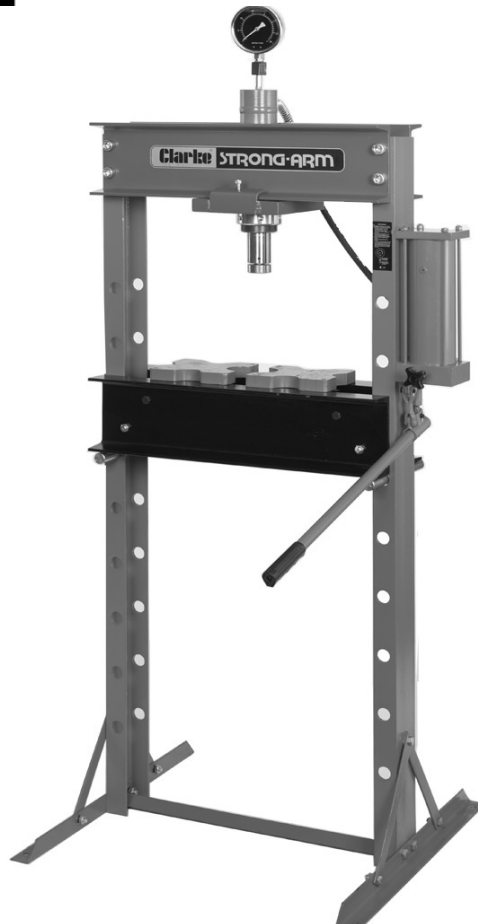


Clarke® STRONG-ARM



20 TONNE HYDRAULIC PRESS

MODEL NO: CSA20FBT

PART NO: 7614058

OPERATION & MAINTENANCE INSTRUCTIONS

UK
CA | CE

WARNING: Read these instructions before using the press

ORIGINAL INSTRUCTIONS

DL0123 - ISS 4

INTRODUCTION

Thank you for purchasing this CLARKE 20 Tonne Hydraulic Press.

Before attempting to operate the press 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.

SAFETY PRECAUTIONS

- Due to the weight of the press, the help of an assistant will be beneficial during assembly and installation.
- Always operate the press 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.

UNPACKING

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

INVENTORY

- 1 x Lower Cross Member
- 2 x Side Posts
- 2 x Upper Cross Members
- 2 x Base Supports
- 4 x Stay Bars
- 1 x Ram
- 1 x Ram Carrier
- 1 x Ram Locking Collar
- 1 x Pump Assembly
- 1 x Pump Handle
- 1 x Hose (attached to pump assembly)
- 1 x Pressure Gauge
- 2 x Pressing Bed Side Frames
- 2 x Bed Support Pins with 4 x Spring Clips
- 2 x Bed Blocks
- 1 x Instruction Manual
- 1 x Fixing Pack

TOOLS REQUIRED

- Wrenches & sockets to suit M10/M12/M16 nuts/bolts or an adjustable wrench
- Spanners to suit pressure gauge/hydraulic hose connections
- Hexagonal key set
- PTFE tape

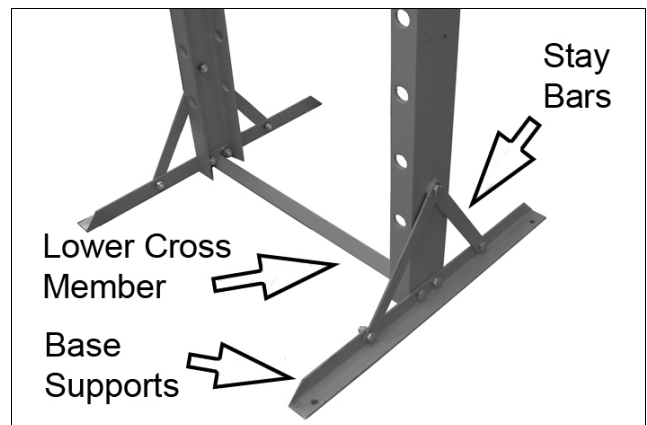
ASSEMBLY

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

IMPORTANT: The press should 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 harsh weather conditions will damage the hydraulic parts.

1. With the help of an assistant, attach the base supports to the side posts using the nuts, bolts and washers.
2. Add the stay bars to each side and bolt into place.

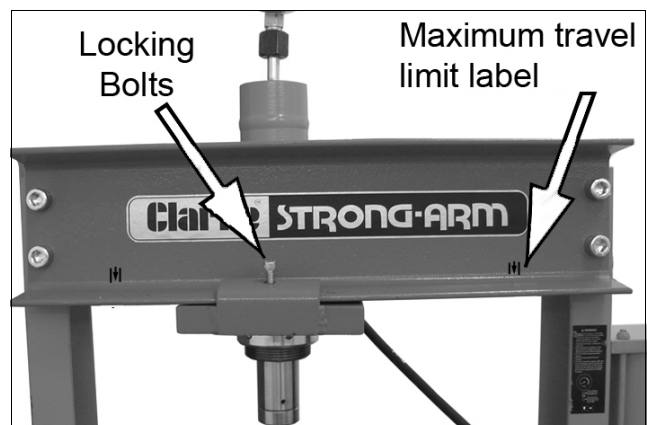


3. Bolt one of the upper cross members into place to connect the side posts together.
4. Take the second upper cross member and the ram carrier and tie the two cross members together using the ram carrier. Then bolt the second cross member to the side posts as shown.



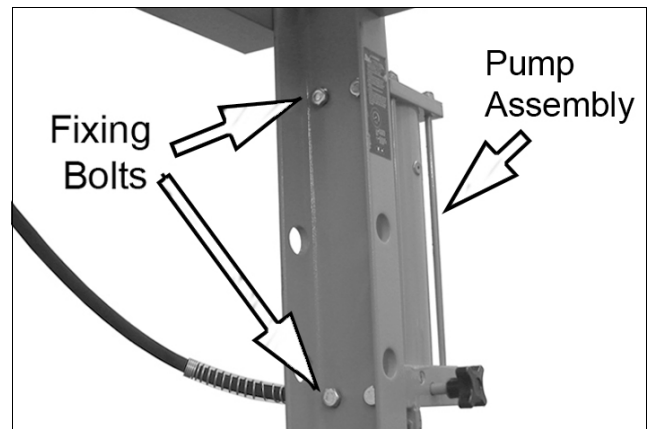
- The ram carrier can slide along the cross members.

5. Fit and tighten the locking bolts loosely to stop the ram carrier from sliding to and fro.
6. Lift the complete press assembly upright and manoeuvre it to its intended location in the workshop.



7. Bolt the pump assembly to one of the side posts. Thread the fixing bolts through the side post from the inside as shown.

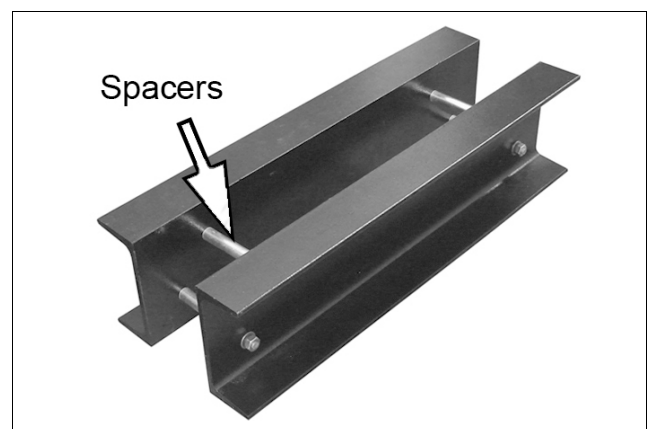
- This will become the right hand side of the press.



8. Lower the ram through the hole in the moving ram carrier and secure in position using the locking collar.



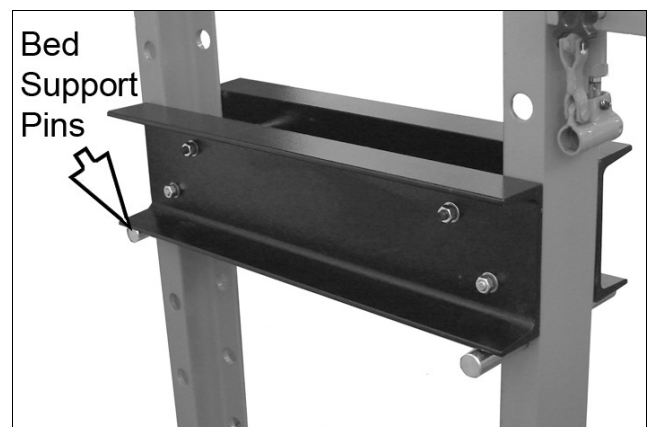
9. Assemble the pressing bed using the four spacers and the 140mm bolts with nuts and washers.



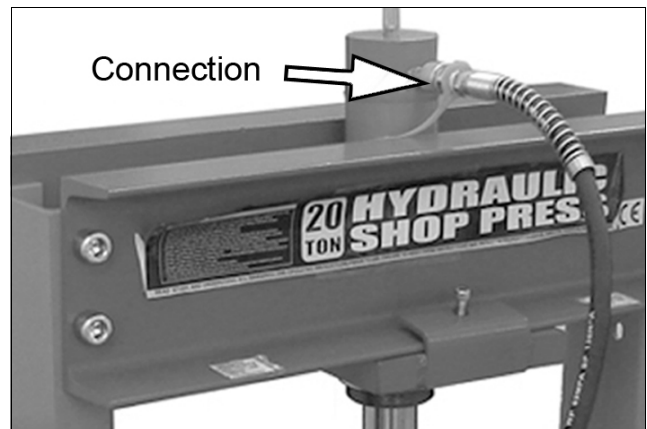
10. Insert the bed support pins into the holes in the frame side supports at a height of your choosing.

11. Lift the pressing bed into position on the pins.

- Due to the weight of the bed, we recommend that you get assistance from another person.



12. Connect the hydraulic hose to the ram cylinder, sealing the joint with PTFE tape and tighten using two open ended spanners.



13. The pressure gauge is sealed for transit and it will be necessary to make a small hole in the pressure gauge safety bung with a short pin or nail before use.

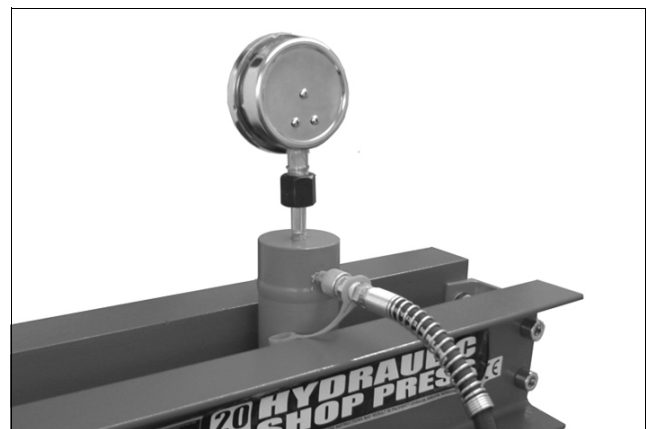
- Do not use a long nail as you may damage the internal components of the gauge.



14. Bolt the pressure gauge into position on the hydraulic ram.

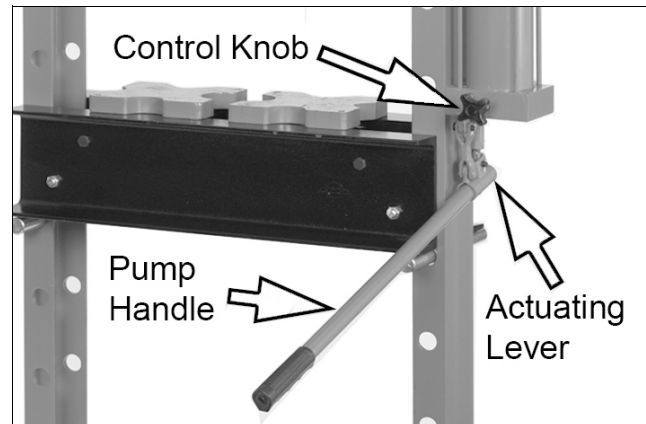
- We recommend sealing the thread with PTFE tape. Take care not to let any oil escape while connecting the hose.

15. Top up the hydraulic oil to the lower level of the filler plug.



PREPARATION FOR USE

1. Insert the pump handle into the actuating lever.
2. Purge any air from the system by opening the release valve (turning the control knob anti-clockwise) and pumping several full strokes to eliminate any air bubbles. Close the valve using the control knob (clockwise).



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.

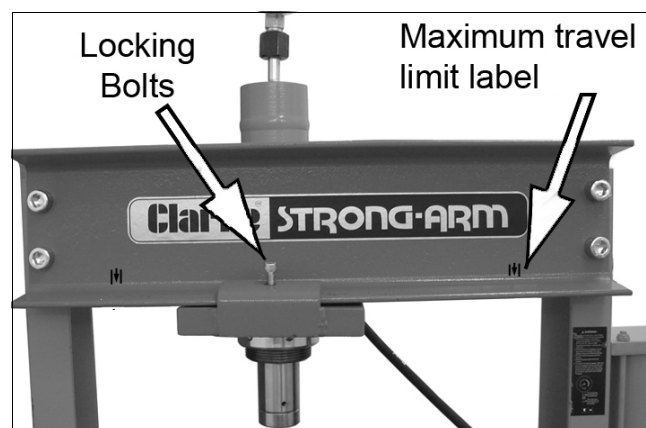
1. Position the bed so that it will be as close as possible to the ram when the workpiece is mounted on it.
2. Raise one side of the bed and insert a bed supporting pin into the next locating hole.
3. Repeat at the other end to level the bed.
4. Repeat until the bed is at the required height, with the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



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

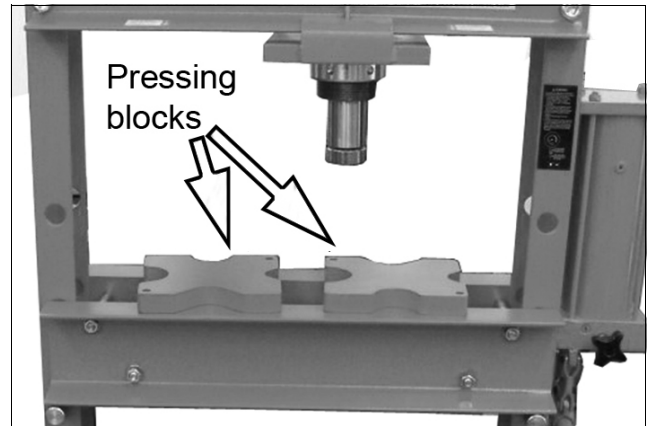
1. Loosen the locking bolts and position the ram as required by sliding the carriage along the cross-beam.
2. Lock it in position with the locking bolts.
 - Always position the ram directly above the workpiece and do not position it outside the range indicated by the maximum travel limit labels.



POSITIONING THE PRESSING BLOCKS

The pressing blocks can be placed on the bed to suit the work.

Check all parts are secure and correctly aligned before using the press.



OPERATION

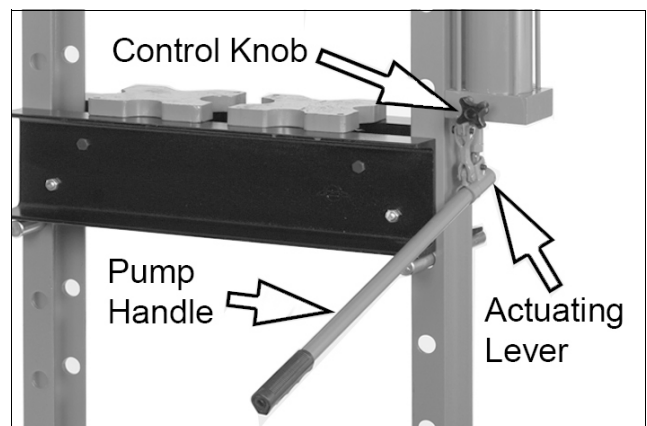
1. Place the workpiece on the bed. It must be completely stable and supported by packing or shims where required. Pressing plates are supplied, which locate on the bed. Place the workpiece on these to give it stability.



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. NEVER USE EXTENSIONS TO THE PUMPING HANDLE.

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 the control knob 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. Observe the reading on the pressure gauge and take care not to exceed the rated working pressure of the press.
 - The scale from 20 metric tonnes upward is highlighted in red, indicating pressure being applied above the rated maximum working pressure.
7. When the process is complete, turn the release valve control knob anticlockwise in small increments to release ram pressure and allow removal of the workpiece.

MAINTENANCE

ROUTINELY

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 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.

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.

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.

DISPOSAL OF UNWANTED MATERIALS

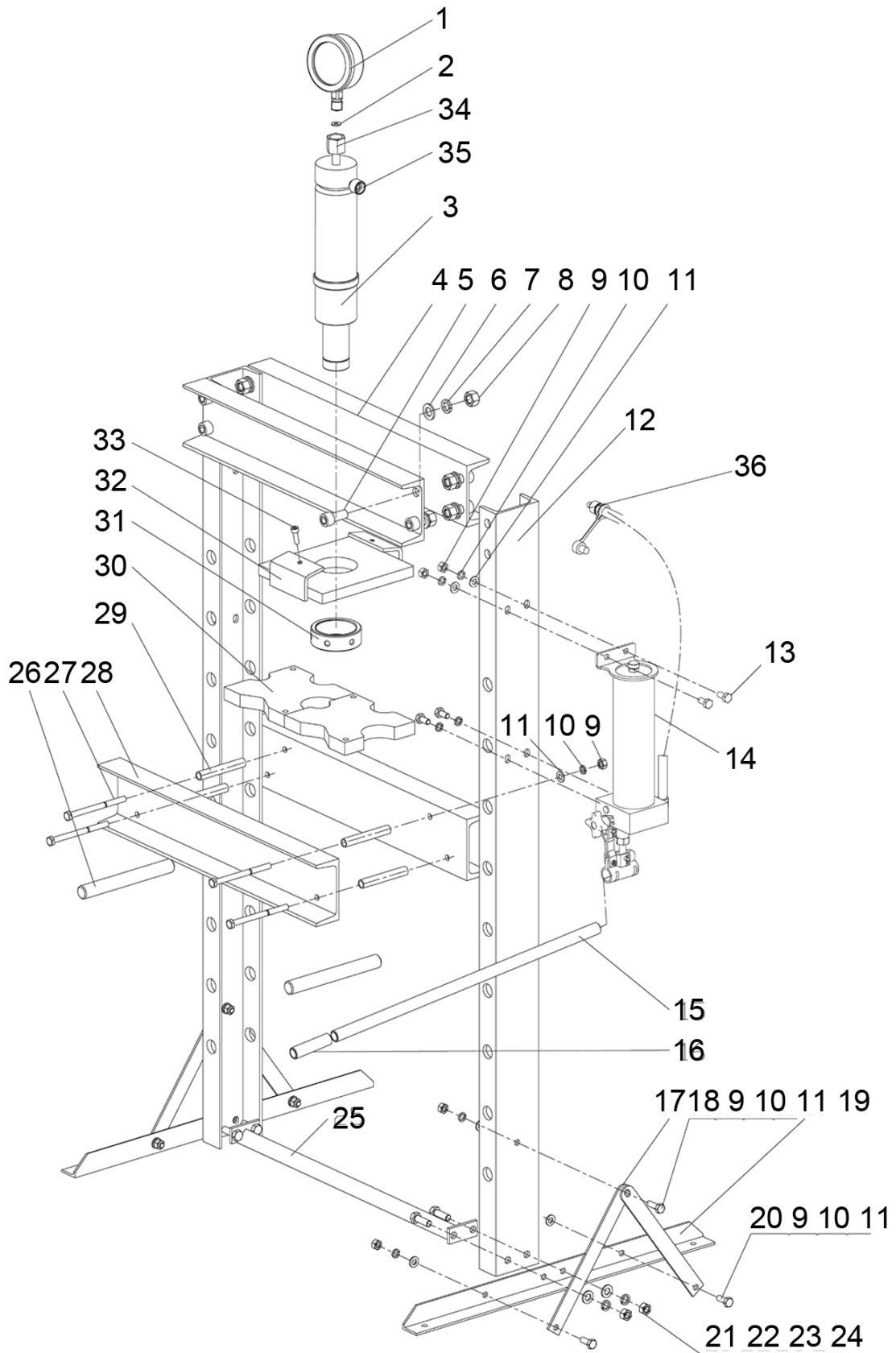
One of the most damaging sources of environmental pollution is oil products. Never throw away used oil with domestic refuse or flush it down a sink or drain. Collect any oil in a leak proof container and take it to your local waste disposal site.

Should hydraulic components 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.

TROUBLESHOOTING

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.

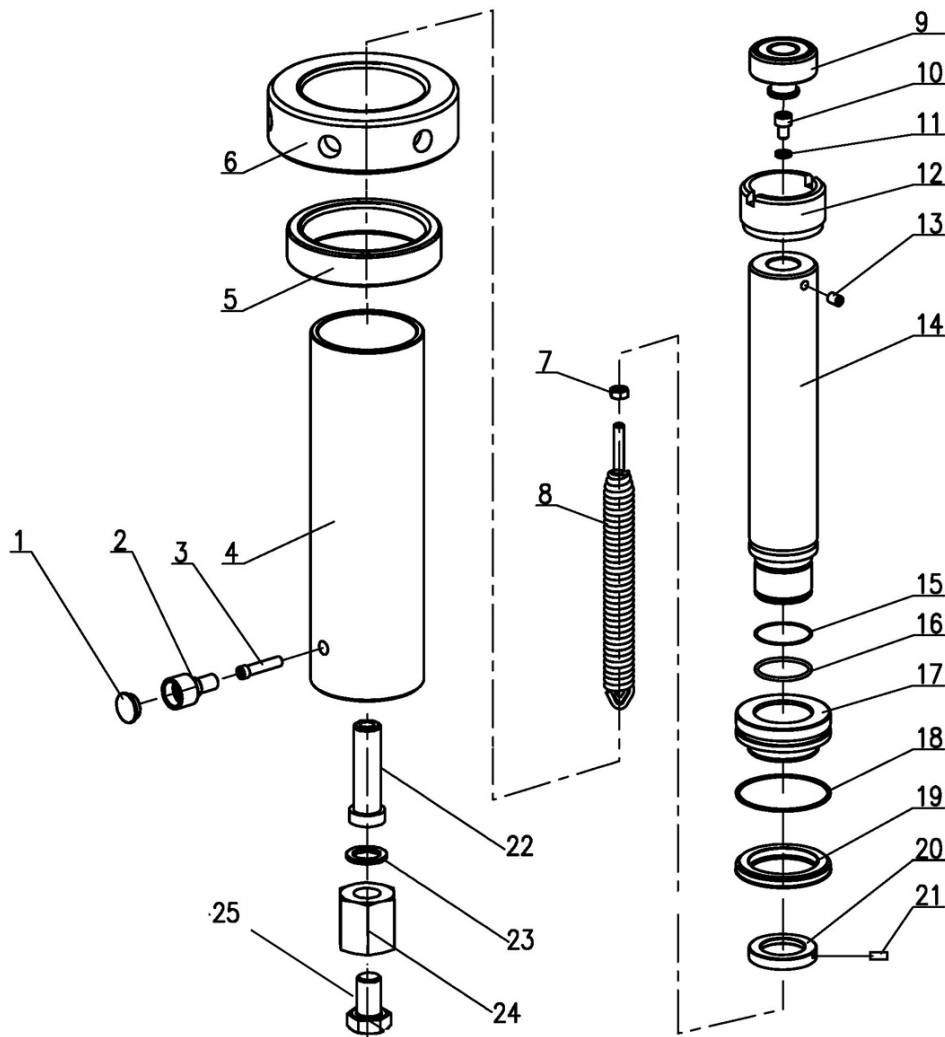
FRAME ASSEMBLY PARTS DIAGRAM



FRAME ASSEMBLY PARTS LIST

PART NO	DESCRIPTION	PART NO	DESCRIPTION
1	Pressure Gauge	19	Base Foot
2	Nylon Ring	20	Bolt M10 x 20
3	Ram Assembly	21	Bolt M12 x 35
4	Upper Crossbeam	22	Washer 12mm
5	Bolt M8 x 35	23	Spring Washer 12
6	Washer 16mm	24	Nut M12
7	Spring Washer 16	25	Tie Bar
8	Nut M16	26	Support Pins
9	Nut M10	27	Bolt M10 x 140
10	Spring Washer 10	28	Press Bed
11	Washer 10mm	29	Stay bar
12	Side Post	30	Pressing Blocks
13	Bolt M10 x 25	31	Retaining Collar
14	Hydraulic Pump Assembly	32	Ram Carriage
15	Handle	33	Bolt M8 x 25
16	Handle Grip	34	Gauge connecting nut
17	Arm Support	35	Connecting nut
18	Bolt M10 x 30	36	Hose Assembly

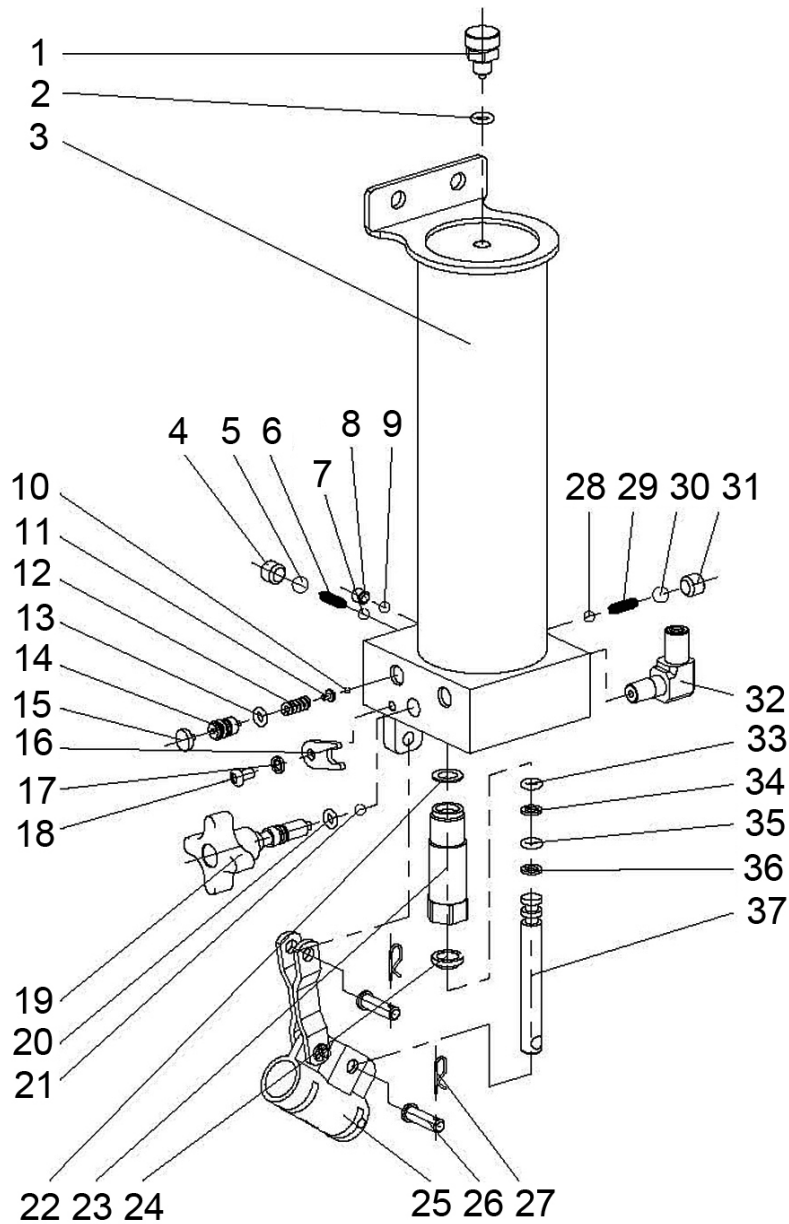
RAM PARTS DIAGRAM



PART NO	DESCRIPTION
R1	Dust Cap
R2	Connection
R3	Bolt Screw
R4	Ram
R5	Ram Sleeve
R6	Ram Sleeve Base
R7	M8 Nut
R8	Spring
R9	Cap
R10	Bolt M8 x 12
R11	Seal
R12	Screw Cover
R13	Bolt M6 x 12

PART NO	DESCRIPTION
R14	Cylinder
R15	O-Ring
R16	O-Ring
R17	Piston
R18	Back-up Ring
R19	Y-Seal
R20	Swivel Nut
R21	Bolt M6 x 6
R22	Gauge Connector
R23	Seal
R24	Nut
R25	Bolt M20 x 25

PUMP COMPONENT PARTS



PART NO	DESCRIPTION
P1	Air bleed screw
P2	O-ring
P3	Hydraulic pump unit
P4	Grub Screw M12x1.25x10
P5	Ball Valve 9
P6	Spring
P7	Ball valve 6
P8	Screw M8 x 8

PART NO	DESCRIPTION
P9	Ball valve 6
P10	Ball valve 3
P11	Spring plate
P12	Spring safety valve
P13	O-ring
P14	Pressure adjusting screw
P15	Safety valve cap
P16	Limit block

PUMP COMPONENT PARTS (CONT)

PART NO	DESCRIPTION	PART NO	DESCRIPTION
P17	Spring washer 6	P28	Ball valve
P18	Bolt M6x10	P29	Spring
P19	Release valve control knob	P30	Ball valve
P20	O-ring	P31	Screw M12x1.25x10
P21	Ball valve 6	P32	Angle coupling block
P22	Copper washer	P33	O-ring
P23	Pump body	P34	O-ring
P24	J-ring	P35	O-ring
P25	Actuating lever	P36	O-ring
P26	Pin	P37	Piston rod
P27	R-clip		

TECHNICAL SPECIFICATIONS

Rated Load	20 Tonne
Ram Travel (total movement)	250 mm
Ram Shaft Diameter	48 mm
Net Weight	115 kg
Dimensions D x W x H	700 x 723 (exc pump) x 1770 mm
Throat Width	540 mm
Throat Depth (Ram to pressing plate)	Platform at highest;- 0 mm Platform at middle;- 360 mm Platform at lowest;- 840 mm
Ram travel per stroke	1.04 mm
No of strokes to full extension	230
Pressure Gauge type	Oil Filled (Accuracy class 2.5)
Length of Handle	620 mm
Pump Oil Capacity	1000mL (SAE10)

DECLARATION OF CONFORMITY - UKCA



Clarke[®]
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 statutory requirement(s):

Supply of Machinery (Safety) Regulations 2008

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

EN ISO 12100:2010, EN 1494:2000+A1:2008.

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

The UKCA mark was first applied in: 2023

Product Description: 20 Tonne Hydraulic Press
Model number(s): CSA20FBT
Serial / batch Number: N/A
Date of Issue: 18/01/2023

Signed:

J.A. Clarke
Director

DECLARATION OF CONFORMITY - CE



Clarke[®]
INTERNATIONAL

Fitzwilliam Hall, Fitzwilliam Place, Dublin 2

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 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: 2014

Product Description: 20 Tonne Hydraulic Press
Model number(s): CSA20FBT
Serial / batch Number: N/A
Date of Issue: 18/01/2023

Signed:

J.A. Clarke
Director

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