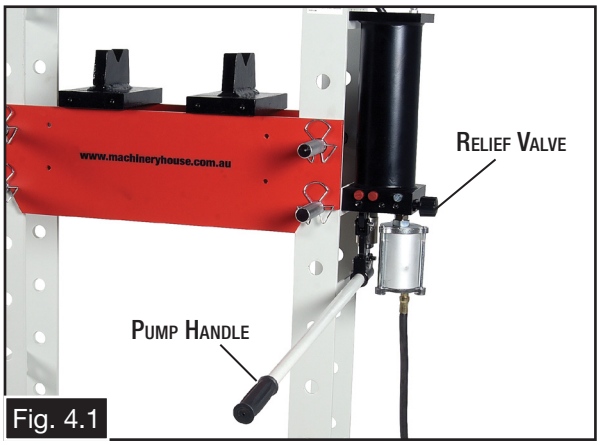


Fig. 4.1

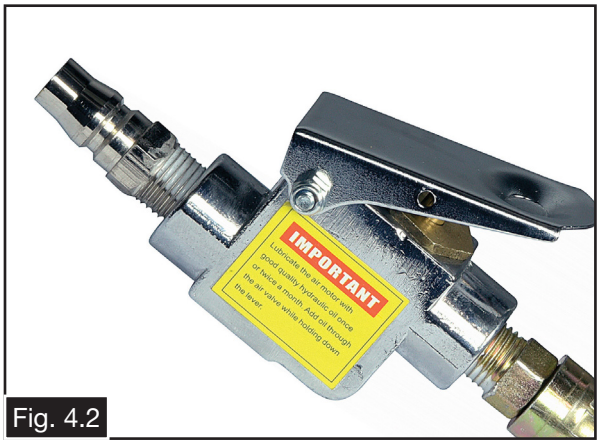


Fig. 4.2

4.2 ADJUSTING THE PRESSURE Cont.

When pressing a work piece to specific pressure, the force can be increased until the desired pressure is shown on the pressure gauge. (Fig. 4.3)

Force applied to the workpiece is measured in U.S. tons and metric tons on the pressure gauge.

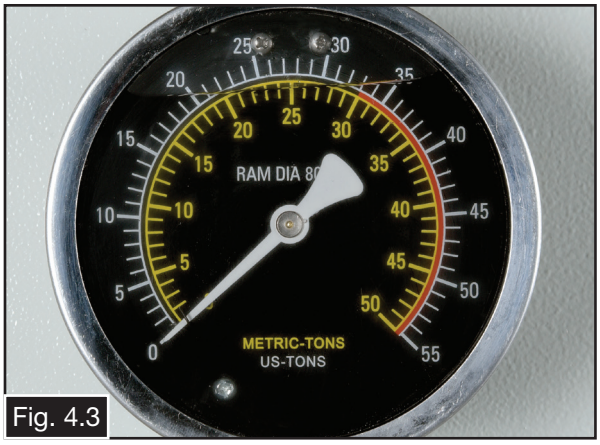


Fig. 4.3

4.3 ADJUSTING THE BED HEIGHT.

It is important that the press bed be set to keep the workpiece as close to the ram as possible to ensure optimum operation.

To adjust press bed height:

1. Rotate pump relief valve and breather valve counter clockwise to release hydraulic system pressure. (Fig. 4.4)
2. Remove the work piece and blocks from the press bed, if installed.
3. With the help of another person or a lifting device, raise the bed off the support rods.
4. Remove the retaining rings on rear of support rods, then remove the support rods. (Fig. 4.5)
5. Move the bed to the position height depending on desired operation and line up the bed to the nearest holes.
6. Insert the support rods through desired bed adjustment holes.
7. Install the retaining rings removed in Step 4 on rear grooves in support rods to secure the bed. (Fig. 4.5)

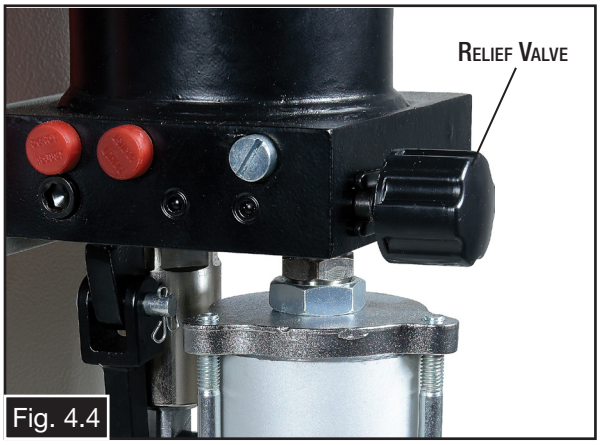


Fig. 4.4

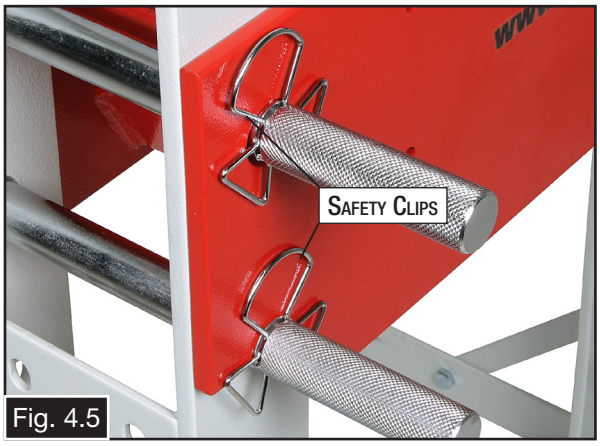


Fig. 4.5

4.4 WORK PIECE PRESSING

The Model HPM-30 is designed for molding, casting and forming metal items, disassembling bearings and bushings.

Pressing a work piece that is beyond the range of this design may require the use of a special fixture. This method is not covered in this manual.

Pressing a workpiece:

1. Adjust the press bed height (see 4.3 Adjusting Press Bed Height) to allow adequate ram space for the operation.
2. If fitted, lower the safety guard and place work piece on press bed or blocks.
3. Move the Ram Assembly either left or right until the ram is centered on the work piece. (Fig. 4.6)

NOTE: The ram assembly uses pressure from the ram pressing on the work piece to stop the Ram Assembly from moving.

4. If pressing a small workpiece, use blocks to provide additional support. If pressing a large work piece, place thee work piece directly on the press bed.

Fig. 4.6

4.5 REMOVING THE RAM CAP

The Metalmaster HPM-30 Press is fitted with a removable ram cap to allow for the fitting of special caps that may need to be produced and fitted.

To remove The Ram Cap:

1. Release the relief valve and let the ram return to its top position. (Fig. 4.4)
2. With a Hex key loosen the retaining screw. (Fig. 4.7)
3. Remove the ram cap and replace it with the specially produced cap.

NOTE: Special caps are not available but need to be produced by the owner of the machine.

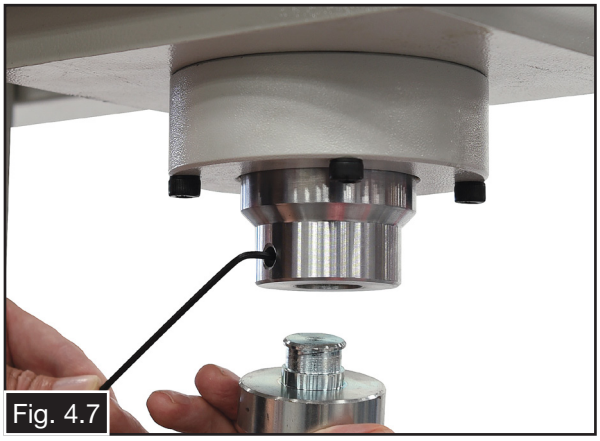


Fig. 4.7

4.6 PRESSING BLOCKS

Pressing blocks (often called V-blocks) on a workshop press are heavy-duty, V-grooved steel supports placed on the bed to provide stable, level support for uneven or cylindrical workpieces during pressing, bending, or straightening. They prevent parts from slipping, ensure accurate alignment, and protect the press bed from damage. (Fig. 4.8)

The pressing blocks can be reversed and used as flat beds.

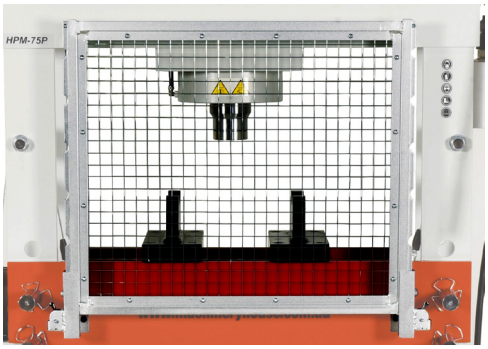
NOTE: Pressing blocks should only be used in pairs.

Fig. 4.8

WARNING!

Do not exceed the rated capacity of the press. Do not allow any person who is inexperienced in the use of hydraulic presses, to use the press unless they are under direct supervision.

4.7 OPTIONAL ACCESSORIES



Hydraulic Press Guard - PGM-30
The Metalmaster PGM-30 press guard is designed as a functional guarding option for hydraulic presses. It mounts easily to our trade series presses and is manually adjustable in height to allow access for your work piece.

ORDER CODE: P1404

Pneumatic Foot Control - AFC1
The AFC1 air operated foot control transforms your hand operated pneumatic press to a foot operated press, thus leaving both of your hands free to handle, stabilize and line up your work piece more accurately under the pressing ram.

ORDER CODE: P1400

5. MAINTENANCE

- A visual inspection must be made before each use of the press, checking for leaking hydraulic fluid and damaged, loose, or missing parts.
- Owners and/or users should be aware that repair of this equipment requires specialized knowledge and facilities. It is recommended that a thorough annual inspection of the press be made and that any defective parts be replaced with genuine Metalmaster parts.
- Any press which appears to be damaged in any way, is found to be badly worn, or operates abnormally SHOULD BE REMOVED FROM SERVICE until the necessary repairs are made.
- If the press is not to be used for any length of time, store it with the ram retracted and the operating handle in the lowered position to protect the moving parts.

5.1 INSPECTION SCHEDULE

- Check the press frame to make sure all bolts are tight and inspect for cracked welds, bent, loose or missing parts.
- Inspect the air components for leaks
- Check the hydraulic connections for leaks. Replace or properly repair any damaged or leaking hydraulic components before using. In the event of leaking seals, oil can be topped up via the plug on the end of the pump. Oil should be filled to around 20mm of the top of the reservoir. If necessary top up with hydraulic oil, this task is carried out with the ram fully retracted.
- If any rust is apparent it must be removed completely and the paint restored.

5.2 LUBRICATION

The Metalmaster press may not safely operate without proper lubrication. When this equipment is used without proper lubrication the result may be poor performance or damage to the equipment. Parts in this equipment are not self-lubricating, so it is advised to inspect the equipment before use and lubricate when necessary. After cleaning, lubricate the equipment using a high grade light penetrating oil or lubricating spray.

- For light duty use lubricate once a month.

- For heavy and constant use lubrication is recommenced every week.

- NEVER use sandpaper or abrasive material on these surfaces.

HYDRAULIC SYSTEM:

-Periodically check the hydraulic oil level and add oil as needed.

METALMASTER recommend **Supertemp** premium grade, high viscosity oil with good anti wear and extreme temperature properties. ORDER CODE 0002

5.3 TROUBLESHOOTING

Review the troubleshooting advice in this section if a problem develops with the machine. If replacement parts or additional help are 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	Probable Cause	Remedy
Pump unit will not work	Dirt on the valve seat worn seals	Bleed pump unit or have unit overhauled with new seals
Pump will not produce pressure. Pump feels hesitant under load. Pump will not lower completely	Air-lock	Open the release valve and remove the oil filler plug. Pump the handle a couple of full strokes and close the release valve. Replace the filler plug.
Pump will not deliver pressure	Reservoir could be overfilled or have low oil level	Check oil level by removing the filler plug and topping up to the correct level.
Pump feels hesitant under load	Pump cup seal could be worn out	Have the cup seal replaced.
Pump will not lower completely	Air-lock	Release air by removing the filler plug
Ram moves slowly or applies insufficient pressure	1. Pump relief valve open. 2. Air present in hydraulic system. 3. Hydraulic system leaking. 4. Hydraulic pump filter clogged. 5. Incoming air supply needs to be adjusted higher. 6. Air leak in air connections, pump, valve(s) or air hose. 7. Obstruction in hydraulic hose. 8. Pump relief valve at fault. 9. Hydraulic ram at fault. 10. Hydraulic pump at fault.	1. Tighten pump relief valve 2. Bleed hydraulic system (Page 20). 3. Locate source of leak and replace leaking part. 4. Replace hydraulic pump filter. 5. Increase air supply to 109–123 PSI. 6. Check all components for leaks. Replace leaking/damaged components. 7. Check hydraulic hose for obstructions. 8. Replace pump relief valve. 9. Replace hydraulic ram. 10. Replace hydraulic pump
Ram moves erratically	1. Machine incorrectly mounted to floor. 2. Machine component(s) loose	1. Tighten mounting hardware. Adjust or shim as needed. 2. Inspect fasteners for security; tighten with thread locking fluid if required.
Ram does not move	1. Pump relief valve open. 2. Hydraulic oil level too low. 3. Hydraulic system leaking. 4. Obstruction in hydraulic line. 5. Air supply hose is too long. 6. Incoming air supply needs to be adjusted higher. 7. Pneumatic valve components are dirty/damaged. 8. Air leak in air connections, pump, valve(s) or air hose. 9. Pump relief valve at fault. 10. Hydraulic ram at fault. 11. Hydraulic pump at fault.	1. Tighten pump relief valve (Page 25). 2. Add hydraulic oil to proper level (Page 31). 3. Locate source of leak and replace leaking part. 4. Check hydraulic line for obstructions. 5. Use shorter hose. 6. Increase air supply to 109–123 PSI. 7. Clean/replace pneumatic valve components. 8. Check all components for leaks. Do not attempt to repair leaking/damaged components, only replace. 9. Replace pump relief valve. 10. Replace hydraulic ram. 11. Replace hydraulic pump.

5.4 ADDING OIL TO THE HYDRAULIC SYSTEM

The Model HPM-30 has a sealed hydraulic system. Periodically check the hydraulic oil level and add oil as needed.

To Add Hydraulic Oil:

1. Release the relief valve and return the ram to its top position.
2. Using a spanner, remove the breather vent.
3. If the hydraulic oil level is visible approximately 6mm below the threads in breather valve plug hole, no additional oil is required.
4. If hydraulic oil level is not visible, add oil until the oil level reaches approximately 6mm below the thread in the breather valve plug hole.

5.5 BLEEDING THE HYDRAULIC SYSTEM

Note: The ram must be in its fully up position before commencing to bleed the system.

Before using the press for the first time and if the pressure seems to be spongy, the hydraulic system may need to have the air in the system removed.

To Bleed the Hydraulic system

1. Open the knurled breather vent on the top of the cylinder (Fig.5.1)
2. Open the Release Valve by turning it counter clockwise. (Fig.5.2)
3. Connect the air quick coupler to the air supply.
4. Press the air valve (Fig.5.3) and hold for a few seconds then release the valve.

   Alternatively pump the handle manually.

   Repeat this process several times.
5. Check the oil level and add oil if required.
6. Turn the Release Valve clockwise and press the air valve. The ram should now extend correctly. If the pressing action seems spongy then repeat the process.

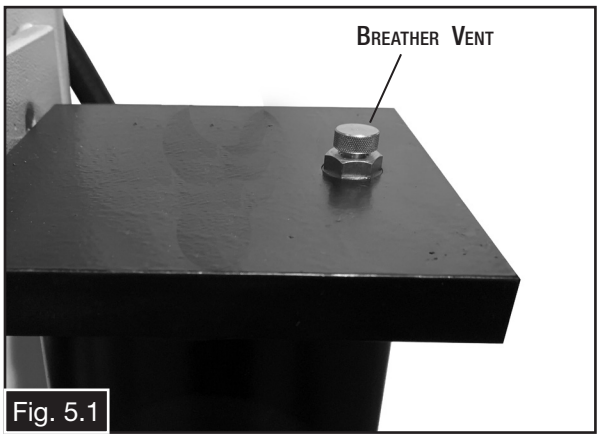


Fig. 5.1

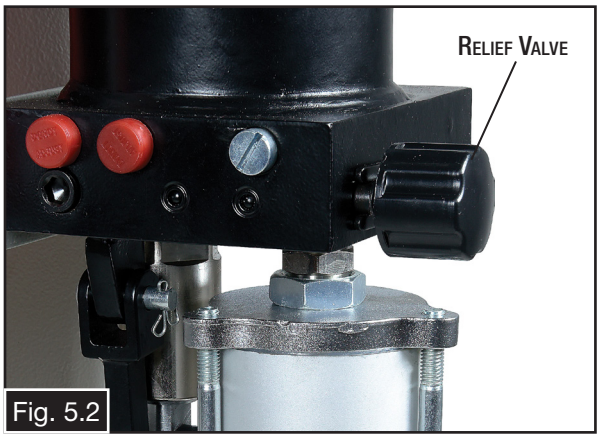


Fig. 5.2

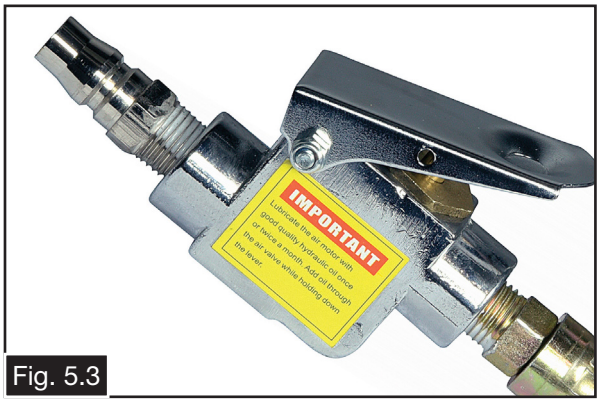


Fig. 5.3

HYDRAULIC & PNEUMATIC PRESS

HPM-30

Order Code: (P130M)

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 anytime 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.

NOTE: SOME PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY

3. Go to www.machineryhouse.com.au/contactus and fill out the inquiry form attaching a copy of scanned parts list.

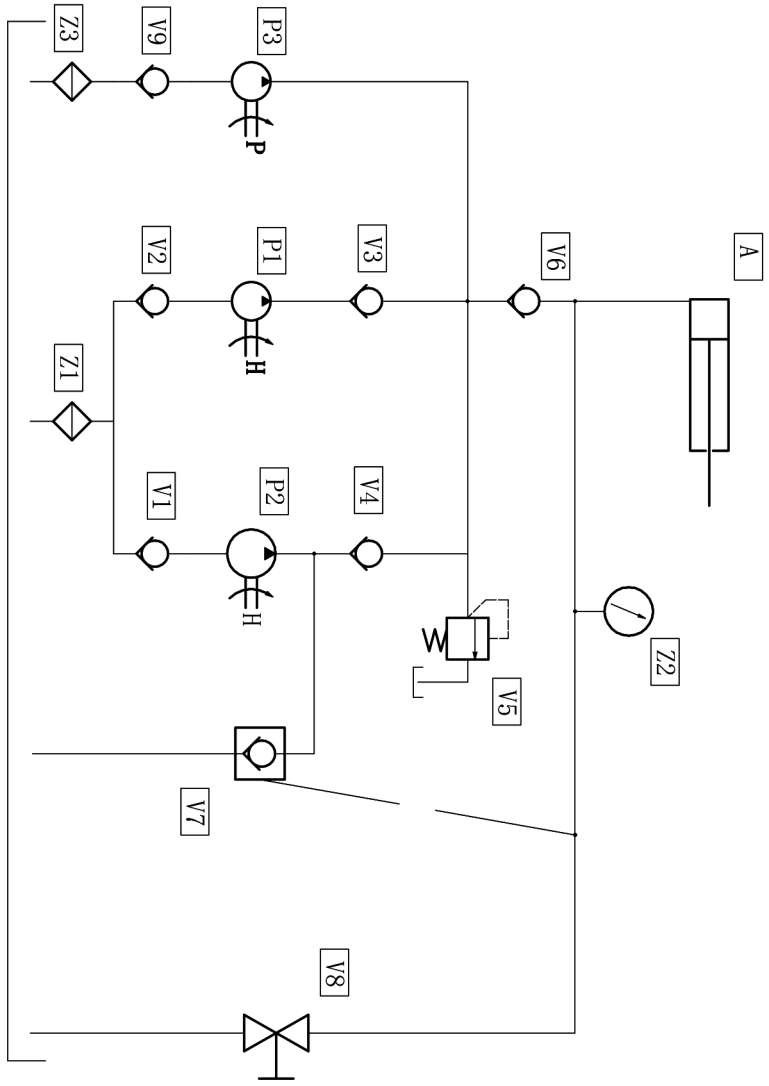
WARNING!

Electricity is dangerous and could cause death.
All electrical work must be carried out by a qualified electrician.

CAUTION!

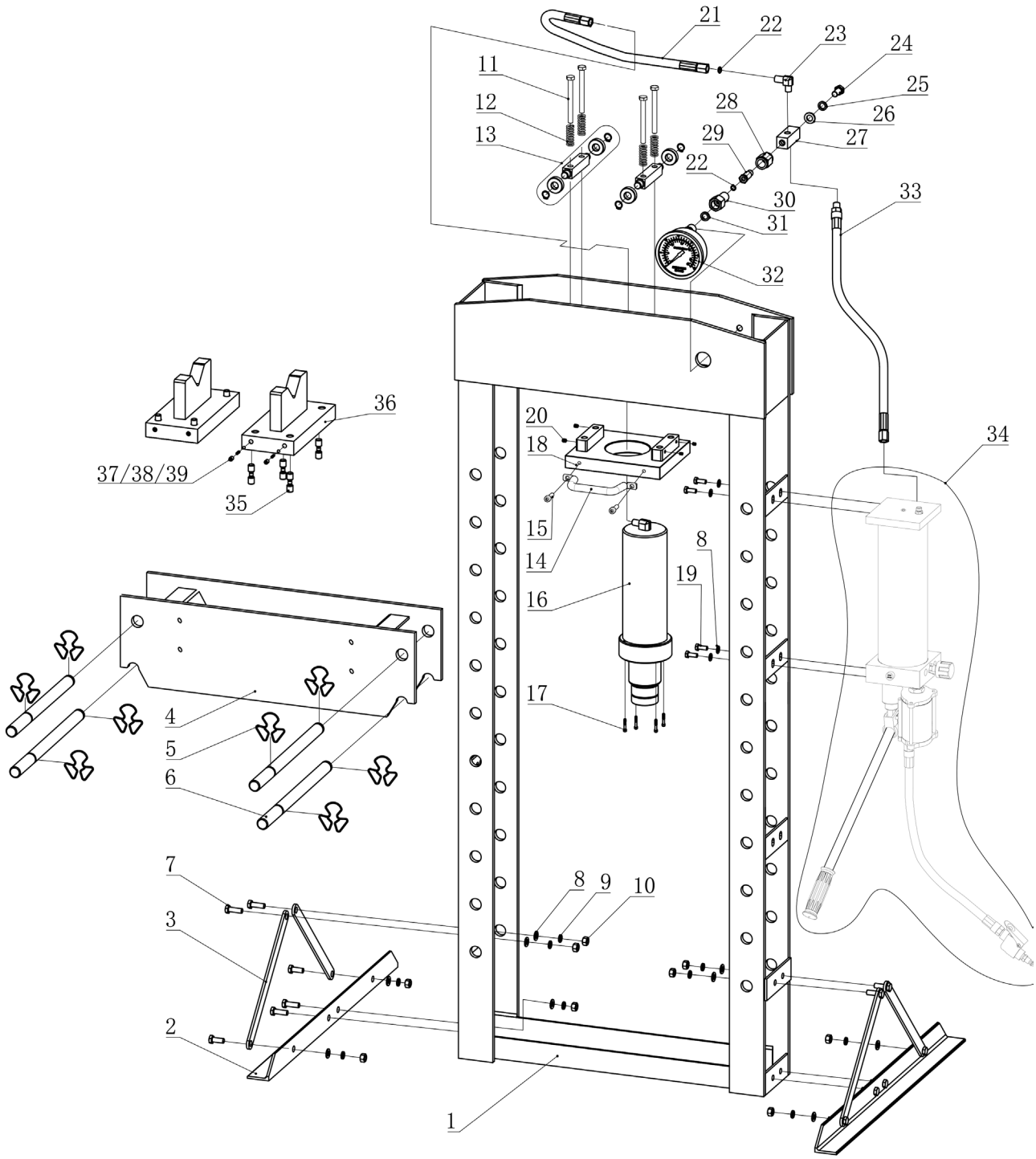
It is impossible to cover all possible hazards Every workshop environment is different. These are designed as a guide to be used to compliment training and as a reminder to users prior to equipment use. Always consider safety first, as it applies to the individual working conditions.

HYDRAULIC SYSTEM



ITEM NO	DESCRITPION
Z2	Pressure gauge
Z1、Z3	Filter
V1、V2、V9	Oil inlet valve
V3、V4	Oil outlet valve
V5	relief valve
V6	One-way valve
V7	Hydraulic comtro
V8	Oil drain valve
P1	**Manual high-pressure pump**
P2	**Manual low-pressure pump**
P3	**Pneumatic pump**
A	Hydraulic cylinder

PARTS DIAGRAM

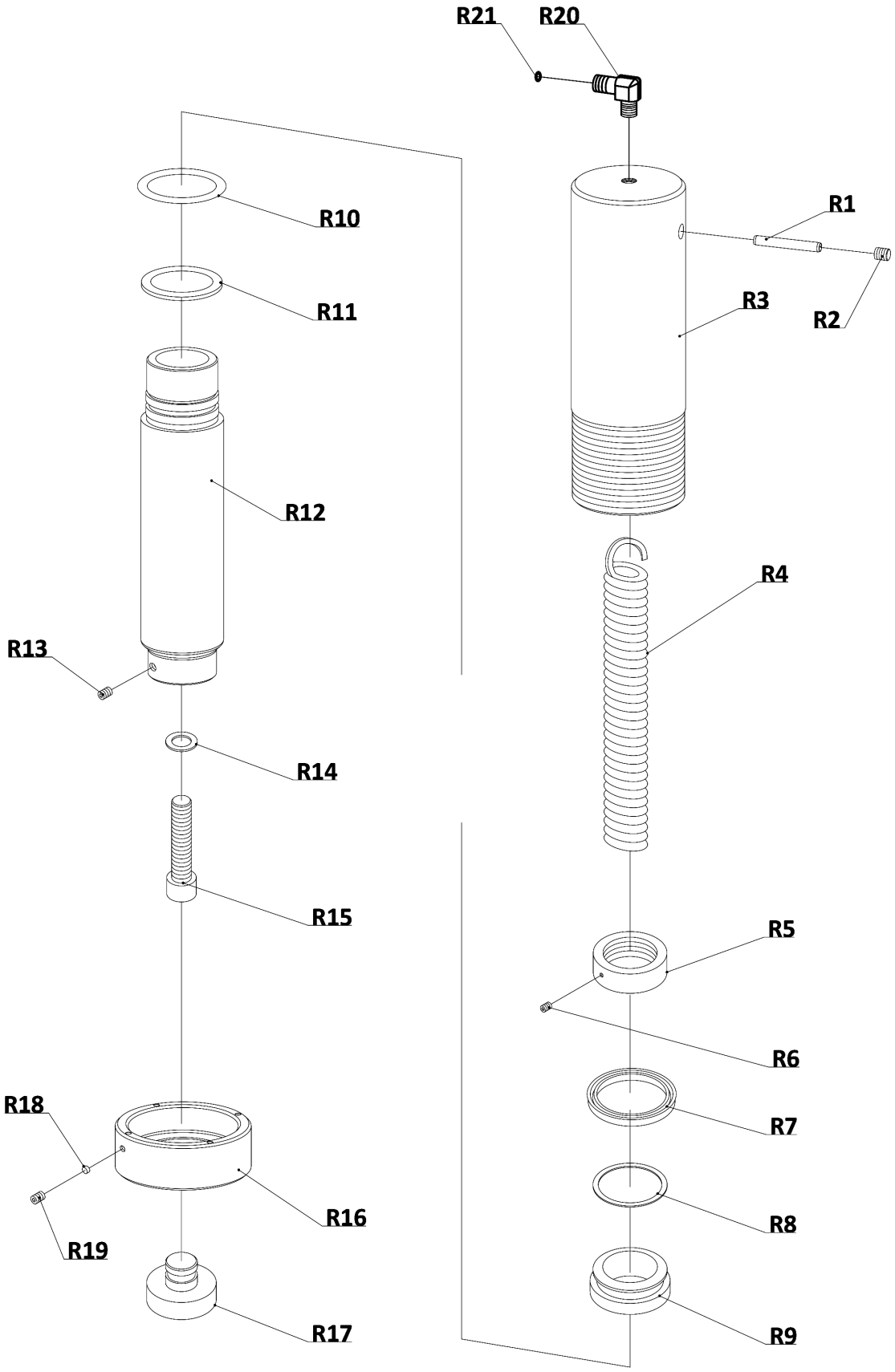


PARTS LIST

ITEM	DESCRIPTION	QTY
1	FRAME	1
2	BASE SECTION	2
3	SUPPORT	4
4	BED FRAME	1
5	RETAIN RING	8
6	PIN	4
7	BOLT	12
8	WASHER	16
9	LOCK WASHER	12
10	NUT	12
11	BOLT	4
12	SPRING	4
13	MOUNTING BEAM	2
14	HANDLE	1
15	SCREW	2
16	RAM ASSY	1
17	SCREW	4
18	MOUNTING PLATE	1
19	BOLT	4
20	SCREW	4
21	OIL HOSE 2	1
22	O-RING	2
23	JOINT	1
24	BOLT	1
25	LOCK WASHER	1
26	WASHER	1
27	CONNECTOR	1
28	NUT	1
29	SCREW	1
30	CONNECTOR	1
31	NYLON WASHER	1
32	PRESSURE GAUGE	1
33	OIL HOSE 1	1
34	PUMP	1
35	SCREW	8
36	STEEL BLOCK	2
37	SCREW	8
38	SPRING	8
39	STEEL BALL	8

NOTE: SOME INDIVIDUAL PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY

RAM - PARTS DIAGRAM



RAM - PARTS LIST

ITEM	DESCRIPTION	QTY
1	PIN	1
2	SCREW	1
3	RAM	1
4	SPRING	1
5	NUT	1
6	SCREW	1
7	U-RING	1
8	PTFE WASHER	1
9	PISTON SADDLE	1
10	PTFE WASHER	1
11	O-RING	1
12	PISTON ROD	1
13	SCREW	1
14	COPPER WASHER	1
15	SCREW	1
16	NUT	1
17	SADDLE	1
18	NYLON BLOCK	1
19	SCREW	1

NOTE: SOME INDIVIDUAL PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY

NOTES:

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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