

HAFCO

OPERATION MANUAL



Hydraulic Ram Kit

Model PBR-10H

Order Code A365

Edition No : PBR-10H-3

Date of Issue : 07/2020

www.machineryhouse.com.au

OPERATION MANUAL

PRODUCT DETAILS

MACHINE	HYDRAULIC PANEL-BEATER KIT
MODEL NO.	PBR-10H
SERIAL NO.	
DATE OF MANF.	

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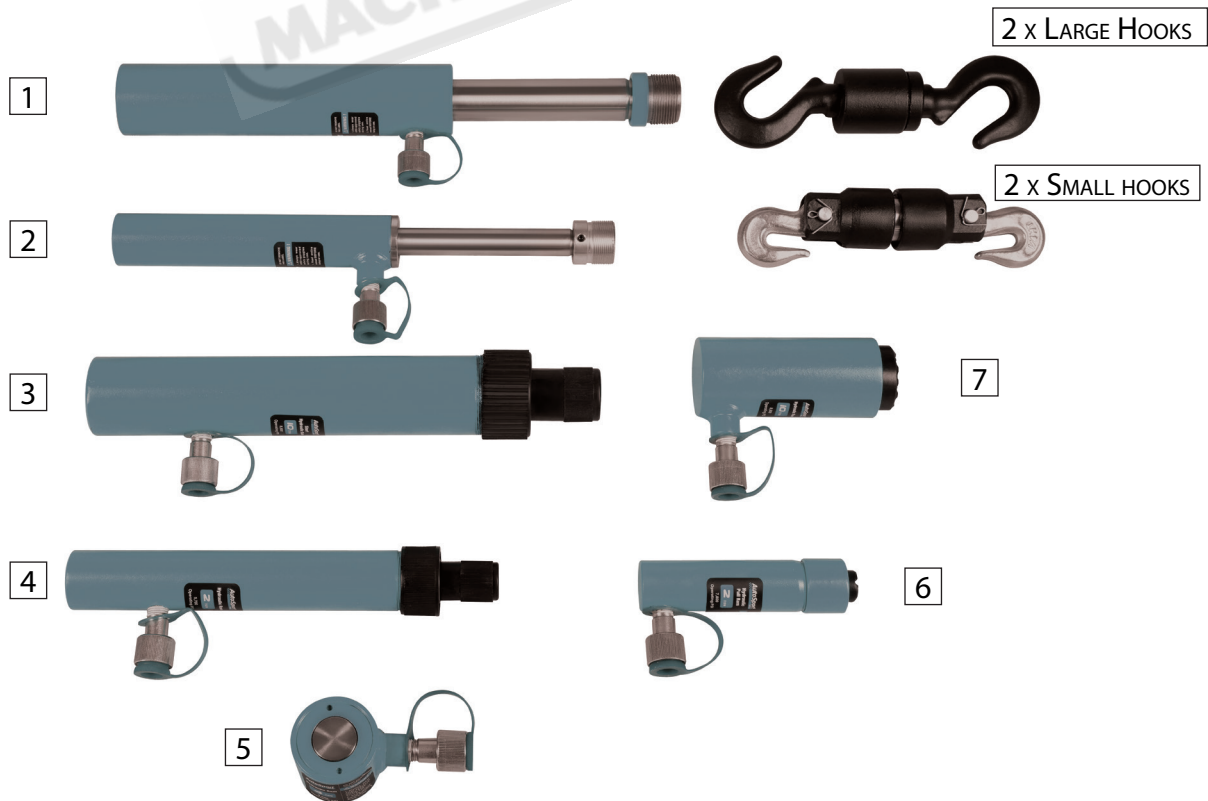
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NOTE: THIS MANUAL IS ONLY FOR YOUR REFERENCE. OWING TO THE CONTINUOUS IMPROVEMENT OF THE HAFCO PRODUCT, CHANGES MAY BE MADE AT ANY TIME WITHOUT OBLIGATION OR NOTICE.

SPECIFICATION

Order Code	A365	
MODEL	PBR-10H	I.D.
Ram Kit Capacity (Tonne)	10	
2 Tonne Ram Push Stroke (mm)	139 -215	6
2 Tonne Ram Pull Stroke (mm)	537 -409	2
4 Tonne Ram Push Stroke (mm)	42 - 58	5
4 Tonne Ram Push Stroke (mm)	276 -409	4
5 Tonne Ram Pull Stroke (mm)	613 -483	1
10 Tonne Ram Push Stroke (mm)	350 - 500	3
10 Tonne Ram Push Stroke (mm)	118 -178	7
Nett Weight (Kg)	23	

IDENTIFICATION (Description in table above)



OPERATION MANUAL

GENERAL MACHINE SHOP 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.



Safety glasses must be worn at all times in work areas. Earmuffs should be worn if the work area is noisy.



Sturdy footwear must be worn at all times in work areas.



Gloves should NOT be worn when operating this machine. Should only be used when handling the workpiece



Long and loose hair must be contained with a net or under a hat

OWNER'S MANUAL. Read and understand this owner's manual before using the machine.

DISCONNECT POWER FIRST. If using power, always disconnect the machine from power supply before making adjustments, or servicing the machine. This prevents any risk of injury from unintended startup or contact with live electrical equipment

TRAINED OPERATORS ONLY. Operators that have not been trained have a higher risk of being seriously injured. Only allow trained or supervised people to use this machine. When the machine is not being used, disconnect the power, to the machine to prevent unauthorized use—especially around children. Make the workshop safe.

OPERATION MANUAL

GENERAL MACHINE SHOP SAFETY Cont.

WEARING PROPER APPAREL. Do not wear clothing, apparel or jewelry that can become entangled in moving parts. Always tie back or cover long hair. Wear non-slip footwear to avoid accidental slips, which could cause loss of operating control.

HEARING PROTECTION. Always wear hearing protection when operating or observing loud machinery. Extended exposure to this noise without hearing protection can cause permanent hearing loss.

REMOVE ADJUSTING TOOLS. Tools left on machinery can become dangerous projectiles upon startup. Never leave hex keys, wrenches, or any other tools on machine. Always verify removal before starting!

USE CORRECT TOOL FOR THE JOB. Only use this tool for its intended purpose. Do not force the machine or its attachments to do a job for which they were not designed. Never make unapproved modifications. Modifying the machine or using it differently than intended may result in malfunction or mechanical failure that can lead to personal injury or death!

AWKWARD POSITIONS. Keep proper footing and balance at all times when operating machine. Do not overreach! Avoid awkward hand positions that make operating control difficult. This could increase the risk of accidental injury

GUARDS & COVERS. Guards and covers reduce accidental contact with moving parts or flying debris. Make sure they are properly installed, undamaged, and working correctly.

FORCING MACHINERY. Do not force the machine. It will do the job safer and better at the rate for which it was designed.

NEVER STAND ON MACHINE. Serious injury may occur if the machine is tipped or if the cutting tool is unintentionally contacted

STABLE MACHINE. Unexpected movement during operation greatly increases risk of injury or loss of control. Before starting, verify machine is stable and if using a mobile base it is locked in position.

UNATTENDED OPERATION. To reduce the risk of accidental injury, turn the machine OFF and ensure all moving parts have completely stopped before walking away. Never leave the machine running while unattended.

MAINTAIN WITH CARE. Follow all maintenance instructions and lubrication schedules to keep the machine in good working condition. A machine that is improperly maintained could malfunction, leading to serious personal injury or death.

CHECK DAMAGED PARTS. Regularly inspect the machine for any condition that may affect the safe operation. Immediately repair or replace damaged or parts that are incorrectly fitted before operating.

CHILDREN & BYSTANDERS. Keep children and bystanders at a safe distance from the work area. Stop using machine if they become a distraction.

OPERATION MANUAL

SAFE OPERATING OF HYDRAULIC RAM KIT

DO NOT use this equipment 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 or overalls are encouraged



Appropriate protective footwear with substantial uppers must be worn.



Rings and jewellery must NOT be worn in the workshop

PRE-OPERATIONAL SAFETY CHECKS

1. Ensure you are familiar with the operation of the portable hydraulic press.
2. Check for any hydraulic fluid leaks.
3. Ensure safety glasses or goggles are available and are worn by all persons in the vicinity.
4. Make sure the area around the portable press is clean.
5. The entire cylinder end plate must be in contact with the load. Movement of the cylinder must be parallel with the movement of the load.
6. Keep hydraulic equipment away from open fire and temperatures above 65 °C.
7. Faulty equipment must not be used. Immediately check suspect equipment.

OPERATIONAL SAFETY CHECKS

1. Ensure the pressure release valve is closed before operation.
2. Provide a solid support for the entire cylinder base area.
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 accurate alignment the press hammer face with the work piece for even force to be applied.
7. Don't use handle extenders. Hand pumps should be easy to operate when used correctly.
8. If filling the pump, only fill the pump to the recommended level. Fill only when connected cylinder is fully retracted.
9. DO NOT apply excessive force with the pump.

AFTER OPERATION COMPLETED

1. After use, clean the equipment and place any tools and equipment in the appropriate storage area.
2. Place equipment back in the blow mold case.

POTENTIAL HAZARDS

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

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OPERATING INSTRUCTIONS

Before starting work, read and thoroughly understand all warnings and precautions in this manual along with all documentation provided with the hydraulic pump and hoses used. The Hydraulic Ram Kit is used with the Panel Beaters Repair Kit and is designed for bending frames and repairing dents in vehicle body panels. In most cases, the Push and Pull Hydraulic Rams in this Kit will only be capable of returning vehicle body and frame parts to their approximate, original position. Additional work may be required to completely repair the vehicle part.

Hydraulic Push Rams:

Included in this Kit are five Hydraulic Push Rams. The Push Rams require a solid, non-movable base and should be placed directly across from the damaged area and in line with the direction the damaged area needs to be pressed. When positioning the Push Ram, place a block of wood or other material behind the base and also on the side that is to be bent for protection and to spread the Push Ram pressure over a greater area.

Hydraulic Pull Rams:

Included in this Kit are two Hydraulic Pull Rams. The larger Pull Ram is used in larger spaces where greater force is needed and where there is sufficient room to operate. The smaller Pull Ram is used in tighter spaces where less force is required. The Hydraulic Pull Rams may be used in either horizontal or vertical positions. The Hooks will turn to accept hooking from different angles. Hook one end of the Pull Ram to the object to be moved and the other end of the Pull Ram to a stable, unmovable base. A chain or strap may be used on either end to provide a hooking surface.

NOTE: MAKE SURE THE CHAIN OR STRAP IS RATED TO SUPPORT THE PULLING WEIGHT.

INSPECTION, MAINTENANCE, AND CLEANING

1. Inspect the general condition of the Hydraulic Ram Kit before each use. Check for bent, cracked, worn or damaged parts, loose or missing parts, and any other condition that may effect the Kit's safe operation. If a problem occurs, have the problem corrected before further use. **Do not use damaged equipment.**
2. To clean, use a damp cloth and a mild detergent or mild solvent. Do not use flammable or corrosive agents.
3. The Hydraulic Ram Kit when not in use should be stored in its carrying case and kept in a clean, dry, safe location out of reach of children and other unauthorized people.
4. **CAUTION! If any maintenance, service, and repairs not discussed in this manual are required seek help from a qualified service technician.**

OPERATION MANUAL

TROUBLESHOOTING

If the kit develops a problem, review the trouble shooting section below to find a fix for the problem. If the problem cannot be solved then contact your dealer for help or to book a service appointment. **NOTE: The hydraulic pump and hoses are not supplied with this kit but need to feature in the troubleshooting.**

Symptoms	Possible Cause	Possible Solution
Hydraulic Ram will not push or pull the load.	<ol style="list-style-type: none"> 1. Release Valve on Hydraulic Pump not tightly closed. 2. Overload condition. 3. Air trapped in Hydraulic Pump system. 4. Hydraulic Pump oil level low. 5. Loose connection from Hydraulic Pump to Hydraulic Ram. 	<ol style="list-style-type: none"> 1. Close Release Valve tightly. 2. Do not exceed maximum PSI or range of travel for Hydraulic Ram. 3. Purge air from Hydraulic Pump system. 4. Add oil to proper level. 5. Make sure connection from Hydraulic Pump to Hydraulic Ram is secure.
Hydraulic Ram will push or pull, but will not maintain pressure.	<ol style="list-style-type: none"> 1. Release Valve on Hydraulic Pump not tightly closed. 2. Overload condition. 3. Hydraulic Pump or Hydraulic Ram malfunction. 	<ol style="list-style-type: none"> 1. Close Release Valve tightly. 2. Do not exceed maximum PSI or range of travel for Hydraulic Ram. 3. Have a qualified service technician check out the Hydraulic Pump and/or Hydraulic Ram.
Handle kick-back	Dirt in the return check valve	Flush the system
Poor performance	<ul style="list-style-type: none"> • Fluid level low • Air trapped in system 	<ul style="list-style-type: none"> • Ensure proper fluid level • Bleed air from system
Ram bleeds off after lift	<ul style="list-style-type: none"> • Release valve not tightly closed • Dirt in pump's return check valve • Hydraulic unit malfunction 	<ul style="list-style-type: none"> • Ensure release valve tightly closed • Flush the system • Replace ram/pump or, contact service center
Ram will not lower after unloading	<ul style="list-style-type: none"> • Reservoir overfilled • Damage coupler • Bent plunger/ ram damaged 	<ul style="list-style-type: none"> • Drain fluid to proper level • Replace coupler • Replace ram

SPARE PARTS SECTION

Hydraulic Ram Kit

Model PBR-10H

Order Code A365

Edition No : PBR-10H-3

Date of Issue : 07/2020

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.

NOTE: SOME PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY

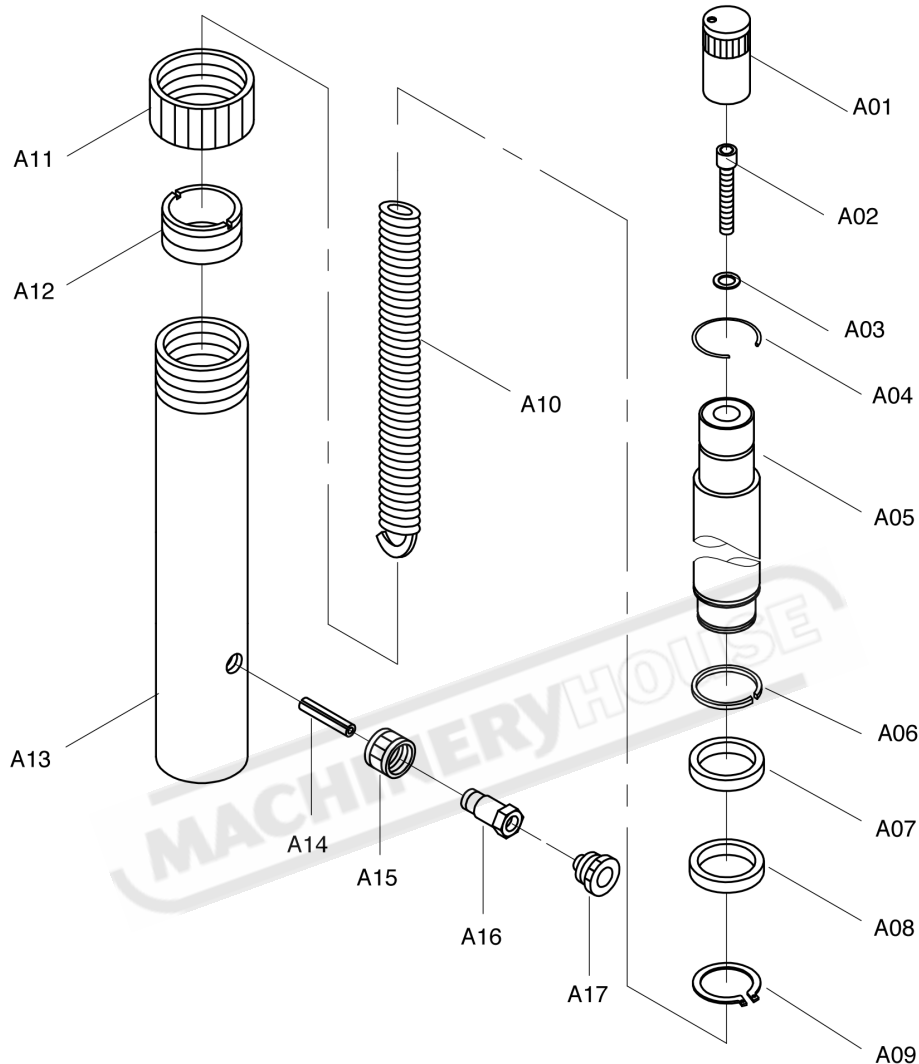
3. Go to www.machineryhouse.com.au/contactus and fill out the inquiry form attaching a copy of scanned parts list.

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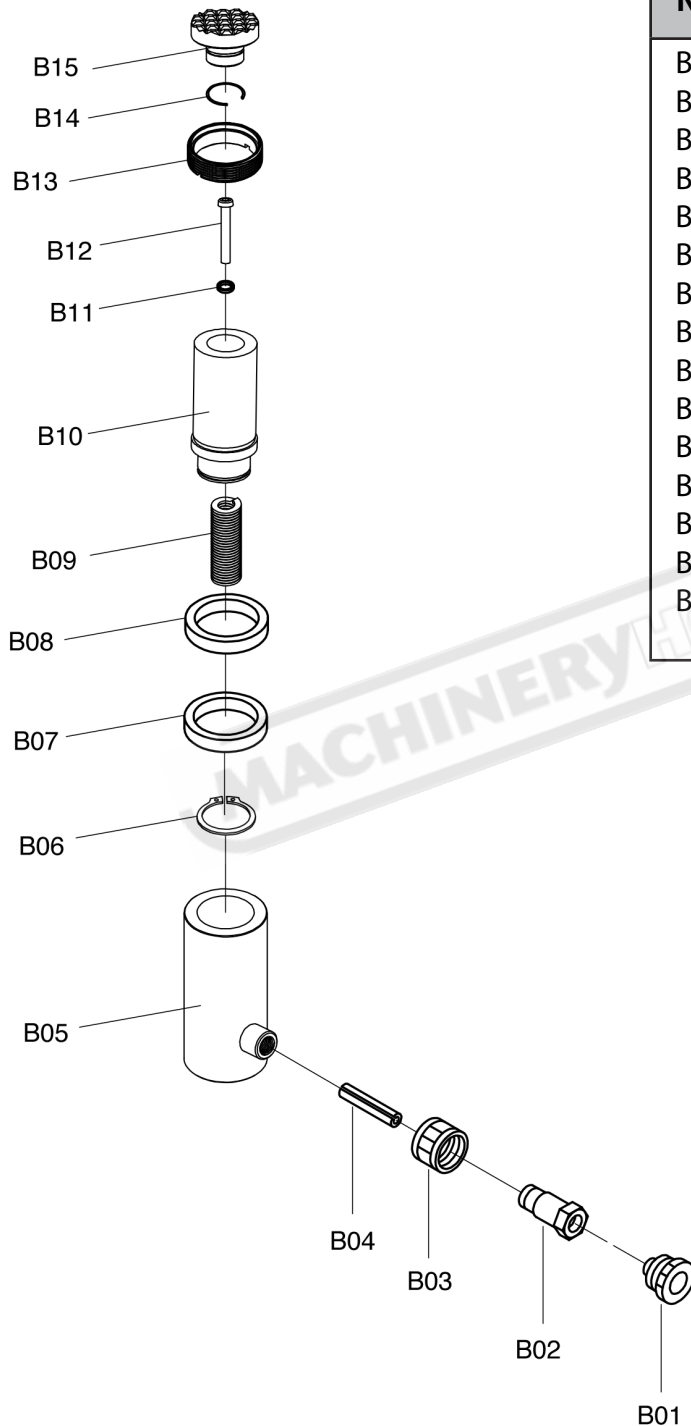
10 TONNE LARGE HYDRAULIC RAM



NO.	DESCRIPTION	Qty	NO.	DESCRIPTION	Qty
A01	PISTON ROD COVER	1	A10	SPRING	1
A02	SCREW	1	A11	CYLINDER COVER	1
A03	COPPER PAD	1	A12	LIMIT RING	1
A04	SNAP RING	1	A13	CYLINDER	1
A05	PISTON ROD	1	A14	PIN	1
A06	RING	1	A15	NUT	1
A07	WASHER	1	A16	FEMALE CONNECTOR	1
A08	U-RING	1	A17	DUST COVER	1
A09	RETAINING RING	1			

NOTE: SUPPLIED AS AN ASSEMBLY. INDIVIDUAL PARTS NOT AVAILABLE

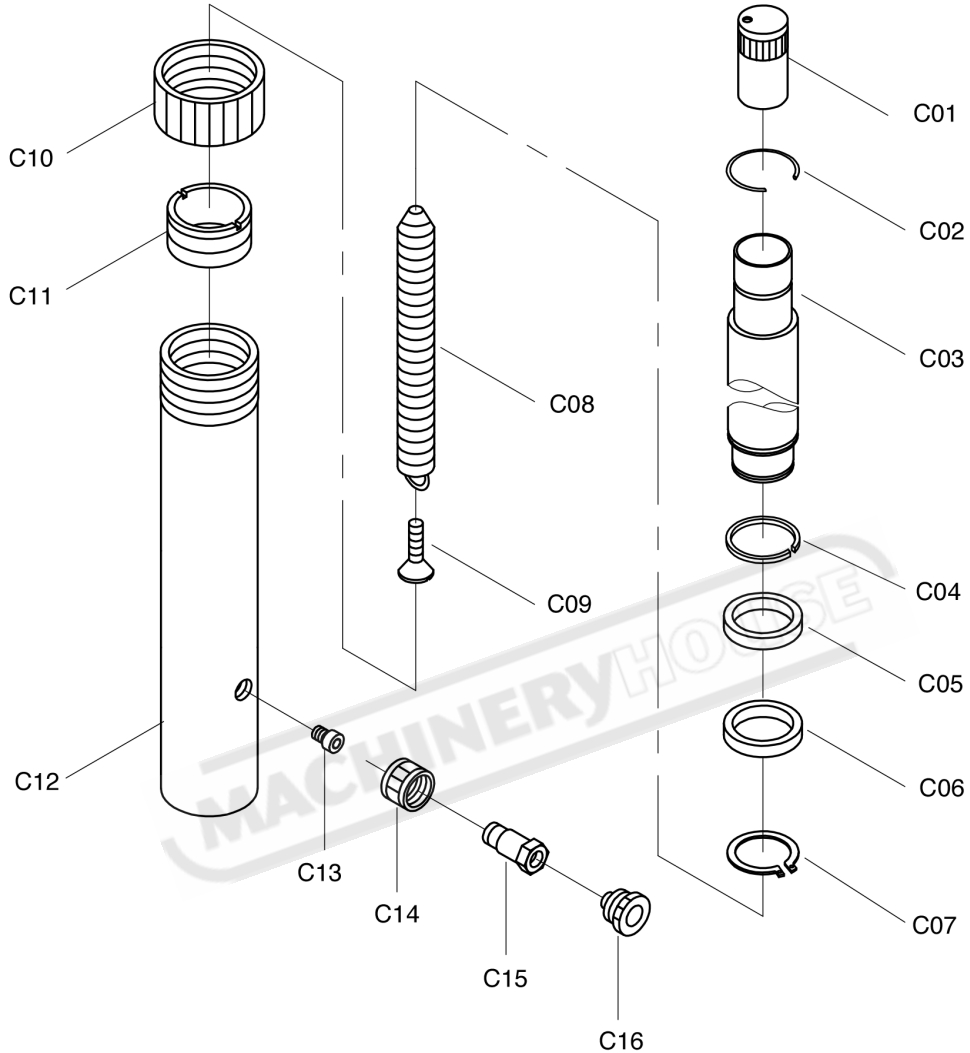
10 TONNE SMALL HYDRAULIC RAM



NO.	DESCRIPTION	Qty
B01	DUST COVER	1
B02	FEMALE CONNECTOR	1
B03	NUT	1
B04	PIN	1
B05	CYLINDER	1
B06	RETAINING RING	1
B07	U-RING	1
B08	WASHER	1
B09	SPRING	1
B10	PISTON ROD	1
B11	WASHER	1
B12	SCREW	1
B13	LIMIT RING	1
B14	SNAP RING	1
B15	SADDLE	1

NOTE: SUPPLIED AS AN ASSEMBLY. INDIVIDUAL PARTS NOT AVAILABLE

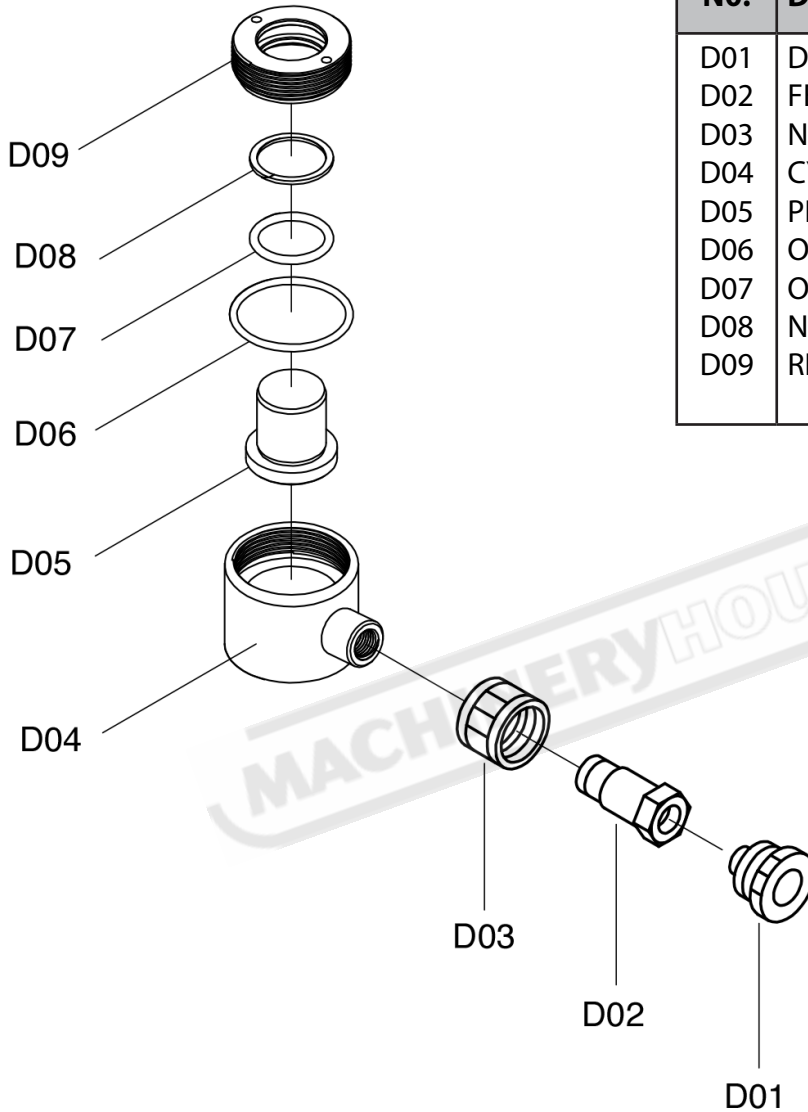
4 TONNE LARGE HYDRAULIC RAM



NO.	DESCRIPTION	Qty	NO.	DESCRIPTION	Qty
C01	PISTON ROD COVER	1	C09	SCREW	1
C02	SNAP RING	1	C10	CYLINDER COVER	1
C03	PISTON ROD	1	C11	LIMIT RING	1
C04	RING	1	C12	CYLINDER	1
C05	WASHER	1	C13	SCREW	1
C06	U-RING	1	C14	NUT	1
C07	RETAINING RING	1	C15	FEMALE CONNECTOR	1
C08	SPRING	1	C16	DUST COVER	1

NOTE: SUPPLIED AS AN ASSEMBLY. INDIVIDUAL PARTS NOT AVAILABLE

4 TONNE MINI HYDRAULIC RAM

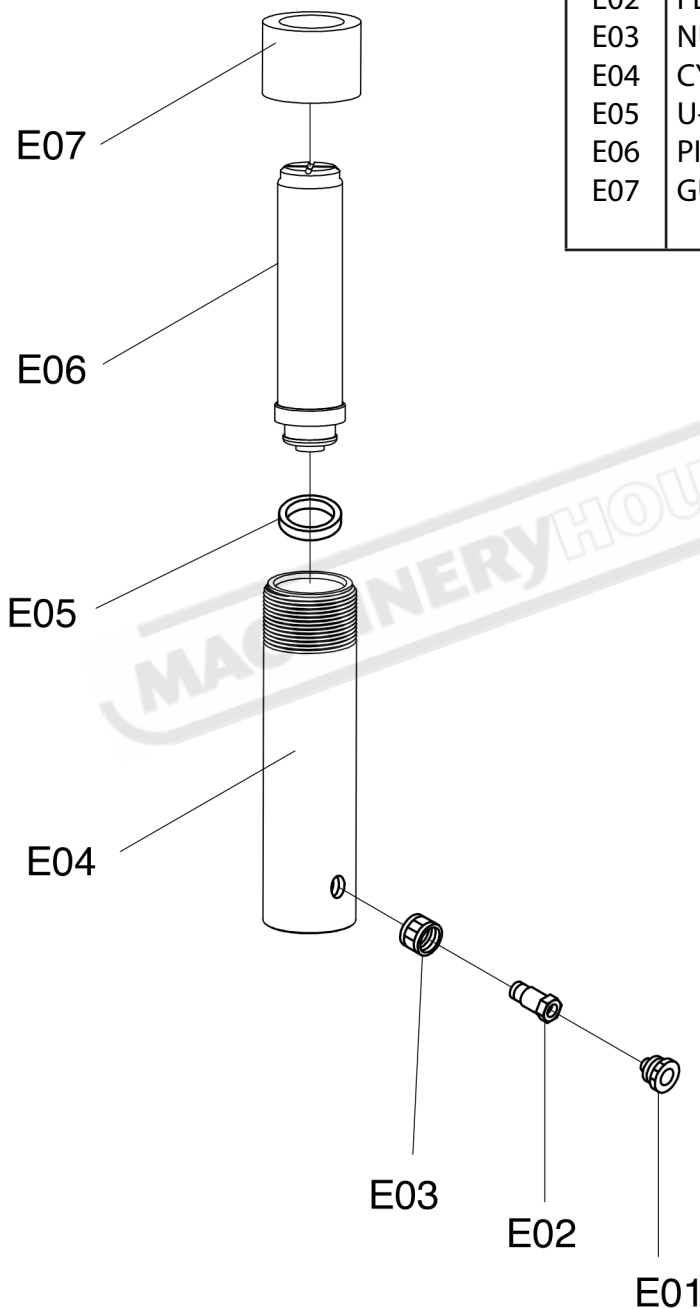


NO.	DESCRIPTION	Qty
D01	DUST COVER	1
D02	FEMALE CONNECTOR	1
D03	NUT	1
D04	CYLINDER	1
D05	PISTON ROD	1
D06	O-RING	1
D07	O-RING	1
D08	NYLON RING	1
D09	RETAINING RING	1

NOTE: SUPPLIED AS AN ASSEMBLY. INDIVIDUAL PARTS NOT AVAILABLE

2 TONNE HYDRAULIC RAM

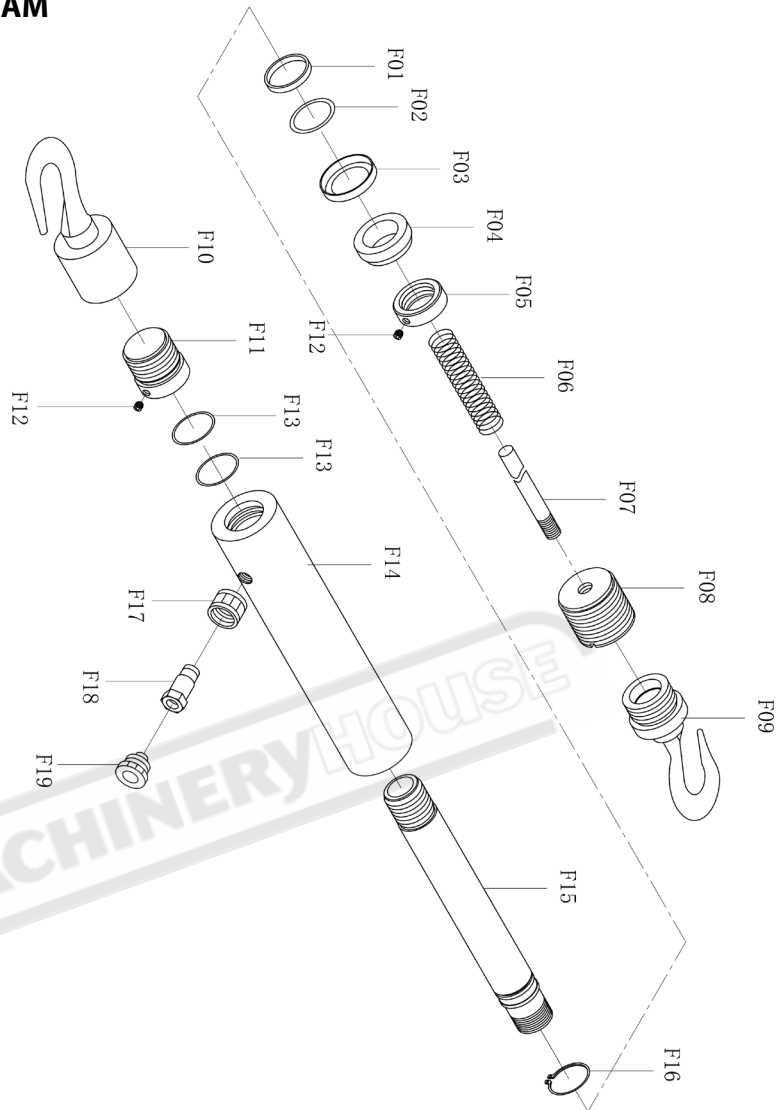
NO.	DESCRIPTION	Qty
E01	DUST COVER	1
E02	FEMALE CONNECTOR	1
E03	NUT	1
E04	CYLINDER	1
E05	U-RING	1
E06	PISTON ROD	1
E07	GUIDE SLEEVE	1



NOTE: SUPPLIED AS AN ASSEMBLY. INDIVIDUAL PARTS NOT AVAILABLE

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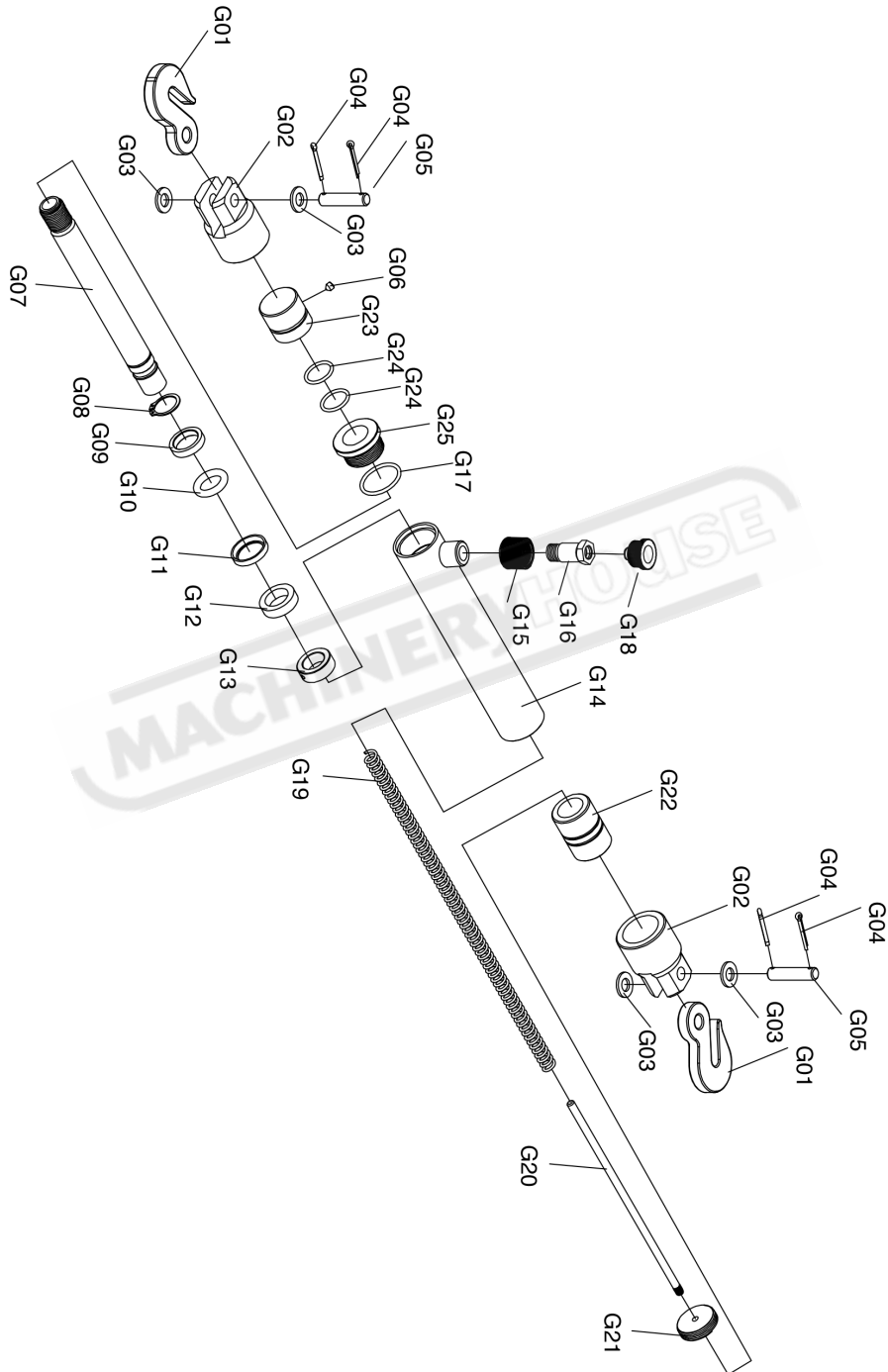
5 TONNE HYDRAULIC PULL RAM



NO.	DESCRIPTION	Qty	NO.	DESCRIPTION	Qty
F01	WASHER	1	F11	NUT	1
F02	O-RING	1	F12	SCREW	2
F03	WASHER	1	F13	O-RING	2
F04	WASHER	1	F14	CYLINDER	1
F05	SCREW	1	F15	PISTON ROD	1
F06	SPRING	1	F16	RETAINING RING	1
F07	SHAFT	1	F17	NUT	1
F08	NUT	1	F18	FEMALE CONNECTOR	1
F09	BOTTOM HOOK	1	F19	DUST COVER	1
F10	TOP HOOK	1			

NOTE: SUPPLIED AS AN ASSEMBLY. INDIVIDUAL PARTS NOT AVAILABLE

2 TONNE HYDRAULIC PULL RAM DIAGRAM



NOTE: SUPPLIED AS AN ASSEMBLY. INDIVIDUAL PARTS NOT AVAILABLE

OPERATION MANUAL**2 TONNE HYDRAULIC PULL RAM PARTS LIST**

NO.	DESCRIPTION	Qty	NO.	DESCRIPTION	Qty
G01	HOOK	2	G14	CYLINDER	1
G02	COUPLING	2	G15	NUT	1
G03	WASHER	4	G16	FEMALE CONNECTOR	1
G04	COTTER PIN	4	G17	O-RING	1
G05	PIN	2	G18	DUST COVER	1
G06	SCREW	1	G19	SPRING	1
G07	PISTON ROD	1	G20	SHAFT	1
G08	RETAINING RING	1	G21	SHAFT BASE	1
G09	LIMIT RING	1	G22	SCREW COUPLER	1
G10	O-RING	1	G23	PISTON ROD COVER	1
G11	WASHER	1	G24	O-RING	2
G12	WASHER	1	G25	PLUG	1
G13	NUT	1			

NOTE: SUPPLIED AS AN ASSEMBLY. INDIVIDUAL PARTS NOT AVAILABLE

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.

WARNING

Hydraulic Panel Repair/Ram Kit Safety Instructions

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

- 1. Maintenance.** Check oil levels of hydraulic pump and fill to correct oil levels if necessary. Apply oil to surface of ram to maintain good lubrication.
- 2. Hydraulic Pump Condition.** Hydraulic Pump must be maintained for a proper working condition. Never operate a Hydraulic Pump that has low oil levels, damaged or worn parts. Scheduled routine maintenance should be performed on a scheduled basis. Check frame (cast feet, hose, valve) for cracks or damage. Replace if necessary.
- 3. Rams & Attachment Condition.** Never operate a Panel Repair Kit with damaged or badly worn rams or attachments. Replace if required.
- 4. Hand Hazard.** Keep hands away from the Panel Repair Kit, under any circumstances, while the machine is in operation mode. Serious injury can occur.
- 5. Gloves & Glasses.** Always wear leather gloves and approved safety glasses when using this machine.
- 6. Work area hazards.** Keep the area around the Panel Repair Kit 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.
- 7. Guards.** Operate machine only with all protective devices and guarding.
- 8. Overloading Pump, Ram, Attachments.** Do not over load the machine by using material which exceeds the rated capacity.
- 9. Application.** Panel Repair Kit is designed to repair automotive panels by using either pushing or pulling forces. The Panel Repair Kit including all rams are not to be used for lifting.
- 10. Warning Labels.** Take note of any warning labels on the machine and do not remove them.
- 11. Material Hazard.** Do not bend plastics or other objects that could shatter. Serious injury can occur.
- 12. Pinching.** Prevent pinching by releasing pressure in the ram when not in use.
- 13. 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

Hydraulic/Panel Repair/Ram Kit

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>
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.
C	CUTTING, STABBING OR PUNCTURING	MEDIUM	Ensure rams are positioned at 90 degree before using. Do not use for lifting Use equipment in the correct manner as to avoid parts being ejected out under pressure.
E	STRIKING	MEDIUM	Use equipment in the correct manner as to avoid parts being ejected out under pressure. Ensure all connection hoses are in good working condition and checked regularly
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