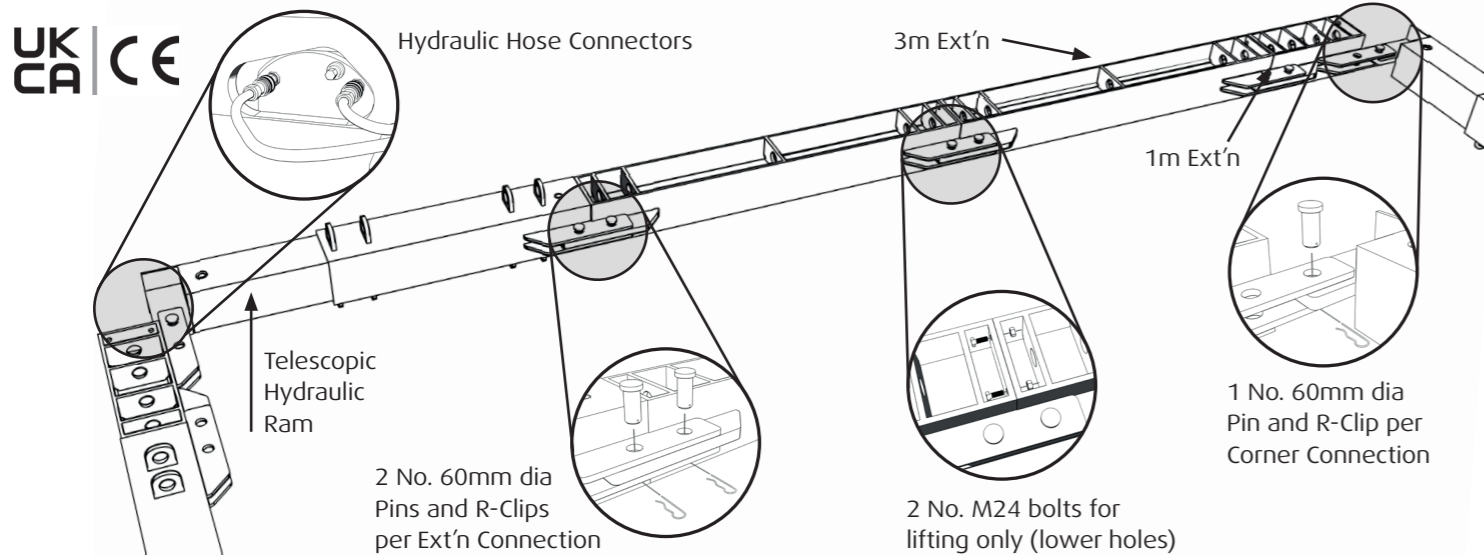


Mega Brace: Quick Start User Guide



Note on Assembly and Installation: Frames can either be assembled within the excavation or lifted in as a complete frame; this will depend on the weight and capacity of the lifting device. The method of installation will vary depending on ground conditions and the plant used. Groundforce recommends pre-driving of sheets wherever possible. 'Dig and Push' may also be appropriate depending on the ground conditions. Contact the Groundforce Technical Department for further advice. The contractor should undertake a detailed site safety risk assessment prior to undertaking any shoring work.

Hydraulic Ram Section: The hydraulic section has a 1000mm hydraulic stroke that allows fine adjustment of the overall leg length. (40t and 50t Versions available)

Intermediate Extension Pieces: The fixed length extension pieces are pinned together in the required combination to allow rough adjustment of the overall length.

Description	Weight (kg)
Hydraulic Ram	1120
0.5m Extension	200
1.0m Extension	410
1.5m Extension	585
3.0m Extension	760
5.0m Extension	1120
7.0m Extension	1485
10.0m Extension	2075

A 3D animation showing the Mega Brace is available to watch now on our YouTube channel.
www.youtube.com/vpgroundforce

TAKE CARE: Take care to avoid the trapping of fingers throughout the entire assembly, installation and extraction process.

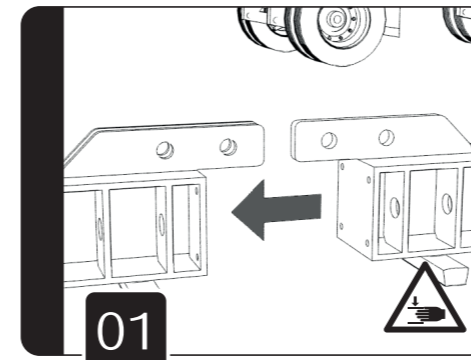
PLEASE NOTE:

The sequence shown here is intended to provide a general overview of the basic principals involved with installing proprietary shoring equipment in a correct and safe manner. It is not intended to replace the more detailed written equipment user guides which must be read and understood before using this equipment.

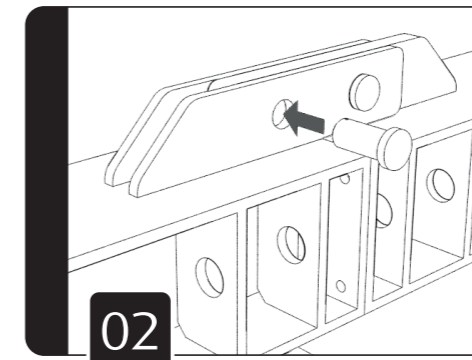
Note: It remains the contractor's responsibility to determine and implement a safe system of work for assembling and installing this equipment based on site specific circumstances and to complete an appropriate risk assessment and method statement.

IF IN DOUBT – ASK

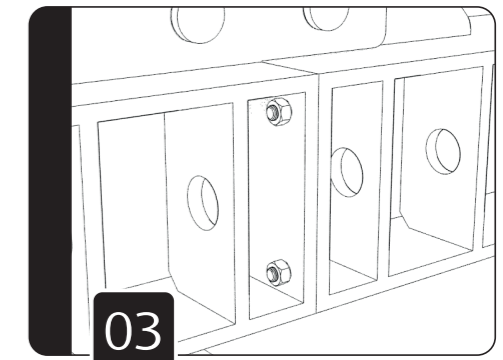
ASSEMBLY



Assemble the extensions by sliding together the two blade connectors.



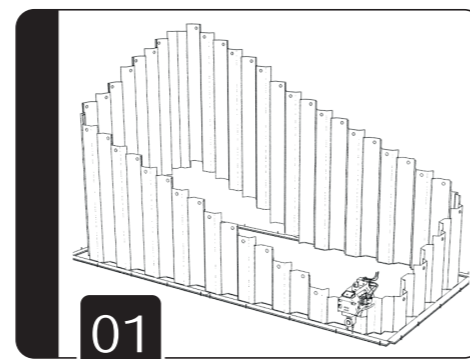
Align 2 two pin holes and connect the extensions by inserting the pin and R-Clips provided.



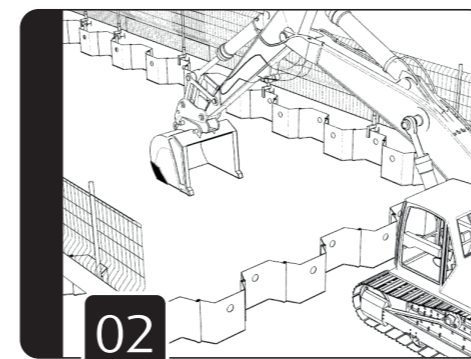
Complete the connection by securing two M24 lower bolts only. This prevents over-stressing of the blades during lifting and installation. These must be slackened off once installed.

04 Repeat the above 3 steps for all subsequent legs.

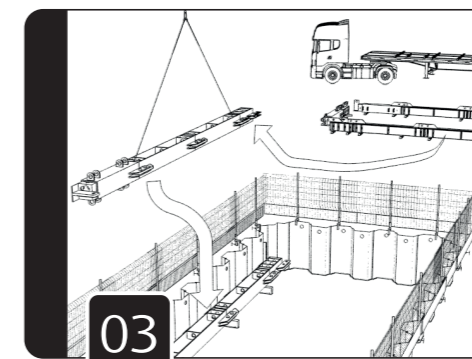
INSTALLATION



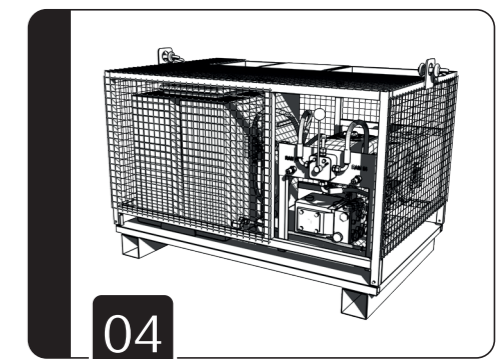
Ideally pre-drive to full depth if ground conditions permit. Alternatively, use the 'dig and push' method.



Connect edge protection as required and excavate to a depth of approximately one metre or 200mm below the required level of the upper frame.

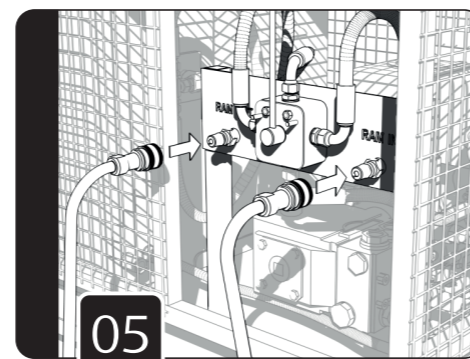


Using a certified 2 leg lifting chain, connect to the red lifting eyes. Lift and lower the first completed leg into place on level timber bearers.

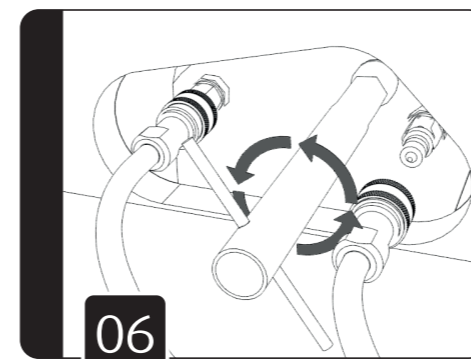


A Motorised Shoring Pump should then be used to expand and retract the hydraulic leg. (manual pump available)

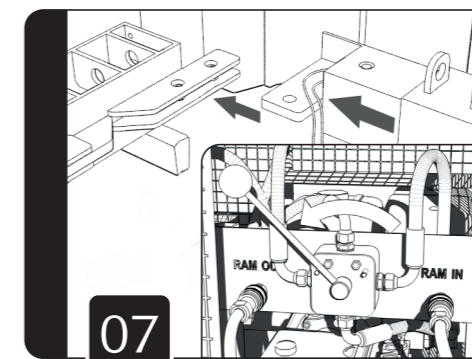
NOTE: If lowering a complete frame into the excavation, it is necessary to pump out each leg in turn to approximately 150mm smaller than the excavated dimensions; allowing for the width of the trench sheets.



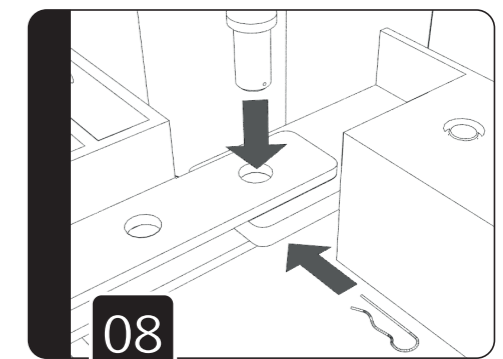
Attach both hydraulic hoses to the 'ram out' and 'ram in' coupling on the Motorised Pump.



Attach the opposite end of the hoses to the two couplings on the hydraulic leg. Use the tool provided to open the lock off valve by turning it anti-clockwise.

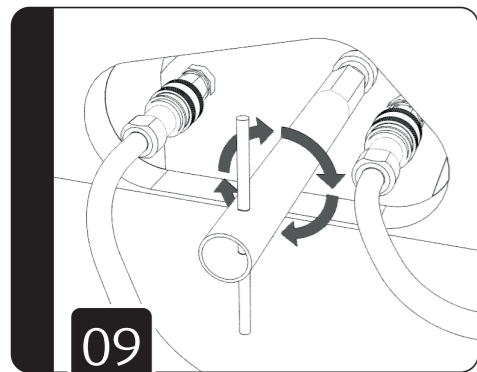


Start the pump engine and move the lever to the 'ram out' position to expand the hydraulic leg. **Note:** If the leg retracts, swap the hoses over on the pump and continue.

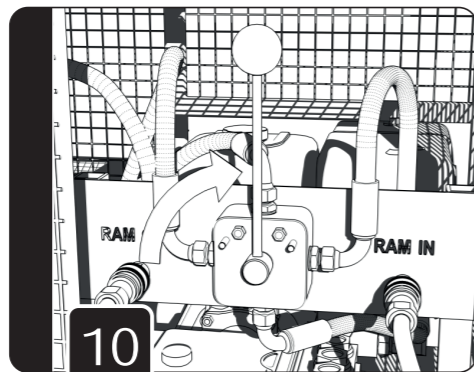


When the pin holes are in alignment, connect the two legs using the corner pin and R-Clip provided. Repeat this process to connect the remaining corners.

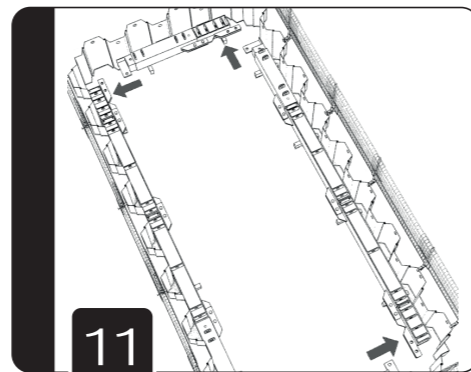
INSTALLATION CONT...



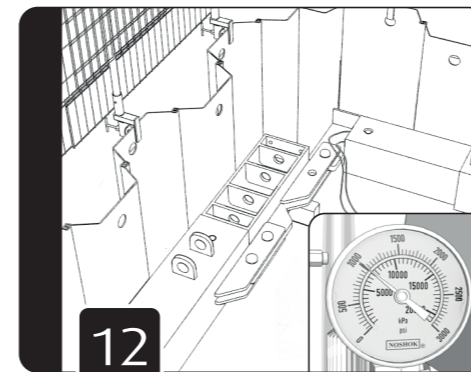
09 Close the lock off valve by using the tool provided to turn clockwise. Do not overtighten.



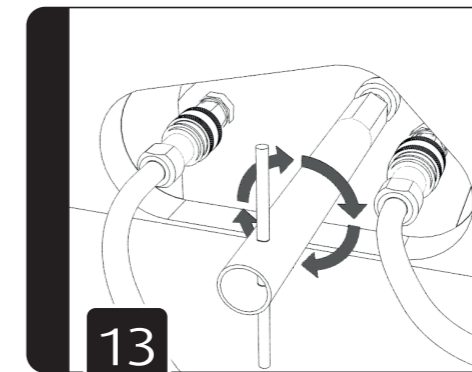
10 Once the lock off valve is closed, return the lever on the pump to the central neutral position.



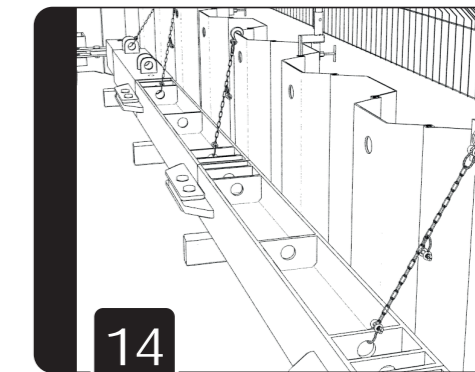
11 Expand and connect the remaining legs using the corner pins and R-Clips.



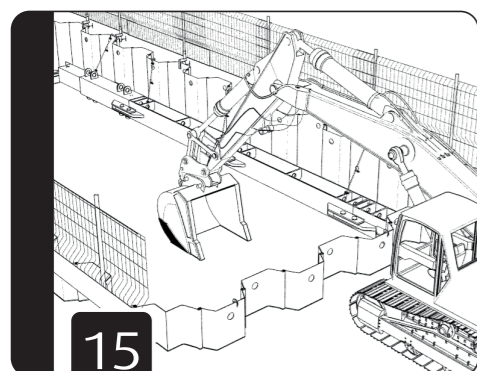
12 With all legs now connected, open the lock off valve and pressurise the brace against the trench sheets to approximately 1000psi, unless otherwise stated.



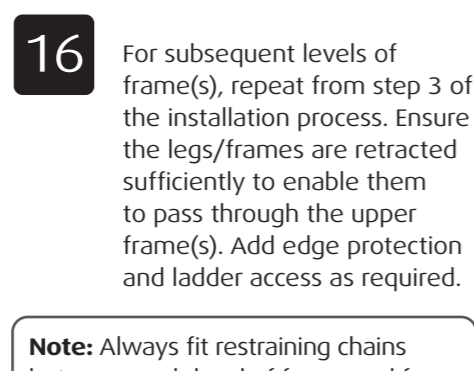
13 For each leg in turn, close the lock-off valve, return the pump lever to the neutral position and disconnect the hoses from the frame. Do not overtighten the lock off valve.



14 Attach the restraining chains provided between the hanging points on the frame and the top of the sheets at the locations specified in the scheme specific drawings.



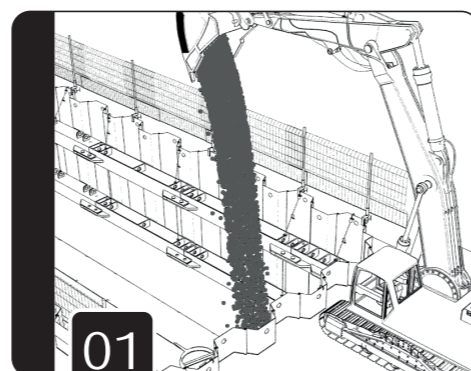
15 Continue excavation to the second level position as stated on the scheme specific design. If 'dig and push', progressively drive sheets as the excavation continues.



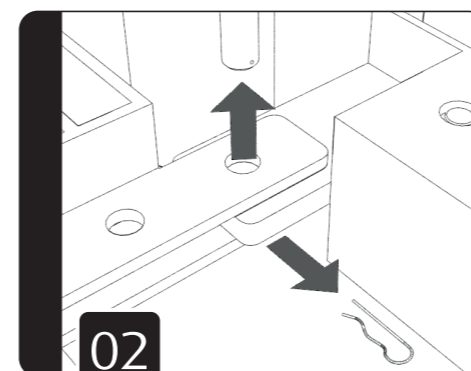
16 For subsequent levels of frame(s), repeat from step 3 of the installation process. Ensure the legs/frames are retracted sufficiently to enable them to pass through the upper frame(s). Add edge protection and ladder access as required.

Note: Always fit restraining chains between each level of frame and from the uppermost frame to the top of the trench sheets. **Restraining are not certified and must not be used for any lifting operations.**

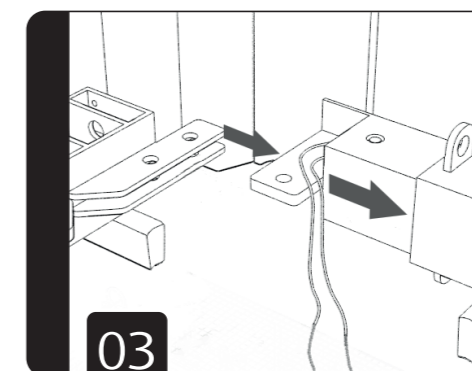
REMOVAL



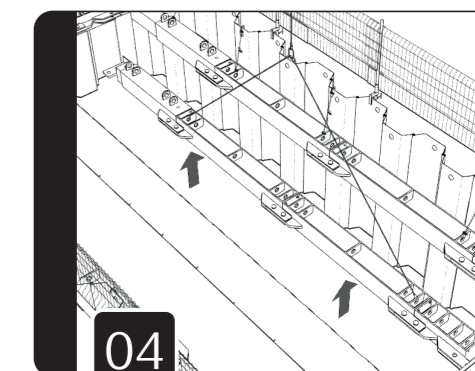
01 Backfill to the underside of the lower frame.



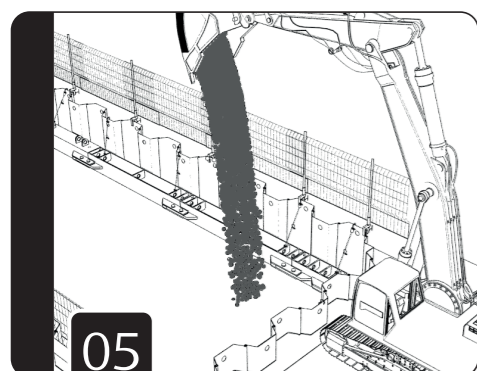
02 Re-connect the hoses between the Motorised Pump and the legs to depressurise the lower frame, then remove the corner pin and R-Clip.



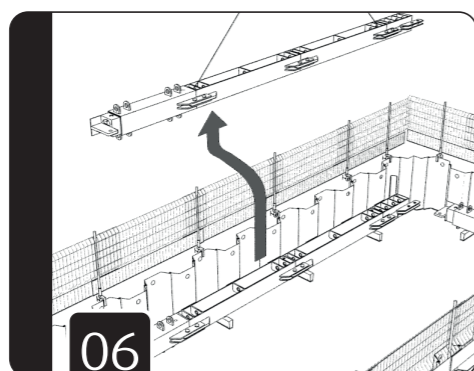
03 Continue depressurising to fully separate the legs, setting the pump to the 'ram in' position. Repeat this process for the remaining corners.



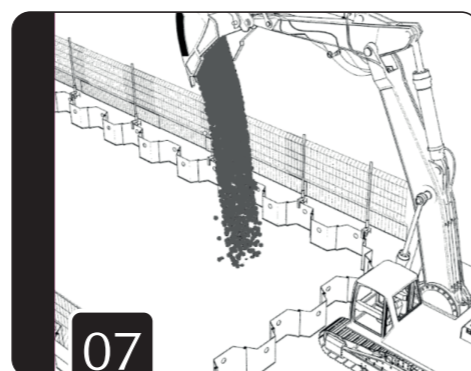
04 Once the legs are disconnected, they can be lifted clear of the excavation. Take care to avoid striking the upper frames when lifting through.



05 Continue backfilling and compacting to the underside of the top frame.



06 Repeat steps 2 and 3 of the removal process; removing each leg separately.



07 Reinstatement can then continue to ground level. Remove any edge protection and ladder access and withdraw the trench sheets using appropriate equipment.

Do

- ✓ Read and understand the scheme drawing (if supplied) before starting work
- ✓ Read and understand the Motorised Shoring Pump user guide
- ✓ Inspect all components at the start of every shift
- ✓ Prepare a lifting plan, assess weights correctly and use appropriately certified lifting equipment during installation and removal
- ✓ Ensure all pins, clips and bolts are correctly fitted
- ✓ Install the frame level, the correct way up and in accordance with the scheme drawing
- ✓ Use only lifting points for chain attachment
- ✓ Provide edge protection and ladder access/egress
- ✓ Attach a minimum of four restraining chains; one in each corner or as indicated on the scheme drawing
- ✓ Keep personnel clear of excavator slewing zone
- ✓ Always use a banksman
- ✓ Locate underground services before excavating
- ✓ Take care to avoid trapping fingers at all stages of work

Do Not

- ✗ Exceed 1500 Psi installation pressure
- ✗ Over tighten lock off valves
- ✗ Use pins and bolts other than those supplied by Groundforce
- ✗ Install cross struts in positions other than specified on the scheme drawing
- ✗ Allow excessive amounts of spoil to collect on top of the frame members
- ✗ Use excessive force during installation/removal
- ✗ De-pressurise frame components without adequate support (other than provided by the restraining chains) being in place
- ✗ Use restraining chains for lifting (see separate instructions)
- ✗ Stand directly under any elevated equipment
- ✗ Drag the frame out of the ground without releasing the pressure
- ✗ Strike the frame during excavation
- ✗ Use shoring fluid other than that supplied by Groundforce
- ✗ Operate the motorised shoring pump from within the excavation