

# Clarke® STRONG-ARM



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

## 12 TONNE HYDRAULIC PRESS MODEL NO: CSA12F

PART NO: 7613020

### OPERATION & MAINTENANCE INSTRUCTIONS

CE

ORIGINAL INSTRUCTIONS

GC0220 - rev 4

# INTRODUCTION

Thank you for purchasing this CLARKE 12 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.

## GUARANTEE

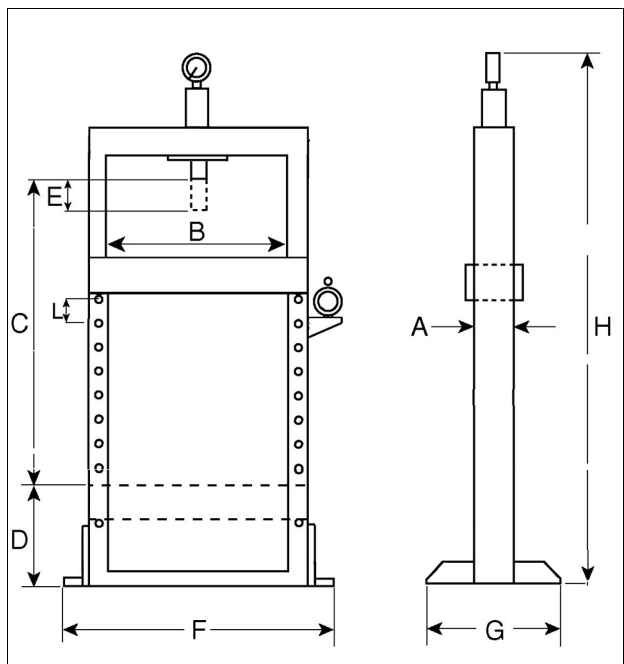
This CLARKE product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt as proof of purchase.

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.

## TECHNICAL SPECIFICATIONS

Capacity	12 tonne
Operating pressure	10000psi
Ram stroke	184mm
Ram diameter	42mm
Net weight	85kg
Dimensions	
A) 80mm	
B) 515mm	
C) 945mm	
D) 205mm	
E) 185mm	
F) 695mm	
G) 500mm	
H) 1662mm	
L) 152mm	



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## SAFETY PRECAUTIONS

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- The components of this press are specially designed to withstand the rated capacity. Do not substitute bolts, pins, or any other components.
- During assembly or if the press is moved, always call for the help of an assistant, do not manhandle single-handedly.
- Ensure the press is bolted down onto a solid, flat surface.
- Ensure the press is located on firm level ground with adequate light.
- Before applying a load, ensure all press bed support pins are fully engaged.
- Ensure that hydraulic hoses and couplings are completely sound.
- Before use, always ensure the workpiece is firmly secure and stable.
- Always clean spills of hydraulic oil immediately as this can be dangerous in a workshop environment.
- 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.
- Do not work directly in front of the press when it is in use.
- Never tamper with the press. The safety valve is calibrated and sealed at the factory; do not attempt to change the setting.
- Use only the recommended hydraulic oil.
- Always apply the load under the centre of the ram. Offset loads can damage the ram or ram mount and may cause the work piece to eject.
- Before use, check for signs of cracked welds, bent bed pins, loose or missing bolts, or any other structural damage. Do not operate if any of these are found. Have repairs made only by authorised service centre.
- Remove any load from press bed before attempting to adjust bed height.
- Press only on a work piece 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 splinter or be ejected from the press. Due to varied applications, it is your responsibility to always use adequate guards, wear eye protection and protective clothing when operating this press.
- Keep hands and fingers away from parts that may pinch and shift.
- Do not use extension tubes on the pump handle. Excessive effort can cause damage and/or accidents.

# ASSEMBLY

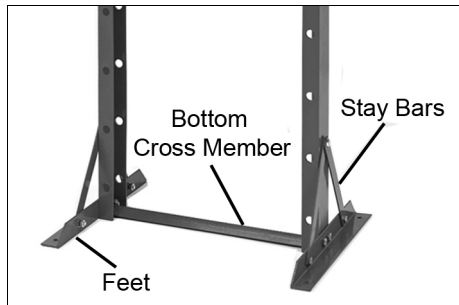
Ensure the press and its components suffered no damage during transit and that all components are present. Should any loss or damage become apparent, please contact your CLARKE dealer immediately.

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

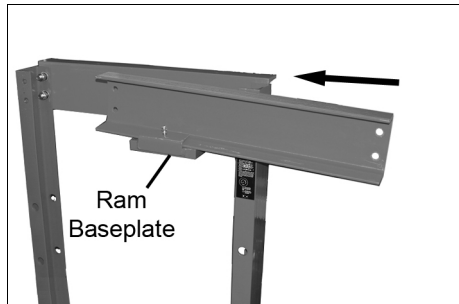
**IMPORTANT: We strongly recommend that the press be firmly secured to a firm and level floor using expansion bolts (not supplied). Holes are provided in the base supports for this purpose.**

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

1. Attach the feet and the bottom cross member to the side supports, using the nuts, bolts and washers.
2. Add the stay bars to each side and bolt into place.

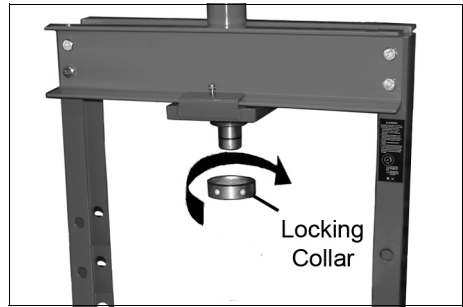


3. Bolt one of the cross beams to the side supports, Attach the ram baseplate to the cross beam, securing it with the socket headed bolt.
4. Add the other cross beam by sliding it along the ram baseplate from one end.

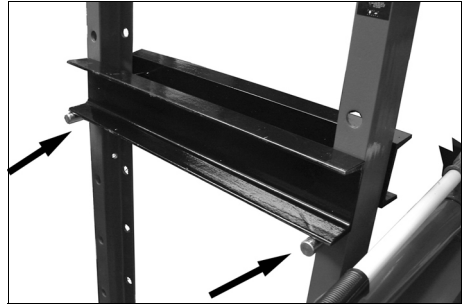


5. Assemble loosely before tightening all the bolts at each end with both spring and flat washers. Position the ram baseplate centrally and lock in position.
6. With the help of an assistant, lift the frame assembly upright and manoeuvre it to its intended location in the workshop.

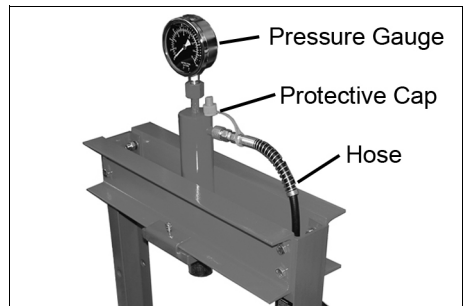
7. With the upper ring already screwed home onto the ram body as supplied, lower the ram through the hole in the base plate and secure in position using the locking collar.



8. Insert the bed support pins into the holes in the side support at a height of your choosing. Then lower the bed frame onto the pins.



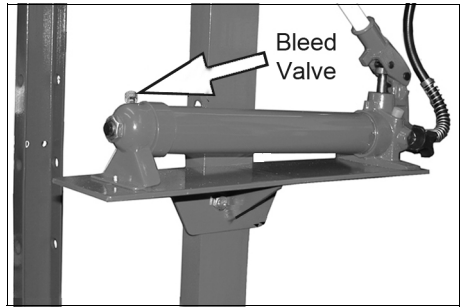
9. Screw the pressure gauge to the connecting nut on top of the ram cylinder. Seal the thread with PTFE tape, ensuring it is tight when the gauge is facing the front of the press.



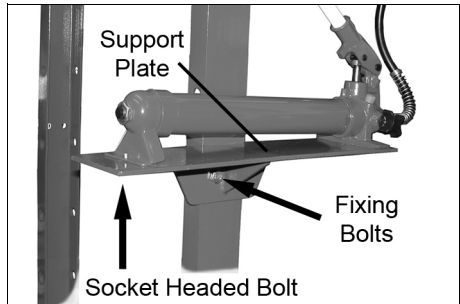
10. Pass the hydraulic hose through the gap between the two cross beams. Unfasten the protective hose caps and screw the hose onto the threaded connection of the hydraulic ram.

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

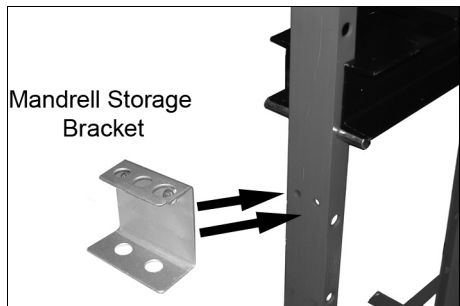
12. Unscrew the air bleed valve and check that the pump is filled with hydraulic oil up to a visible level.
13. If empty, the total capacity is 630ml.



14. Attach the pump support plate to the right-hand side support using the fixing bolts, nuts and washers, ensuring it is level before tightening the bolts.
15. Bolt the pump to the support plate using the socket head bolts from below, then screw the pump handle into the pump actuating lever.

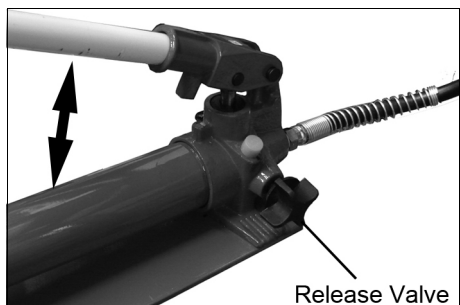


16. A set of mandrels complete with storage bracket is available from your Clarke dealer. If this is provided, bolt the mandrel storage bracket to the side of the frame using the bolts supplied.
17. If fitted, store the mandrels (including the adaptor) in their positions on the bracket.



## PUMP/RAM OPERATION

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. Check all parts are secure and correctly aligned before using the press.
- The press is now ready for use.



## POSITIONING THE BED

**IMPORTANT:** Due to the weight of the bed, we recommend that you get assistance from another person when adjusting the bed height.

1. Position the bed at the desired height, so that it will be as close as possible to the ram when the workpiece is mounted on it.
2. Raise one side of the bed and insert a supporting pin into the next locating hole.
3. Repeat at the other end to level the bed.
4. Repeat until the bed is at the desired height, with the supporting pins fully 'home'.

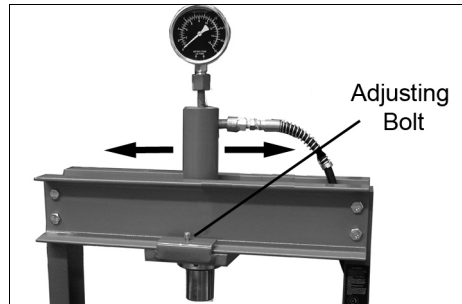


CAUTION: THE BED HEIGHT SHOULD ONLY BE RAISED OR LOWERED ONE HOLE AT A TIME, WORKING ALTERNATELY FROM ONE SIDE AND THEN THE OTHER. FAILURE TO WORK IN THIS WAY MAY CAUSE THE BED TO FALL AND CAUSE INJURY TO THE OPERATOR.

## POSITIONING THE RAM

The ram can be positioned as required by sliding it along the cross-beam. Lock it in position with the socket head adjusting bolt on each side.

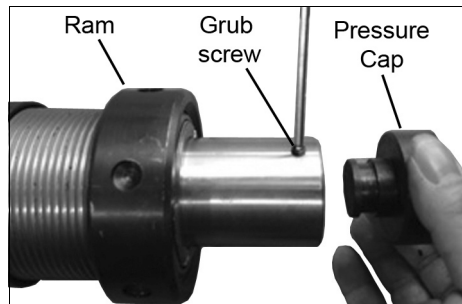
- Always position the ram directly above the workpiece.



## FITTING THE MANDRELS OR PRESSURE CAP

Four mandrels are provided, any of which may be connected to the end of the ram using the adaptor supplied.

Alternatively, the basic ram pressure cap can be fitted as shown. Secure the pressure cap by tightening the grub screw with a suitable hex key.

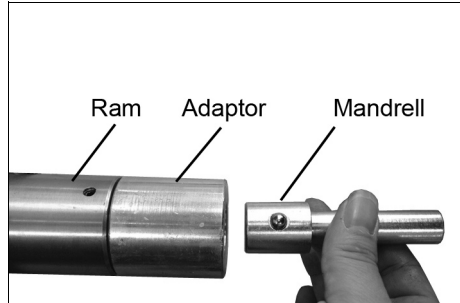
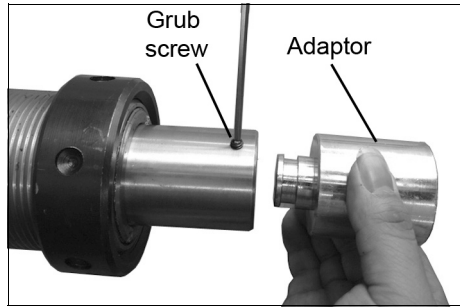


If one of the mandrels is required, the adaptor must be fitted instead of the pressure cap. Secure the adaptor by tightening the grub screw with a suitable hex key as previous.

Select your mandrell depending upon the size of the workpiece bearing surface.

The mandrell can then be pushed into the adaptor where the built-in spring clip will hold it in place.

Store the mandrels in their positions on the mounting bracket when not in use.



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## OPERATION

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**WARNING: FAILURE TO HEED THE WARNINGS ON PAGE 3 MAY RESULT IN DAMAGE TO THE EQUIPMENT, OR FAILURE RESULTING IN PROPERTY DAMAGE, PERSONAL, OR EVEN FATAL INJURY.**

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

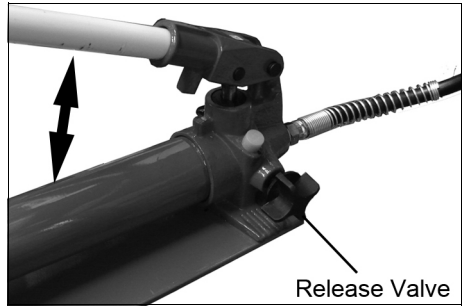


**CAUTION: DO NOT POINT LOAD THESE ACCESSORIES AS THEY ARE NOT DESIGNED TO TAKE THE FULL FORCE OF THE RAM IN ONE SPOT. ENSURE THEY ARE ADEQUATELY SUPPORTED.**

**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. Manoeuvre the workpiece or slide the ram to one side 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 anticlockwise 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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- 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 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.
- 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 piston withdrawn and the operating handle in the lowered position to protect the moving parts.

### PERIODICALLY

- Check the press frame to make sure all bolts are tight and inspect for cracked welds, bent, loose or missing parts.

- 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.**
- If any rust is apparent it must be removed completely and the paint restored.

### DE-COMMISSIONING 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.

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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 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

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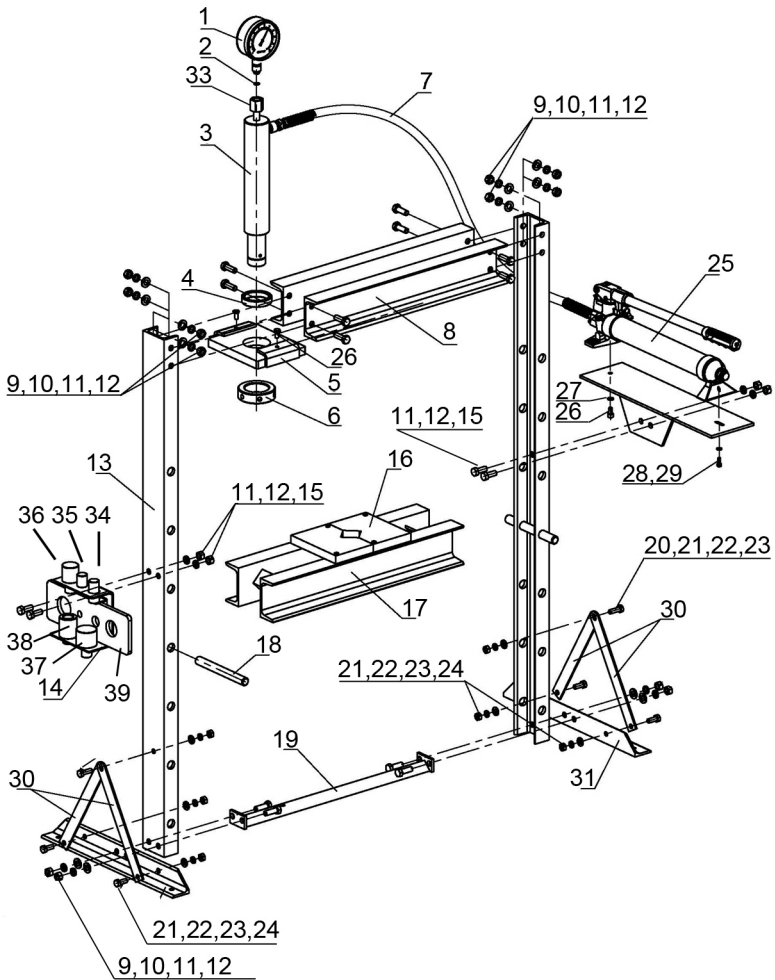
## ACCESSORIES

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7-piece mandrell (adaptor) kit for CSA12F Press: part no 7615060.

(Also listed as items 14 & 34 -39 on the parts list (pages 12 & 13).

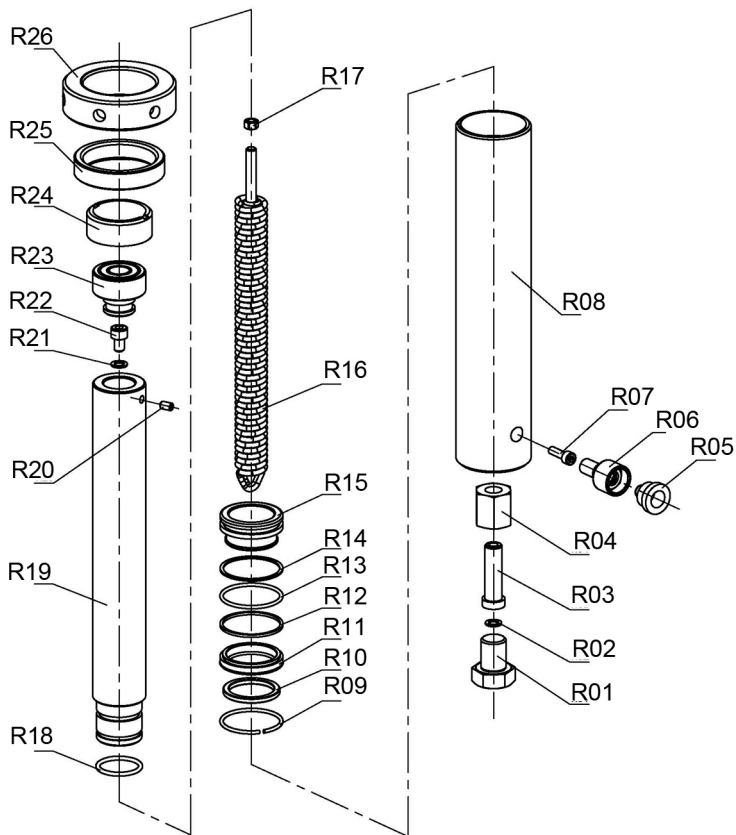
# FRAME ASSEMBLY PARTS DIAGRAM



## PARTS LISTS

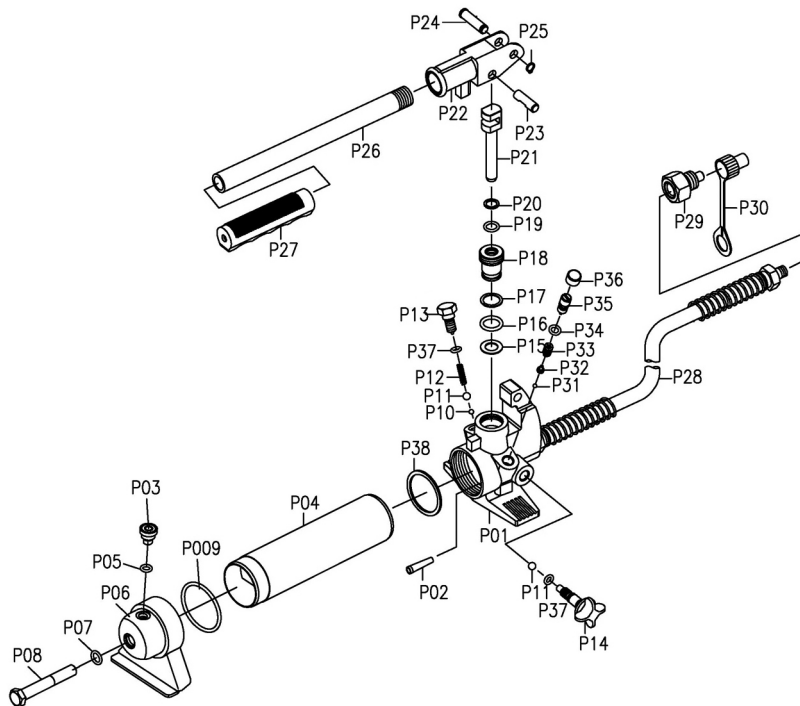
PART NO	DESCRIPTION	PART NO	DESCRIPTION
1	Pressure Gauge	21	Washer 10mm
2	Nylon Washer	22	Spring Washer 10mm
3	Ram Assembly	23	M10 Nut
4	Upper Collar	24	Bolt M10 x 25
5	Ram Base Plate	25	Pump Assembly
6	Lower Collar	26	Bolt M6 x 16 Hex Hd
7	Hydraulic Hose	27	Washer 6mm
8	Cross beam	28	Bolt M8 x 16
9	Bolt M12 x 35	29	Washer 8 mm
10	Washer 12mm	30	Stay Bar
11	Spring Washer 12mm	31	Foot
12	M12 Nut	32	Pump Support Plate
13	Side Support	33	Connecting Nut
14	Mandrell/Adaptor Bracket	34	15mm Mandrell
15	Bolt M12 x 30	35	25mm Mandrell
16	Heel Blocks	36	40mm Mandrell
17	Press Bed	37	50mm Mandrell
18	Supporting Pins	38	Adaptor Headpiece
19	Bottom Cross Member	39	Pressing Plate
20	Bolt M10 x 30		

# RAM PARTS DIAGRAM



PART NO	DESCRIPTION	PART NO	DESCRIPTION	PART NO	DESCRIPTION
R1	Bolt M20 x 25	R10	O-Ring	R19	Ram Piston
R2	O-Ring	R11	O-Ring 40 x 5.3	R20	Grub Screw M6x10
R3	Connector	R12	Sealing Ring	R21	Washer
R4	Gauge Coupling	R13	O-Ring 45x2.65	R22	Bolt M8 x 12
R5	Dust Cap	R14	O-ring 46.5 x 1.5	R23	Threaded End
R6	Connector Nut	R15	Distance Piece	R24	Cap Piece
R7	Bolt M8 x 30	R16	Spring	R25	Upper Ring
R8	Cylinder	R17	Nut M8	R26	Locking Collar
R9	Circlip	R18	O-Ring 29.5x3.55		

# PUMP PARTS DIAGRAM



PART NO	DESCRIPTION	PART NO	DESCRIPTION	PART NO	DESCRIPTION
P01	Pump Housing	P14	Release Knob	P27	Hand Grip
P02	Pin	P15	Sealing Washer	P28	Connecting Hose
P03	Bleed Screw	P16	Sealing Washer	P29	Hose Connection
P04	Cylinder Body	P17	Piston Ring	P30	Dust Cover
P05	O-Ring	P18	Piston	P31	Steel ball
P06	End Housing	P19	Sealing Ring	P32	Seat
P07	O-ring	P20	O-Ring	P33	Spring
P08	Bolt	P21	Operating Rod	P34	O-Ring
P09	O-ring	P22	Operating Yoke	P35	Relief Valve Body
P10	Steel Ball	P23	Locating Pin	P36	Plastic Cap
P11	Steel Ball	P24	Pivot Pin	P37	O-Ring
P12	Spring	P25	Circlip	P38	O-Ring
P13	Valve Bolt	P26	Operating Handle		

# DECLARATION OF CONFORMITY



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

Hemnall 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):**

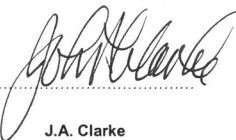
*EN ISO 12100:2010, EN ISO 13857:2008, EN349:1993+A1:2008,  
EN 1494:2000+A1:2008*

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: 2009

**Product Description:** 12 Tonne Hydraulic Floor Press  
**Model number(s):** CSA12F  
**Serial / batch Number:** N/A  
**Date of Issue:** 02/01/20

**Signed:**



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

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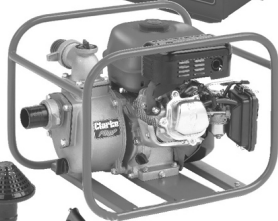
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