

CLARKE®

STRONG-ARM



BODY REPAIR KIT

MODEL NO: CS4BRK, CS10BRK & CS10SBRK

PART NO: 7617000, 7617005 & 7617010

OPERATION & MAINTENANCE INSTRUCTIONS

UK
CA | CE

ORIGINAL INSTRUCTIONS

DL1222 - Rev 6

INTRODUCTION

Thank you for purchasing this CLARKE Body Repair Kit. This manual covers the compact 4 Tonne Kit and the larger 10 Tonne kits, the CS10SBRK featuring a faster acting hydraulic pump.

Before attempting to use this product, please read this manual thoroughly and follow the instructions carefully. In doing so you will ensure the safety of yourself and that of others around you, and you can look forward to your purchase giving you long and satisfactory service.

GUARANTEE

This product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt which will be required 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.

ENVIRONMENTAL PROTECTION

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

If disposing of this product or any damaged components, do not dispose of with general waste. This product contains valuable raw materials and should be taken to your local civic amenity site for recycling of metal products.

SPECIFICATIONS

	CS4BRK	CS10BRK	CS10SBRK
Weight (complete in case)	17.6 kg	30 kg	
Moulded case dims (LxWxH) mm	580x215x170	720x390x160	
Length of handle	265mm	465 mm	
Pressure relief pressure	4 ton	10 ton	
Pump unit dimns (LxWxH)	330x130x140	510 x140 x140mm	
Pump rated operating pressure	63 Mpa	62 Mpa	
Pump oil capacity	250 g	500 g	
Hose dimns (Lx O/D)	1150 x17mm	1350 x17mm	
Max operating pressure	140 psi		
Ram unit length (ret/ext)	270 x 395 mm	370 x 512mm	
Ram rated operating force	4 Tonne	10 Tonne	
Ram piston stroke	125 mm	142 mm	
Hydraulic spreader dimns	230x50x60mm	230 x 50 x 65mm	
Spreader max rated load	0.5 Tonne		
Spreader opening	16-90mm	20-100mm	
Base rated load	4 tonne	10 tonne	
Angled toe rated load	4 tonne	4 tonne	
Circular head rated load	4 tonne	10 tonne	
Square V-head	4 tonne	10 tonne	
Rubber head	4 tonne	10 tonne	
Plate head	4 tonne	10 tonne	
Removable connector	4 tonne	10 tonne	
Extension tubes	2 tonne	5 tonne	

SAFETY PRECAUTIONS



WARNING: THE OPERATOR MUST FOLLOW ALL INSTRUCTIONS WITHIN THIS INSTRUCTION BOOKLET

WORK AREA

1. Keep the work area clean and well lit. Cluttered and dark areas invite accidents.
2. Keep children and bystanders away while working. Distractions can cause you to lose control and bystanders should be kept at a safe distance from the working area especially when work is in progress.

PERSONAL SAFETY

1. Stay alert, watch what you are doing and use common sense when using this equipment. Do not operate this equipment when you are tired, ill or under the influence of alcohol, drugs or medication.
2. Do not over-reach. Keep your proper footing and balance at all times. This enables better control of the equipment in unexpected situations.
3. Concentrate on the job in hand, no matter how trivial it may seem. Be aware that accidents are caused by carelessness due to familiarity.
4. Do not wear loose clothing or jewelry which may get caught in moving parts. Wear protective hair covering to contain long hair. For best footing, wear rubber soled footwear. Keep floor clear of oil, scrap wood, etc.
5. Before working on a vehicle with this repair kit, ensure the vehicle is well supported and completely stable.
6. Remember that during body repair, there is always the possibility of a fixture slipping or a body part failing, which could cause the vehicle to jolt suddenly. If the vehicle is not adequately supported, it could fall with possibly serious consequences.
7. Never use an additional extension handle to operate the pump.
8. Never modify this equipment in any way.
9. Check the equipment for damage before use. Any damaged part should be discarded and replaced. Check for alignment of parts, breakage of parts, and any other condition that may affect the operation. Any damage should be properly repaired or the part replaced. If in doubt, DO NOT use. Consult your local Clarke dealer.
10. Store out of the reach of children and do not allow persons unfamiliar with these instructions to use this product.

UNPACKING

This complete kit contains the heavy duty hydraulic equipment needed for lifting, pushing, pulling, straightening and spreading.

When unpacking, check for damage or shortages etc. Any found should be reported to your CLARKE dealer where the product was originally purchased.

This Body Repair Kit is supplied with the following components:



1	Hydraulic Spreader Wedge	7	Plate Head
2	Pump Assembly with Hose	8	Wedge Head
3	Hydraulic Ram	9	Male Connector
4	Flat Base	10	Angled Toe
5	Rubber Head	11	Serrated Cap
6	Square V-Head	12	4 x Extension Tubes

OVERVIEW

This body repair kit is designed for bending chassis frames and repairing dents in vehicle body panels. In most cases, the kit will only return the vehicle body parts to approximately their original position. Additional work will be required to complete the repair.

There are two attachments which can be connected to the pump unit.

- The Hydraulic Ram is for use in larger spaces where greater force is needed and where there is sufficient room. It requires a solid immovable base, directly in line with the damaged area.
- The Spreader Wedge is used in tighter spaces where the Ram and other accessories will not fit.

THE ATTACHMENTS

Several different attachments are provided that may be used in conjunction with the Hydraulic Ram dependant upon the nature of the damage.

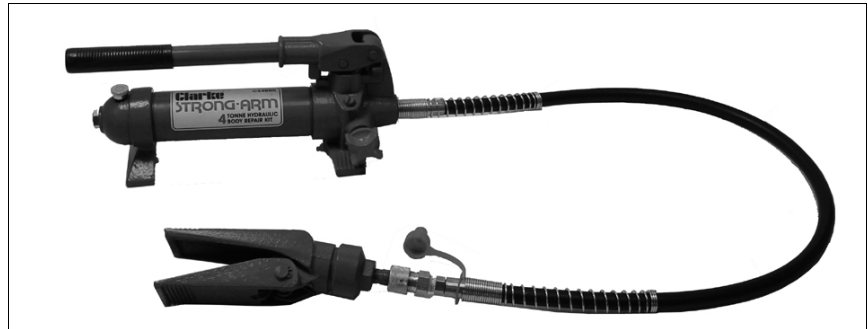
- The **Flat Base** is used to spread the load of the Hydraulic Ram. It should be connected to the static end of the Hydraulic Ram using the Male Connector.
- The **Rubber Head** is typically used for popping dents out of sheet metal such as doors and body panels when plugged into the moving end of the Hydraulic Ram or the Extension Tubes.
- The **Square V-Head** is used to align the force of the Hydraulic Ram when bearing against an angled frame, and may be attached to the Hydraulic Ram or the Extension Tubes.
- The **Wedge Head** is used to repair small dents and areas located in angles and tight spaces and attaches to the Hydraulic Ram or Extension Tubes.
- The **Male Connector** plugs into the female end of the Hydraulic Ram.
- The **Angled Toe** and **Plate Head** are normally attached to the extension tubes but could be used as a substitute for the flat base if space is limited.
- The **Serrated Cap** is used for pushing during frame repair. It may be plugged into either end of the Hydraulic Ram or Extension Tubes.
- The **Extension Tubes** plug together in different combinations to reach the desired length.
- The **Hydraulic Spreader Wedge** is used in restricted spaces when the Hydraulic Ram cannot be used. Connect the wedge directly to the hose of the pump unit.

ASSEMBLY

When assembling the Hydraulic Ram, Pump unit and attachments, unscrew and retain the plastic end plugs on the connections of the Ram and Hydraulic Spreader Wedge for future use. Ensure the hydraulic hose is tightly screwed to the connection.

1. Screw the Pump Handle into the socket in the pump unit.

2. If the Hydraulic Spreader Wedge is to be used, connect the screw-in connector of the pump hose to the spreader wedge as shown in Fig 1.



3. If the Ram is to be used, fit the Flat Base to the static end of the Ram using the male connector. Connect other attachments to the moving end as required.

- Various combinations of extension tubes and attachments can be assembled as shown in Fig 2, according to the distance between the work surface and the supporting frame.



OPERATION

Assemble the components including the flat base and as many extension tubes as required.



CAUTION: NOTE THAT WHEN ADDING FURTHER EXTENSION TUBES, THE MAXIMUM RATED LOAD IS REDUCED. (SEE WARNING LABEL)

1. Connect the Hydraulic Ram or Hydraulic Spreader to the connecting hose using the screw-on hose connector. Use the male connector to join the ram to your selected attachment or any extension tube.
2. To operate the Hydraulic Pump, position it on a stable, level surface close to the damaged area. Close the Release Valve by turning it clockwise and pump the handle to create pressure.
3. Turn the Release Valve counter-clockwise to release the pressure.
 - The pump may be positioned horizontally or vertically. When using the Hydraulic Ram in a vertical position, always keep the hose end facing downward.



CAUTION: NEVER OVERLOAD THE RAM BEYOND ITS CAPACITY. ENSURE THE BEARING POINT IS STABLE AND PROPERLY CENTRED ABOVE THE RAM. NEVER OVERLOAD THE ATTACHED COMPONENTS BEYOND THEIR RATED CAPACITIES AS STATED IN THE SPECIFICATION.

Always apply the load slowly to be sure that everything is secure. Take care that the load is always in line with the ram.

USING THE RAM

1. Determine in which direction the target area needs to be pushed.
2. Remove any obstructions that are in the way and could be damaged.
3. Connect the Flat Base to the stationary side of the Hydraulic Ram and connect the appropriate attachment to the working end of the Ram.

NOTE: When repairing larger body panel dents such as a dented door, wing or quarter panel, the correct pushing attachment will be the Rubber Head.
4. Position the Hydraulic Ram so that the flat base is resting against a frame member opposite the damaged area. It must be in line with the direction in which the damaged area needs to be pushed and have enough support that only the damaged area will be displaced by the ram pressure.
 - Use soft pads or wooden supports where necessary to protect the body.

5. Aim the pushing end towards the damaged area and slowly apply pressure with the pump.
6. Once contact is established at each end, keep as well clear as practical and slowly apply pressure to the damaged area until the desired correction has been made.



CAUTION: KEEP HANDS AWAY FROM CONTACT AREAS AND TIGHT SPACES IN CASE THE COMPONENTS SHOULD SLIP AND CAUSE INJURY.

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7. When the damaged area has been bent to the desired position, slowly turn the release valve on the pump unit in a counterclockwise direction to release hydraulic pressure before removing the Ram.

USING THE SPREADER WEDGE

1. Determine in which direction the metal needs to be spread.
2. Remove any obstructions that are in the way and could be damaged.
3. Place the Spreader Wedge so that the hinged arm is resting against the part to be moved and the stationary base is bearing against a rigid support. Hold the Spreader Ram in position and apply the pump pressure.
4. Once contact is established at each end, keep as well clear as practical and slowly apply pressure to the damaged area until the desired correction has been made.



CAUTION: KEEP HANDS AWAY FROM CONTACT AREAS AND TIGHT SPACES IN CASE THE COMPONENTS SHOULD SLIP AND CAUSE INJURY.

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5. When the damaged area has been bent to the desired position, slowly turn the release valve on the pump in a counterclockwise direction to release hydraulic pressure before removing the wedge.

MAINTENANCE

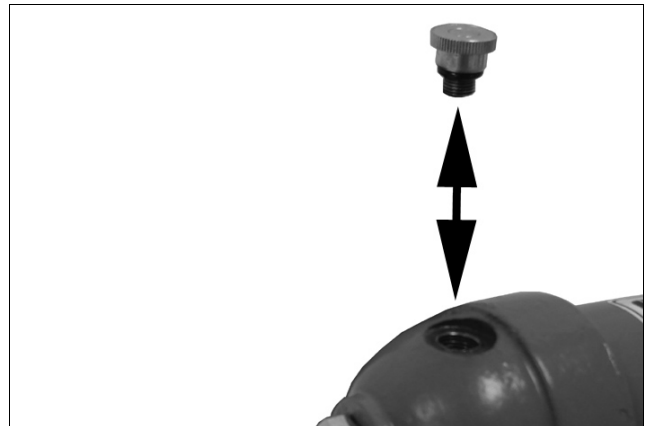
If the pump has been stored for long periods, check the oil level before use. Stand the pump on a level surface and remove the breather valve on the oil reservoir. If necessary, top up via the breather valve which is then screwed on finger tight.

NOTE: Only unscrew this when the system is not under pressure.

The oil level should be near the bottom of the opening. If required, oil can be topped top using Clarke Hydraulic Oil. (part no. 3050830 for 1 litre).

After extensive use, the hydraulic oil should be replaced to ensure longer equipment life. Do not overfill, or the piston rod will be unable to move freely. Replace the breather valve after re-filling. The required oil volumes are as follows.

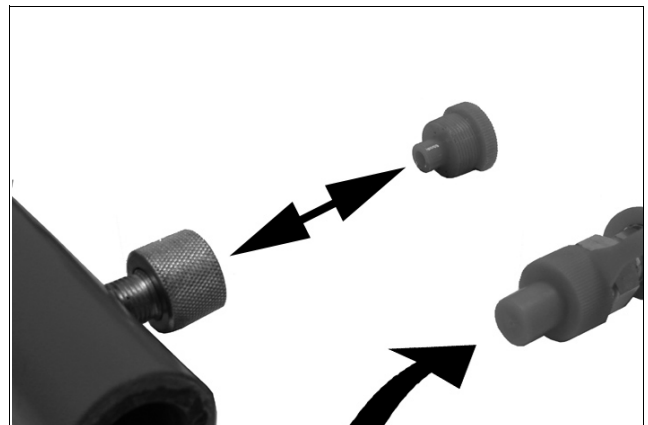
- CS4BRK - 250 ml \pm 5ml
- CS10BRK/CS10SBRK - 500 ml \pm 5ml



STORAGE

After use, screw the valve cover on to the pump to keep the connection clear of dust and dirt and cover the hydraulic hose end with the plastic cap.

When not in use, the pump should be stored with the release valve open. Store all the equipment in its case in a clean, dry environment protected from the weather.



SPARE PARTS

In the event of lost or damaged components, replacements are available from Clarke Parts & Service. Please refer to the following parts list and diagrams, quoting the Clarke part numbers:

- HT-CS4BRK-01 to 69
- HT-CS10BRK-01 to 69 or
- HT-CS10SBRK-01 to 69

FAULT FINDING

PROBLEM	CAUSE	SOLUTION
Ram does not operate when handle is pumped	Release valve not tightly closed.	Firmly close the release valve.
	Air trapped in system	Purge air from the system by pumping the operating handle.
Ram will not hold load.	Release valve not tightly closed.	Firmly close the release valve.
	Malfunction in pump such as dirt inside valve mechanism.	Return pump to dealer for overhaul.
Ram reluctant to lower when load removed.	Oil reservoir overfilled.	Drain oil to the correct level
	Piston binding.	Clean and lubricate moving parts.
Ram will not extend to full range of stroke	Low oil level.	Add hydraulic oil to the reservoir.
Ram tries to tilt to one side.	Poor positioning of the footing	Stop work and reposition ram and base, ensuring it is well supported and as close to the perpendicular to the repair as possible.

If any of these remedies fail to restore your equipment's performance, consult your CLARKE dealer.

COMPONENT PARTS - LISTING

No	Description
1	Plastic Case
2	Tube Set (4 pieces)
3	Flat Base
4	Angled Toe
5	Plate Head
6	Wedge Head
7	Square V-Head
8	Male Connector
9	Serrated Cap
10	Rubber Head
11	Valve Body
12	Oil Filter
13	O-ring
14	Oil Reservoir
15	Seal Ring
16	Thumb Nut
17	Sealing Ring
18	Tie Rod
19	O-ring
20	Pump Foot
21	Hydraulic Hose
22	Coupling
23	Dust Seal
24	Steel Ball
25	O-ring
26	Hand Release Valve
27	Sealing Ball
28	Spring

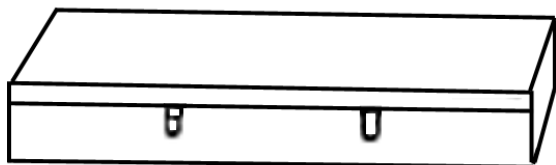
No	Description
29	Screw
30	Steel Ball
31	Ball Cup
32	Spring
33	Screw
34	Screw Protector
35	O-ring
36	Nylon Sealing Ring
37	Screw
38	O-ring Seal
39	Piston
40	Hinge Pin
41	Circlip
42	Pivot Pin
43	Handle Socket
44	Operating Handle
45	Handle Grip
46	Ram Cylinder
47	Cylinder End Cap
48	Screw-on Cover
49	Screw M6
50	Connecting Nut
51	Cylinder Screw
52	O-ring
53	Dust Cover
54	Tension Spring
55	Circlip
56	Nylon Sealing Ring

No	Description
57	Bushing
58	O-ring
59	Piston Rod
60	Piston End Cover
61	Fixed Jaw
62	Small Piston
63	Piston Ring

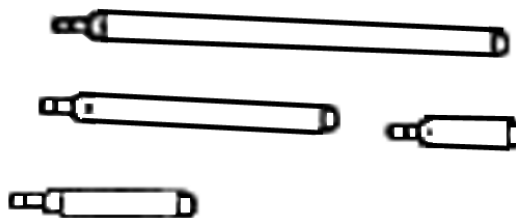
No	Description
64	O-ring
65	Screw Cover
66	Moving Jaw
67	Circlip
68	Hinge Pin
69	Spring

COMPONENT PARTS - DIAGRAM 1

ACCESSORIES



1



2



3



4



5



6



7



8



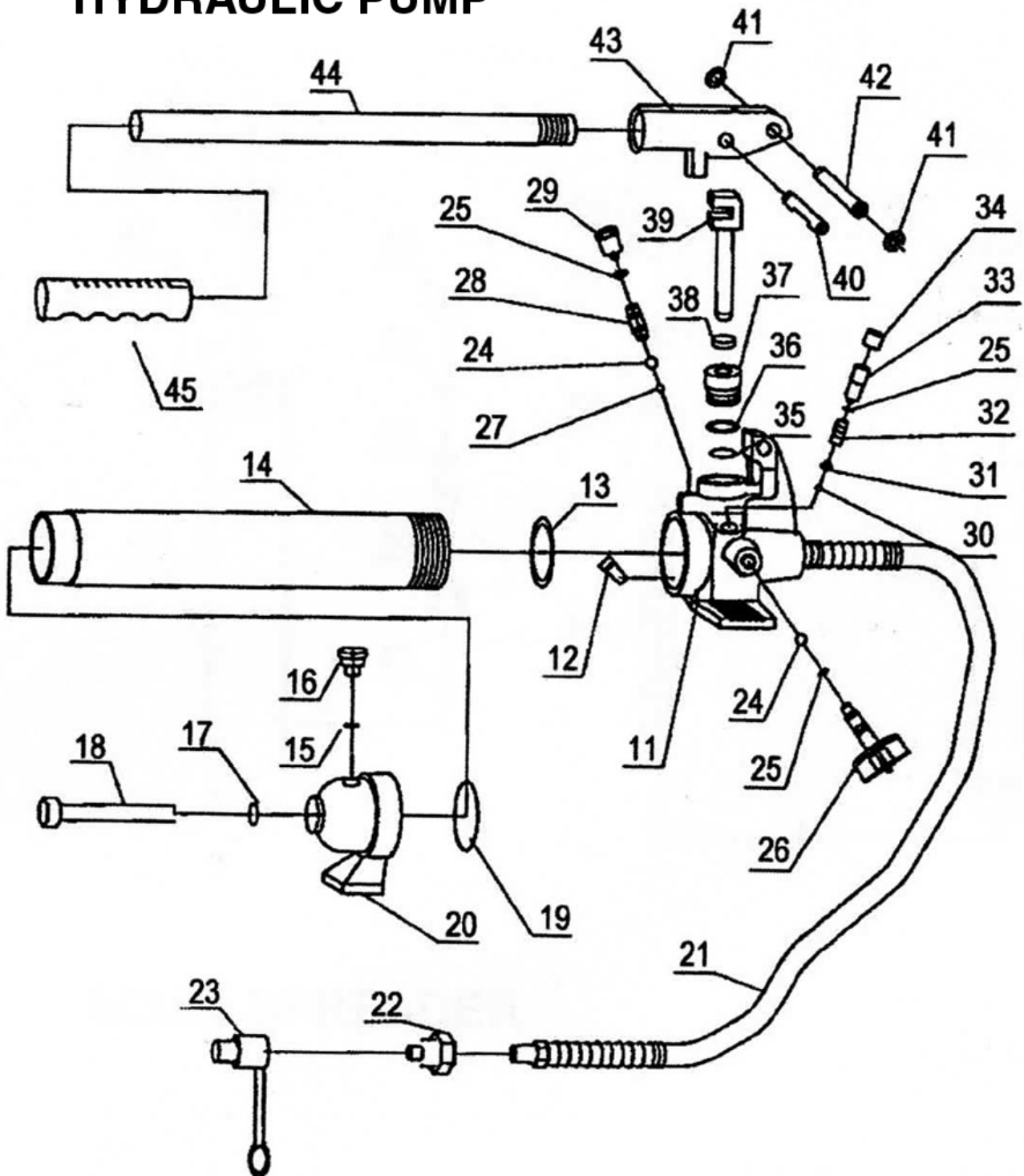
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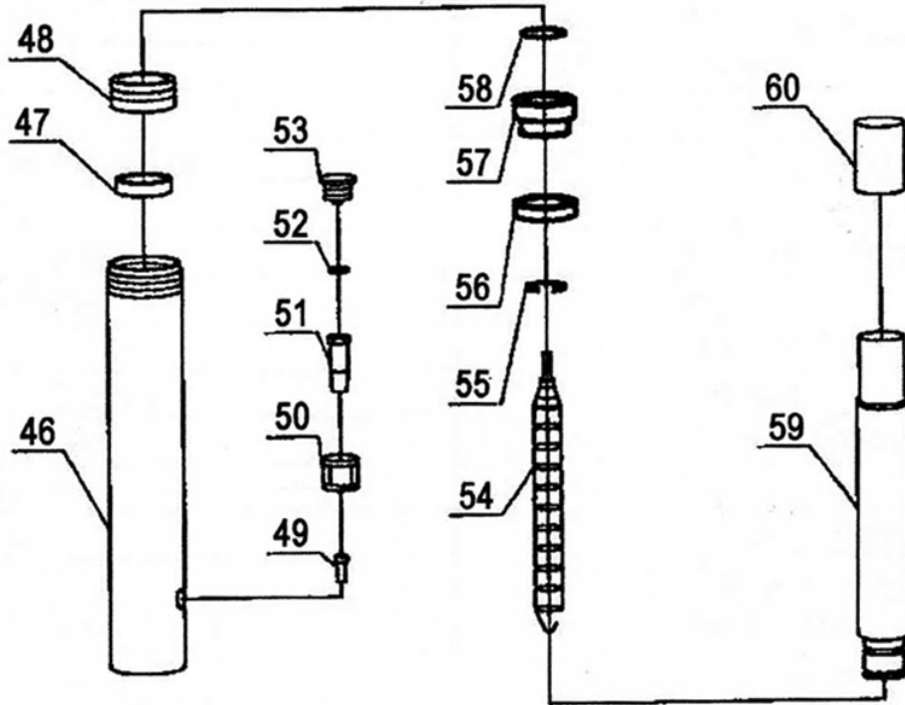
COMPONENT PARTS - DIAGRAM 2

HYDRAULIC PUMP

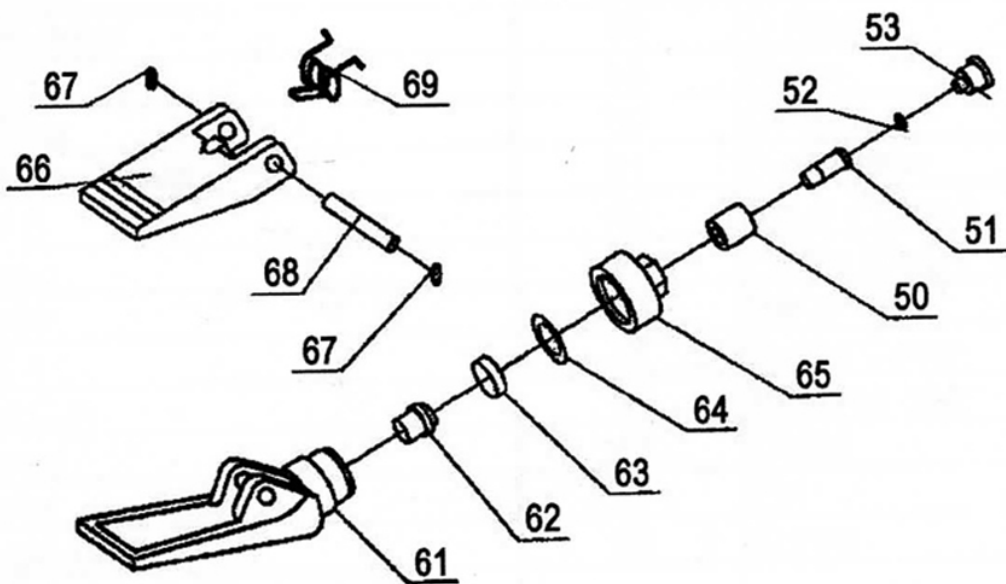


COMPONENT PARTS - DIAGRAM 3

HYDRAULIC RAM



HYDRAULIC SPREADER



DECLARATION OF CONFORMITY - CS4BRK



Hemml 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: 2022

Product Description: 4 Ton Body Repair Kit
Model number(s): CS4BRK
Serial / batch Number: N/A
Date of issue: 06/09/2022

Signed:

J.A. Clarke
Director



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: 2011

Product Description: 4 Ton Body Repair Kit
Model number(s): CS4BRK
Serial / batch Number: N/A
Date of issue: 06/09/2022

Signed:

J.A. Clarke
Director

DECLARATION OF CONFORMITY - CS10BRK



Hennall 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: 2022

Product Description: 10 Ton Body Repair Kit

Model number(s): CS10BRK

Serial / batch Number: N/A

Date of Issue: 06/09/2022

Signed:

J.A. Clarke
Director



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: 2011

Product Description: 10 Ton Body Repair Kit

Model number(s): CS10BRK

Serial / batch Number: N/A

Date of Issue: 06/09/2022

Signed:

J.A. Clarke
Director

DECLARATION OF CONFORMITY - CS10SBRK



Hennell 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: 2022

Product Description: 10 Tonne Body Repair Kit with Fast Action Pump

Model number(s): CS10SBRK

Serial / batch Number: N/A

Date of Issue: 06/09/2022

Signed:

J.A. Clarke
Director



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: 2011

Product Description: 10 Tonne Body Repair Kit with Fast Action Pump

Model number(s): CS10SBRK

Serial / batch Number: N/A

Date of Issue: 06/09/2022

Signed:

J.A. Clarke
Director

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