

# CLARKE<sup>®</sup>

## STRONG-ARM



**WARNING:** Read these instructions before using the product

## 4 TONNE HYDRAULIC PRESS

### MODEL NO: CSA4B

PART NO: 7613025

## OPERATION & MAINTENANCE INSTRUCTIONS



ORIGINAL INSTRUCTIONS

GC0220 - rev 2

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## INTRODUCTION

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Thank you for purchasing this CLARKE 4 Tonne Hydraulic Press.

Before attempting to operate the machine, it is essential that you read this manual thoroughly and carefully follow all instructions given. In doing so you will ensure the safety of yourself and that of others around you, and you can also look forward to the press giving you long and satisfactory service.

Keep these instructions in a safe place for future reference.

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## SPECIFICATIONS

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Dimensions (D x W x H)	400 x 528 x 685 mm
Rated Load	4 tonne
Throat Width	345 mm
Throat Depth	291 mm
Ram extension piece 1 (length)	82 mm
Ram extension piece 2 (length)	127 mm
Ram travel (total)	121 mm
Ram travel per stroke	3.56 mm
Ram action	Single
Mandrell (pressure cap) dia	29 mm
Steel pressing plates type/size	Pair (150 x 65 x 20 mm)

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## GUARANTEE

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This CLARKE product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt as proof of purchase.

This guarantee is invalid if the product is found to have been abused or tampered with in any way, or not used for the purpose for which it was intended.

Faulty goods should be returned to their place of purchase, no product can be returned to us without prior permission. This guarantee does not effect your statutory rights.

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## SAFETY PRECAUTIONS

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- Due to the weight of the press, the help of an assistant will be beneficial during assembly or when moving the press around.
- Always operate the press on a suitably strong bench with adequate light.
- Before starting work, check for signs of cracked welds, loose or missing bolts, or any other structural damage. Do not operate if any of these conditions exist. Have repairs made only by authorised service centre.
- Before work, always ensure that hydraulic hoses and couplings are completely sound.
- Never tamper with the press components. The safety valve is calibrated and sealed at the factory; do not attempt to change the setting.
- Use only the recommended hydraulic oil.
- The components of this press are designed to withstand the rated capacity. Do not substitute any other components or exceed the rated capacity of the press.
- Before applying pressure, always ensure the workpiece is firmly secure and stable.
- Always clean up spills of hydraulic oil immediately as this can be dangerous in a workshop environment.
- Do not allow any person who is unfamiliar with hydraulic presses, to use the press unless they are under direct supervision.
- Do not stand directly in front of the press when it is in use.
- Always apply the load under the centre of the ram. Offset loads can damage the ram and may cause the work piece to be ejected.
- Always ensure the work piece is properly supported by the press bed.
- When using accessories such as pressing plates, be certain they are centered below the ram and are in full contact with the bed.
- Parts being pressed may shatter or be ejected from the press. In the case of varied applications, it is your responsibility to always use adequate guards, and wear eye protection and protective clothing when using this press.
- Keep hands and fingers away from parts that may pinch or shift.
- Never use extension tubes to increase the length of the pump handle. Excessive effort can cause damage and/or accidents.
- Failure to heed these warnings may result in damage to the equipment, or serious personal injury.

# ASSEMBLY

The following safety symbols are to be found on the machine.

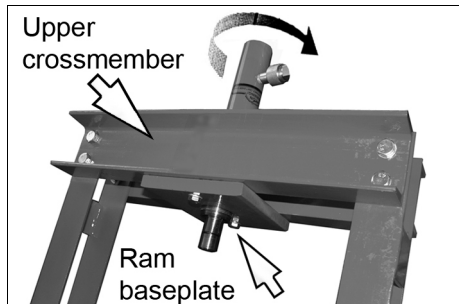
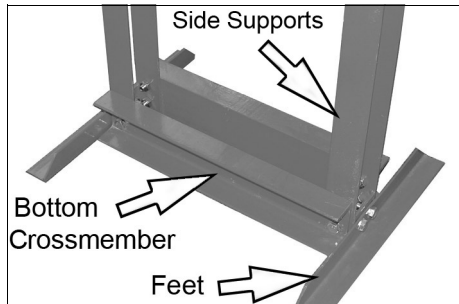
	Read this instruction booklet before use.		Wear protective footwear		Wear eye protection.
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Ensure the press and its components suffered no damage during transit and that all components are present. Should any loss or damage become apparent, please contact your CLARKE dealer immediately.

**IMPORTANT: Due to the weight of the press components, we recommend that you get assistance during assembly.**

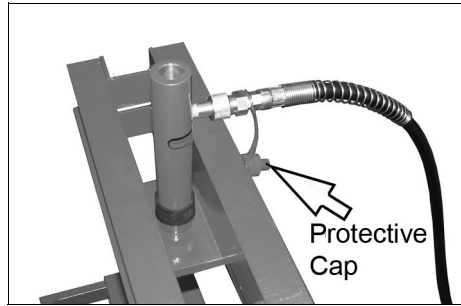
**IMPORTANT: Do not locate your press where it will be open to the elements, as severe weather conditions will damage the hydraulic parts.**

1. Bolt the bottom cross members to the side supports using the nuts, bolts and washers. You may find it better to insert some of the bolts pointing away from the press to avoid obstructing the nuts.
2. Attach the feet to the side supports using the nuts, bolts and washers.
3. Bolt the upper crossmembers to the side supports using the nuts, bolts and washers.
- Assemble loosely before evenly tightening all the bolts at each end with both spring and flat washers.
4. Lift the frame assembly upright and manoeuvre it to its intended location in the workshop.
5. Bolt the ram baseplate to the upper cross beams from below.
6. Insert the ram through the hole in the base plate from above and screw into position.



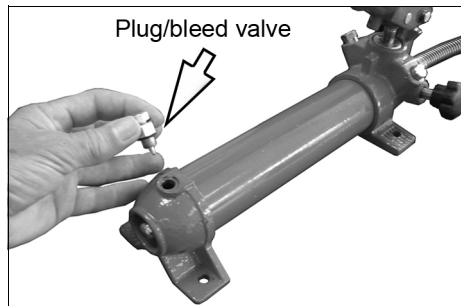
7. Unfasten the protective hose cap and screw the hose onto the threaded connection of the hydraulic ram.

- We recommend sealing the thread with PTFE tape. Take care not to let any oil escape while connecting the hose.



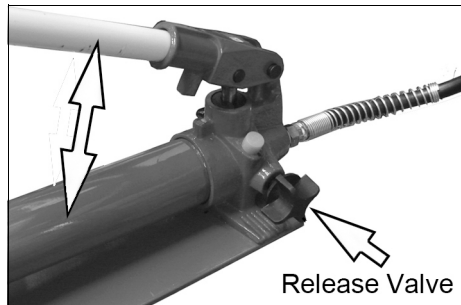
8. Unscrew the filler plug/bleed valve on the end of the cylinder and check that oil can be seen at the bottom of the aperture. Top up if necessary.

9. Screw the pump handle into the pump actuating lever.



## PURGING THE SYSTEM

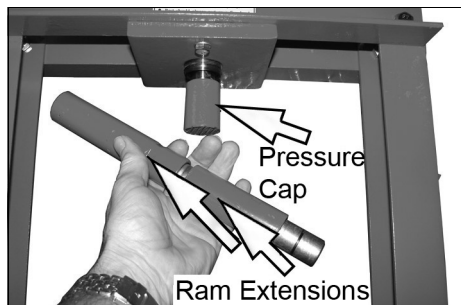
1. Before using the press, purge any air from the system by opening the release valve (turning it anti-clockwise) and pumping several full strokes to eliminate any air bubbles.
2. Close the release valve.
3. Vent any residual air by releasing the bleed valve shown above. Unscrew by hand to release any air before re-tightening.



## FITTING THE RAM EXTENSIONS

1. Fit the ram extensions and pressure cap as required.
2. Check all parts are secure and correctly aligned before using the press.

The press is now ready for use.



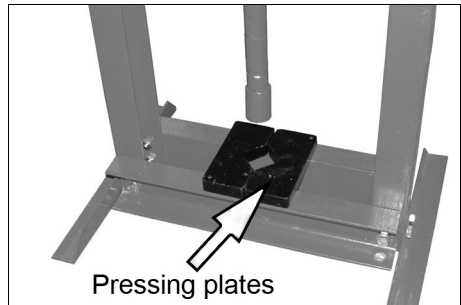
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## OPERATION

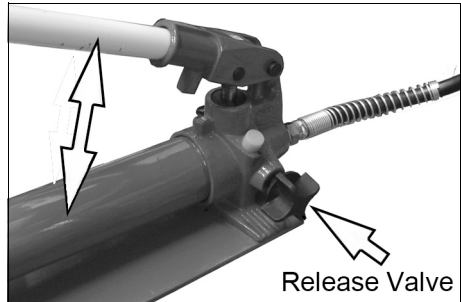
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1. Place the workpiece on the pressing plates supplied. It must be completely stable and supported by packing or shims where required. Place the workpiece on a combination of these to give it stability.

**NOTE:** Any packing pieces or shims used **MUST** be capable of withstanding the pressure that will be brought to bear, and **MUST** be of sufficient size with sufficient surface area, so as to avoid the possibility of slipping or springing out. Mating surfaces **MUST** be horizontal so that the force being exerted will **NOT** be at an angle.



2. Close the release valve by turning it clockwise until tightly closed.
3. Pump the handle to bring the ram very lightly into contact with the workpiece.
4. Position the workpiece so that the desired point of contact is directly beneath the centre of the ram.



5. When satisfied that the workpiece is correctly aligned and is completely stable in that position, slowly pump the handle so that the ram begins to exert pressure on the workpiece. Continue to pump the handle whilst standing to the side. Do **NOT** stand directly in front of the work, and constantly monitor the process, ensuring the ram and work remain completely in line and there is no risk of slipping.
6. When the process is complete, turn the release valve anti-clockwise in small increments to release ram pressure and allow removal of the workpiece.

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**WARNING: NEVER USE EXTENSIONS TO THE RAM PUMPING HANDLE**



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# MAINTENANCE

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## INSPECTION AND STORAGE

1. A visual inspection should be made before each use of the press, checking for leaking hydraulic fluid and damaged, loose, or missing parts.
2. Owners and/or users should be aware that repair of this equipment requires specialised 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 Clarke parts.
3. 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.
4. If the press is not to be used for any length of time, store it with the ram piston withdrawn and the operating handle in the lowered position to protect the moving parts.

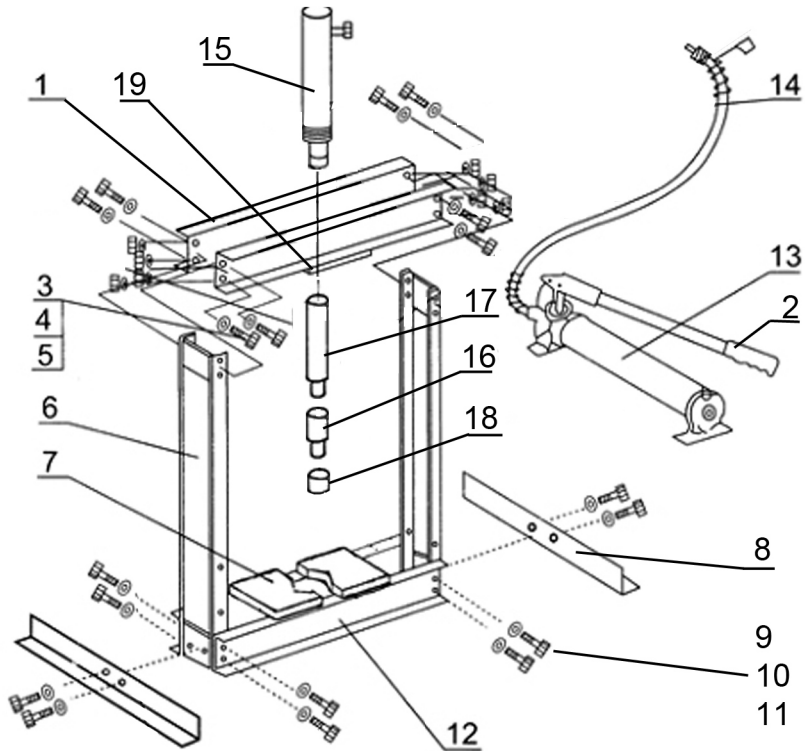
## PERIODICALLY

1. Check the frame to make sure all bolts are tight and inspect for cracked welds, bent, loose or missing parts.
2. 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 level with the bottom of the hole. If necessary top up with CLARKE hydraulic oil, part no 3050830. This task is carried out with the ram fully retracted.
3. If any rust is apparent it must be removed completely and the paint restored.

## DE-COMMISSIONING THE PRODUCT

Should the product become completely unserviceable and require disposal, draw off the oil into an approved container and dispose of the product and the oil according to local regulations.

# FRAME ASSEMBLY PARTS

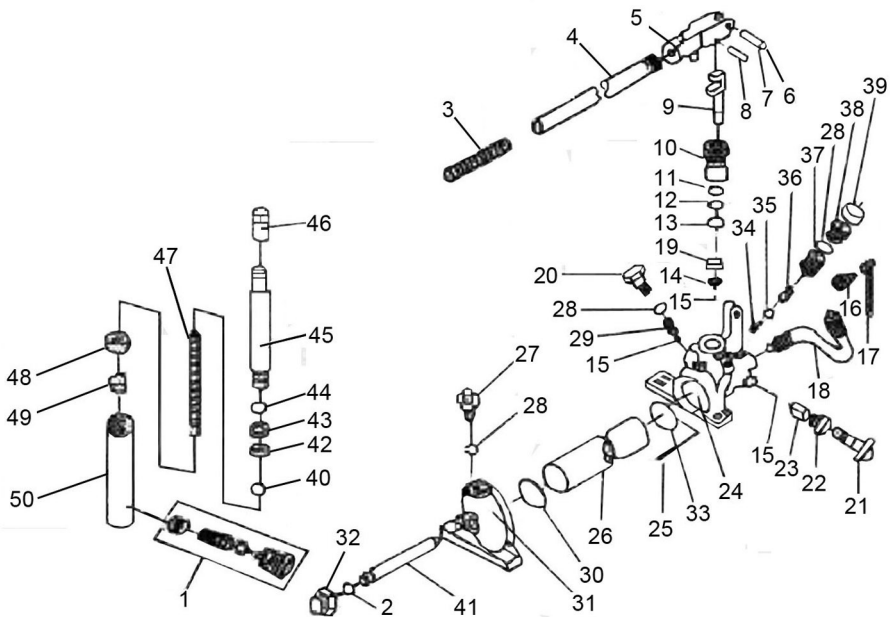


PART NO	DESCRIPTION
1	Upper crossmember
2	Pump Handle
3	Bolt
4	Nut
5	Flat Washer
6	Side Support
7	Pressing Plates
8	Frame Foot
9	Bolt
10	Nut

PART NO	DESCRIPTION
11	Washer
12	Lower Crossmember
13	Pump Assembly Complete
14	Hose Assembly
15	Ram Assembly Complete
16	Ram Extension 82mm
17	Ram Extension 127mm
18	Ram Tip (Cap)
19	Ram mounting Plate



# RAM & PUMP PARTS



PART NO	DESCRIPTION
1	Union Assembly
2	O-Ring
3	Handle Sleeve
4	Handle
5	Handle Socket
6	Circlip
7	Handle Hinge Pin
8	Lower Hinge Pin
9	Plunger
10	Plunger Cover Plug
11	Nylon Gasket
12	O-Ring
13	O-Ring
14	Filter Gauze

PART NO	DESCRIPTION
26	Oil Reservoir
27	Oil Filler /Bleed Valve
28	O-Ring
29	Tapered Spring
30	O-Ring
31	Reservoir Cover
32	Screw
33	O-Ring
34	Ball
35	Ball Seat
36	Spring
37	Adjusting Screw
38	Screw
39	Screw Cover

PART NO	DESCRIPTION
15	Ball
16	Coupling
17	Dust Proof Cover
18	Hydraulic Hose
19	Seal
20	Screw
21	Control Knob
22	Screw
23	Sealing Ring
24	Valve Body
25	Oil Filter

PART NO	DESCRIPTION
40	Retaining Ring
41	Piston
42	Nylon Sealing Ring
43	Bowl
44	Retaining Ring
45	Ram Piston
46	End Cap
47	Tension Spring
48	Screw Cap
49	Piston Ring
50	Ram Cylinder

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## TROUBLESHOOTING

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Problem	Probable Cause	Remedy
Pump unit will not work	Dirt on 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 over-filled 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 seal could be worn out.	Have the pump seal replaced.
Pump will not lower completely	Air-lock	Release air by removing the filler plug

CLARKE hydraulic oil is available, part no 3050830.

# DECLARATION OF CONFORMITY



**Clarke**<sup>®</sup>  
**INTERNATIONAL**

Hemnal Street, Epping, Essex CM16 4LG

## DECLARATION OF CONFORMITY

**This is an important document and should be retained.**

**We hereby declare that this product(s) complies with the following directive(s):**

2006/42/EC      *Machinery Directive.*

**The following standards have been applied to the product(s):**

*EN ISO 12100-1:2003, EN ISO 12100-2:2003, EN 1494:2000 +A1:2008*

The technical documentation required to demonstrate that the product(s) meet(s) the requirement(s) of the aforementioned directive(s) has been compiled and is available for inspection by the relevant enforcement authorities.

The CE mark was first applied in: 2010

**Product Description:**            4 Tonne Hydraulic Bench Press

**Model number(s):**            CSA4B

**Serial / batch Number:**      N/A

**Date of Issue:**                19/12/2019

**Signed:**

**J.A. Clarke**  
**Director**

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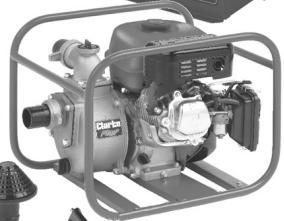
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