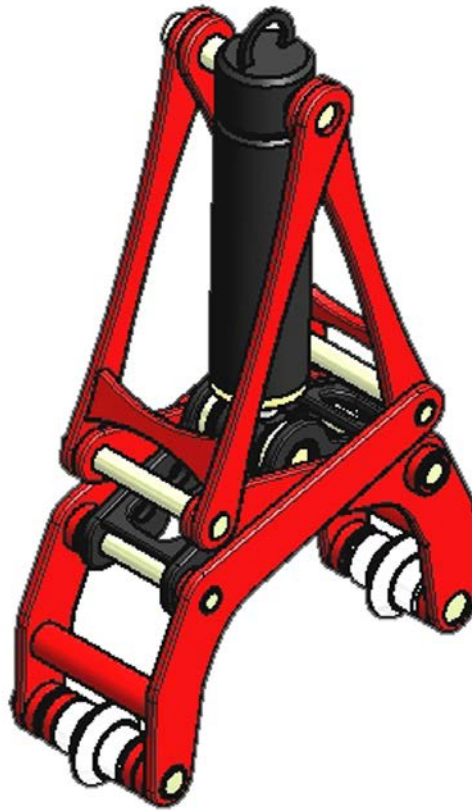


**STEVE  
VICK**  
INTERNATIONAL



# Mini MACAW Pipe Cracker Operators Manual

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## Introduction

The traditional method of breaking out a cast iron main has been to use a sledge hammer or 'podger' bar, but there are serious safety issues: It is often considered to be an uncontrolled method of breaking out pipe which can cause serious harm when 'podger' bars bounce back up onto the operatives using them. Also pieces of broken metal can fly up out of the trench to cause injury to operatives or passers-by and if inserted the PE pipe can be struck by mistake.

Steve Vick International offers the solution with the Mini Macaw Pipe Cracker, so called because it is designed to work on 3" to 8" cast iron mains as opposed to the Steve Vick Macaw pipe cracker which works on 8" to 24".

The Mini Macaw is very versatile – it can be powered from the 3<sup>rd</sup> service or breaker hydraulics of an excavator or a specially designed hand pump. This makes for ease of use if the trench is located in a hard to reach location where an excavator would struggle to gain access. However the quickest solution is to use the Mini Excavator as this takes away all manual handling issues.

Due to the Mini Macaw using a hydraulic ram, the break out operation is much more controlled giving a safer working environment. This control is achieved using the in-line flow control valve giving a quicker or slower break out meaning it can also be used on inserted mains. Once the main has been broken the operation can be stopped easily and the inserted PE remains undamaged.

The Mini Macaw whilst not a single man lift is also light enough for two operatives to manually locate it onto the main as it weighs approximately only 40kg.

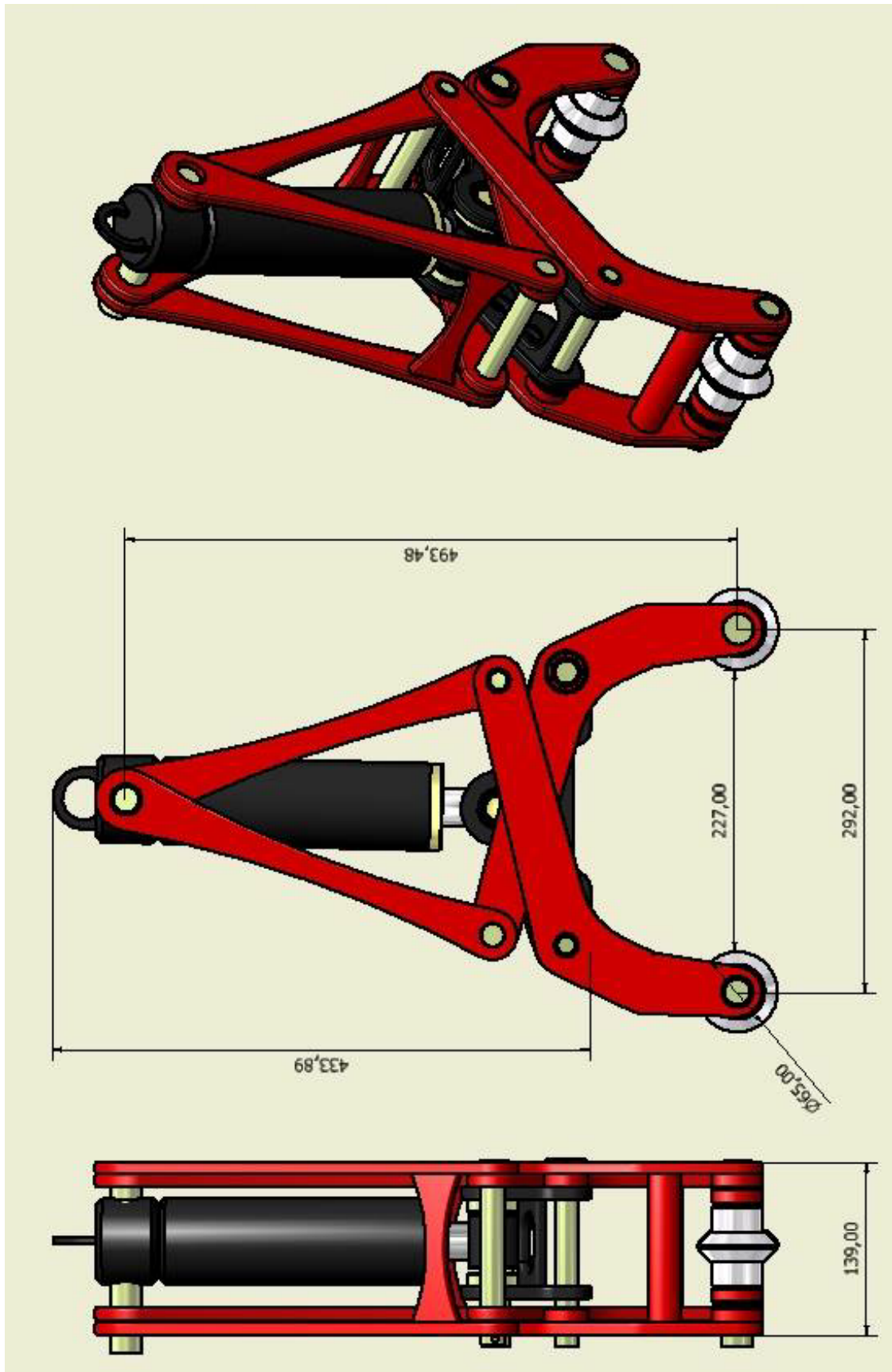
The Mini Macaw is adaptable for the 3" to 8" size ranges by utilising a choice of pin slots and a spacer seat making for ease of transference to different sizes without having to use different equipment.

## **BENEFITS**

- Safer and faster than using a 'podger' or sledge hammer
- One machine for 3"- 8" and the odd sizes in-between
- For use on empty and inserted pipe (live or dead)
- Light enough to two operatives to manoeuvre manually
- Versatile – operates off a an excavators hydraulics or a hand pump
- Controlled pressure applied via hydraulic power
- Break out speed controlled using flow control valve
- Easy to operate once located onto main the hydraulics do the rest
- Does not require access around the whole circumference of the pipe
- Would supplement cored out trenches as very little space is needed



# KEY DIMENSIONS



## **SITE PREPARATION**

The site of works will require all standard codes of practise and that of the following. Common sense must take place when using the Mini MACAW Pipe Cracker (MMPC) and operatives should avoid placing any limbs inside the workings of the unit.

### **Ensure:**

- The appropriate PPE is worn: Overall, Glasses, Hard Hat, Protective Footwear and Gloves, Hi-Viz jacket
- There is a designated banksman to control all operations of the excavator (when being used to power the MMPC)
- All operation including pipe cracking and manoeuvring via the excavator is taking place within an area contained by a barrier (when being used to power the MMPC)
- The operative has checked that all fittings and attachments required to ensure that the pipe cracker can be correctly attached to the excavator arm and that its hydraulic systems are available
- Movement of the excavator arm is contained within the barrier-contained area (when being used to power the Mini Macaw)

The section of the cast iron main being broken out should be cleaned of any rust that may inhibit the movement or destabilise the MMPC

Unload the Mini Macaw onto horizontal ground within the barrier area.

## **OPERATING THE STEVE VICK MINI MACAW PIPE CRACKER**

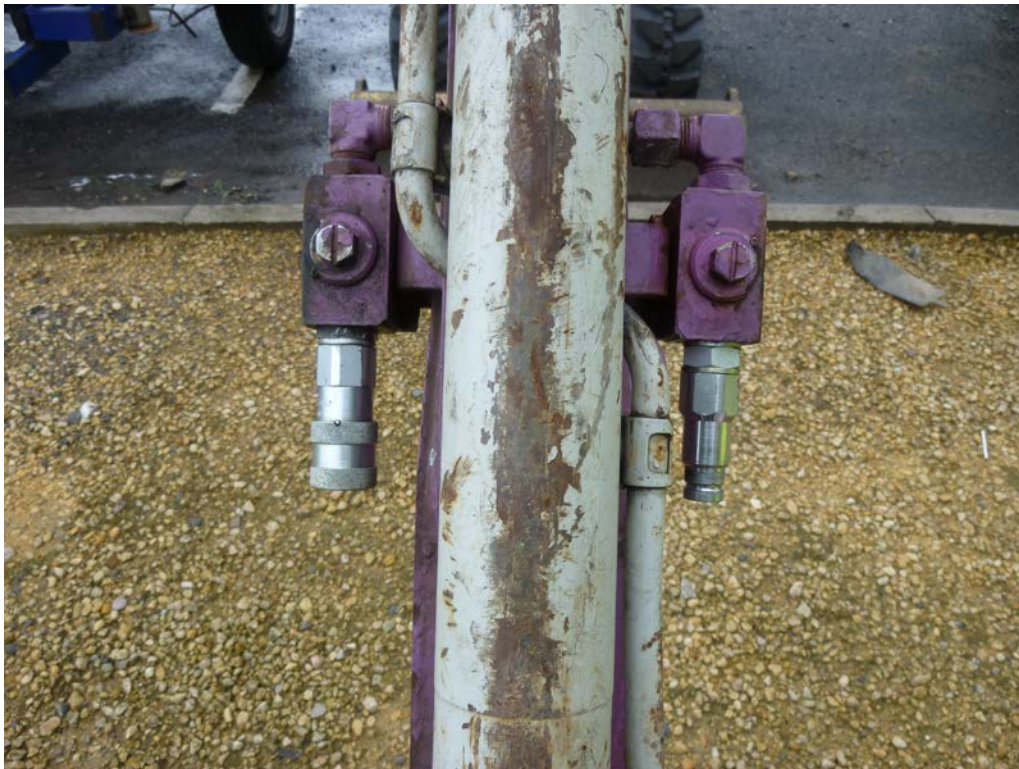
The Mini MACAW Pipe Cracker can be run off three different power sources:

- A mini excavator
- A hand pump

## PREPARING THE MINI MACAW PIPE CRACKER

The mini excavator 1 ½, 2 or 3 tonne type are the preferred option as this removes all manual handling issues and reduces time to break out each main.

The Mini Macaw comes fitted with two 3/8" flat face couplings male and female. This size will fit most mini excavators, however the next common size is 3/4" and the adaptors for these can be found in the storage tin. Connect these back to back fittings directly to the 3/8" fittings already on the Mini Macaw; there is no need to remove them off the hose line.

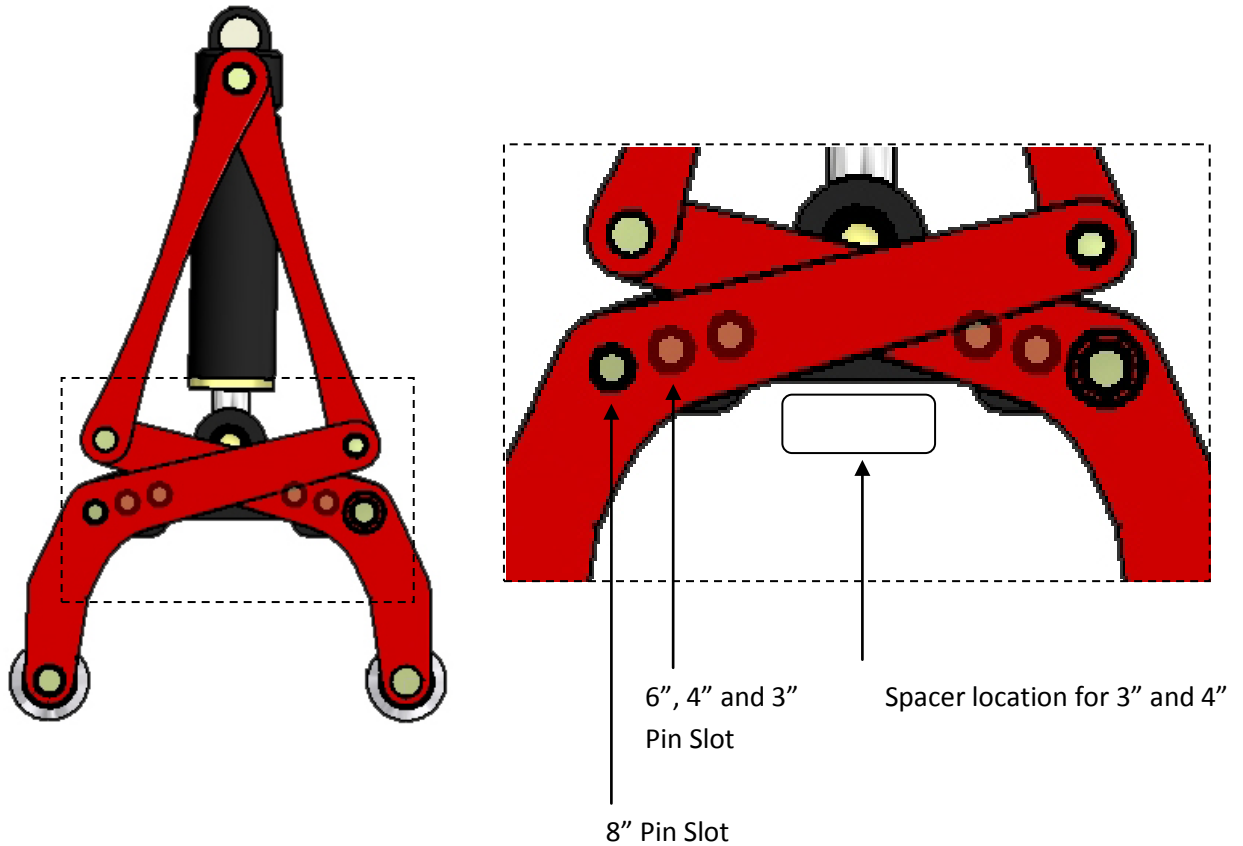


Ensure the 3<sup>rd</sup> service/breaker line shown above are both operating. It may be the mini digger is set in the single flow commonly used for 'peckers'. Locate valve (side of machine, under cabin mat etc.) and select the dual flow option.



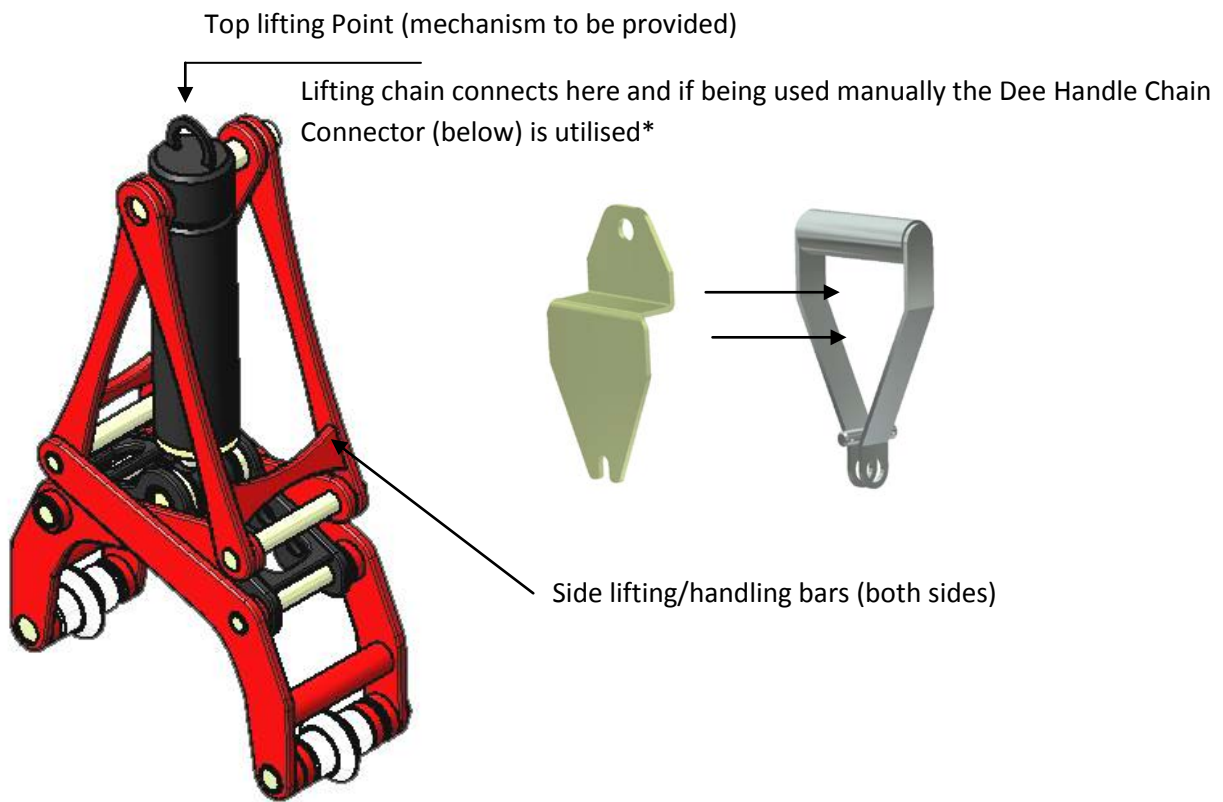
## INITIAL PREPARATION OF MINI MACAW PIPE CRACKER

1. Unload the MMPC onto horizontal ground within the barrierd off area.
2. Choose pin slot depending on size of pipe: outside slot for 8", middle slot without spacer for 6" and middle slot WITH spacer for 3 and 4".
3. Install spacer if using on 3" or 4" cast iron in location shown below.



*The above diagram shows a close up of the pin slot locations and the spacer location. When choosing pin slots it must be repeated exactly the same on the other side.*

## INITIAL PREPARATION OF MINI MACAW PIPE CRACKER (cont.)



*The above diagram shows the location of the lifting points at each side of the main body and the top of the hydraulic ram.*

\* Dee Handle Chain Connector is required only where LOLER regulations apply



## SELECTING THE MINI MACAW FOR EMPTY OR INSERTED GAS PIPE

The MMPC can be used on empty pipe prior to a Dead Mains insertion or a Live Mains Insertion where the annulus has been made dead through a foam-off flow stop operation. This is achieved by using the flow control valve as shown below:

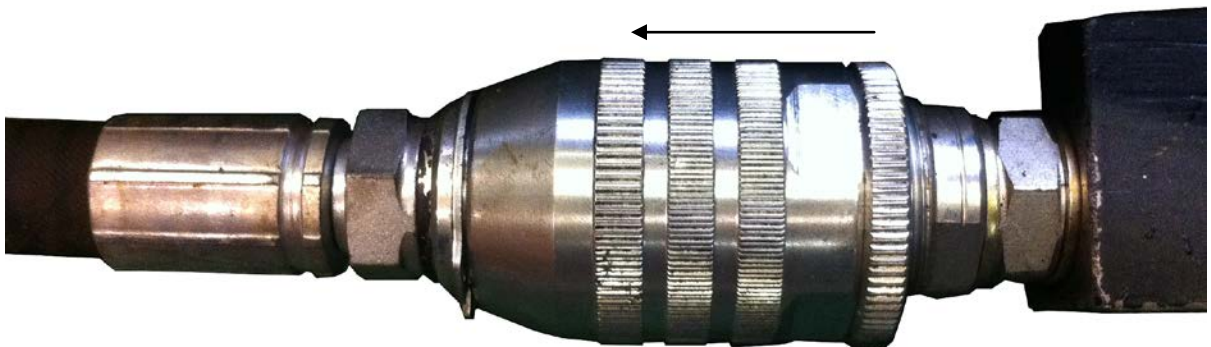
1. Loosen the locking nut to allow movement of the knurled valve.



2. For **Dead Mains Insertion** rotate knurled valve fully towards the locking nut which fully opens the valve given allowing a faster flow of oil. Tighten with locking nut.



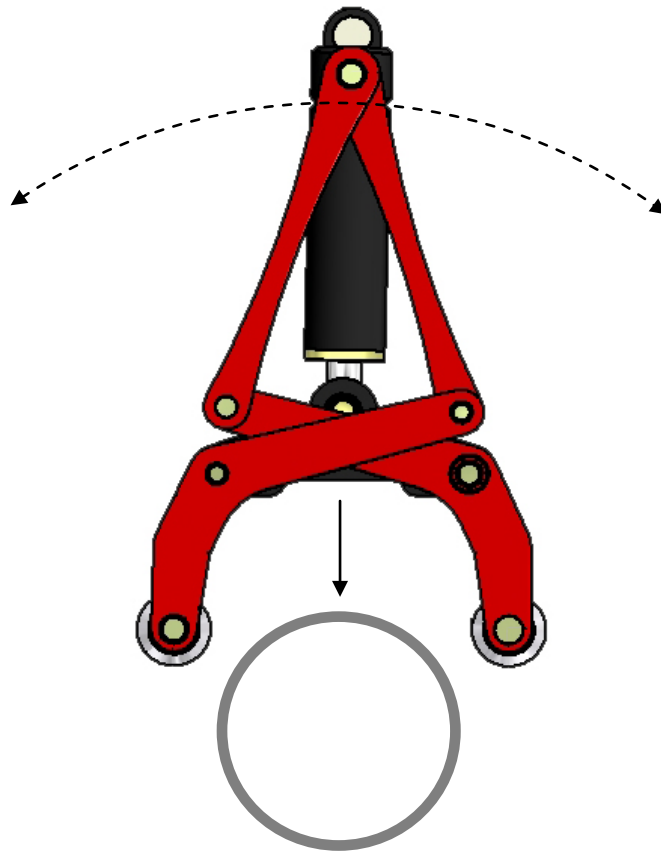
3. For **Live Mains Insertion** rotate knurled valve away from locking nut which slows the flow of oil right down. Tighten down with locking nut.



## OPERATING THE MINI MACAW PIPE CRACKER OFF AN EXCAVATOR

*Prior to actually cracking the main, test and adjust the closing speed of the jaw using the in-line flow control valve when the MMPC is hooked into the power source. Lock off using the locking swivel nut.*

1. With the MMPC correctly attached to the mini excavator via the chain locate the excavator in a safe location that allows the MMPC to be lowered to the cast iron main.
2. Lower the MMPC onto the top of the cast iron main at the location of the breakout in the 12 o'clock position and ensure there are no hoses in the way.
3. If there is 3<sup>rd</sup> party plant fouling this position the MMPC can be angled away from any interference but must remain stable on the main.



4. Activate the 3<sup>rd</sup> service/breaker supply by pressing the relevant peddle in the cab of the mini digger (shown below), the operative in the trench may need to stabilise the Mini Macaw until there is sufficient pressure holding it to the main. **THE OPERATIVE MUST NOW LEAVE THE TRENCH.**



5. Continue applying the pressure until the cast iron main has been broken out sufficiently. The movement of the jaws can be seen in the images below. Once the main has been broken stop applying pressure to the pedal especially on Live Mains Insertion as care is needed to prevent damage to the PE pipe.
6. Relocate the Mini Macaw along the main to get more pipe broken out if desired. Remove loose pipe before starting again.



## OPERATING THE MINI MACAW PIPE CRACKER FROM A HAND PUMP

*Prior to actually cracking the main, test and adjust the closing speed of the jaw using the in-line flow control valve when the MMPC is hooked into the power source. Lock off using the locking swivel nut.*

Lower MMPC onto the top of the cast iron main at the location of the breakout in the 12 o'clock position. Use the designated lifting points as shown on page 7.

1. If there is 3<sup>rd</sup> party plant fouling this position the Mini Macaw can be angled away from any interference but must remain stable on the main.
2. Position the hand pump so that the hydraulic hoses can connect to the Mini Macaw's hydraulic hoses shown below.



3. Connect the Mini Macaw's hoses into the correct flat face couplings of the hand pump, secure all hose connections using the knurled swivel fitting and ensure no hoses are restricting the movement of the Mini Macaw.
4. The hand pump must not be moved. This may inadvertently pull the Mini Macaw off the main.
5. Start activating the hand pump.
6. The operative in the trench may need to stabilise the Mini Macaw until there is sufficient pressure holding the Mini Macaw to the main. **THE OPERATIVE MUST NOW LEAVE THE TRENCH.**
7. Continue applying the pressure until the cast iron main has been broken out sufficiently. Once the main has been broken stop applying pressure to the pedal especially on Live Mains Insertion as care is needed to prevent damage to the PE pipe.
8. Relocate the Mini Macaw along the main to get more pipe broken out if desired. Remove loose pipe before starting again.

## **GENERAL SERVICE & MAINTENANCE**

The MMPC has been designed to be relatively free of maintenance, simple checks on the tightness of bolts and clips, any hydraulic leaks and general wear on parts being all that is required in a normal day to day operation.

1. Clean down the machine and check all moving parts for wear and tear
2. Check all hydraulic joints and couplers for leaks, tighten accordingly
3. Check all hoses remain in good condition
4. Ensure the flow control feed is operational
5. Retighten all nuts and bolts.
6. Ensure the structure is free from cracks and bends, and that the cracking wheels are sound