

POWER TOWER

Working Dimensions

Maximum Working Height 5.10 m
Maximum Platform Height 3.10 m
Platform Dimensions 1.52 x 0.75 m
Working Footprint 1.62 x 0.78 m
Safe Working Load 250 kgs
No. Persons 1
Maximum Manual Force 200 n
Max. Gradient for Operation 0°
Max. Wind Force 0 MPH Indoor Only
Manual Push Force on Level Ground 9 kgs
Maximum Total Weight Inc Payload 592kgs
Maximum Castor Point Load 2.9 KN

Closed Dimensions

Length 1.62 m
Width 0.78 m
Height 1.85 m
Weight 342 kgs

Power Source

Standard 12v DC Electric Motor IP55
Or 240v AC Electric Motor 13A Supply
Or 110v AC Electric Motor 16A Supply
Battery 12v 105A Traction Deep Cycle

Battery Charger Specification

Input Voltage 90-265v A.C.
Frequency 45-65 Hz
Output 12v DC, 7A

Emission EN 55014N, EN 61000



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Battery Maintenance

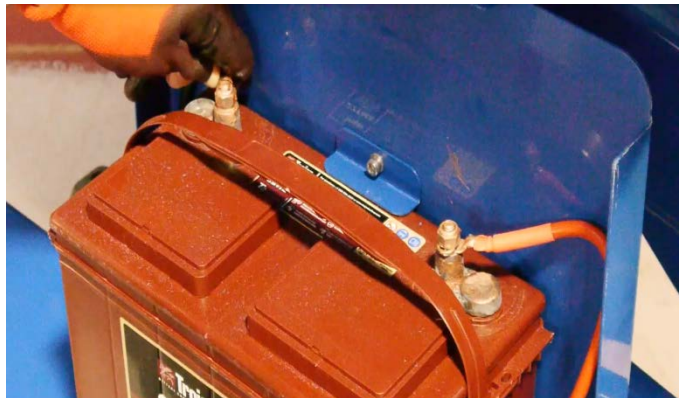
Please ensure, the unit is isolated and you use the correct PPE as indicated.



Check the electrolyte level in each of the battery cells. The electrolyte should be covering the plates by one to two millimetres



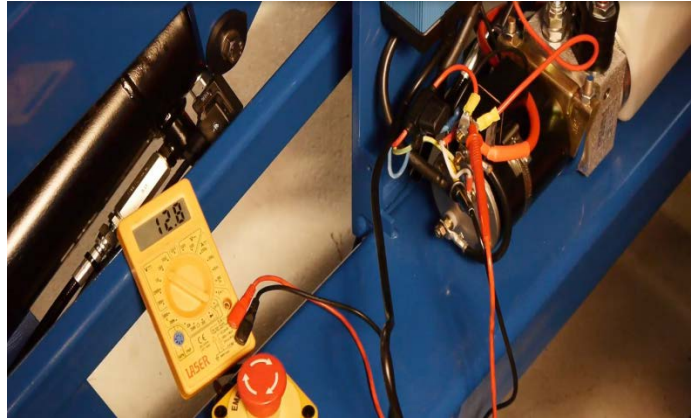
Check the connections and make sure the battery is clean



Using a hydrometer, check the specific gravity of each cell in the battery. The hydrometer should read between **1.28** and **1.285**, and all cells should be equal.



Use a voltmeter to check the voltage. The reading should be approximately 13 volts.

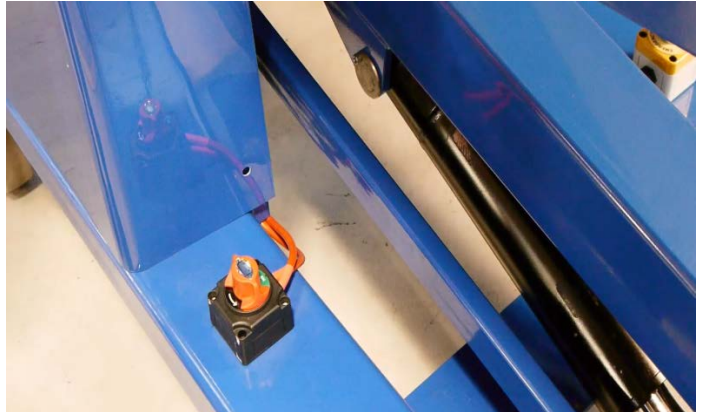


Battery Charging Fault

Please ensure, the unit is isolated and you use the correct PPE as indicated.



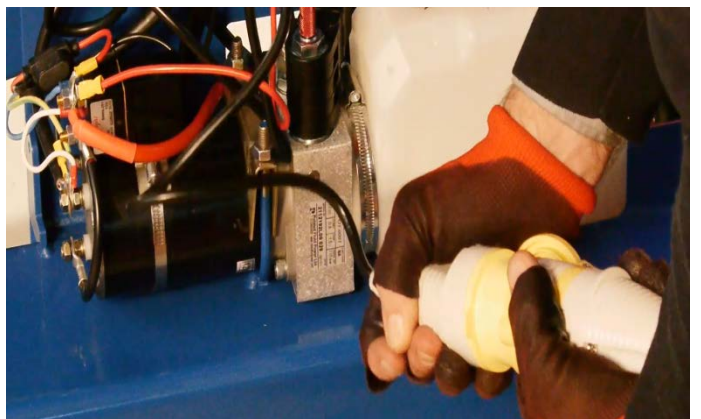
Ensure the isolator switch is set to the 'on' position.



Check the battery charger lights when first switched on (Display Green LED On, Amber LED blinking fast is bulk load, blinking slow is absorption, on float, off storage.)
If the both charger lights flash slowly, check the fuse, battery connections and then the battery condition as outlined in the chapter: 'Battery Maintenance'.



If there are no lights on the charger, check the supply connections.

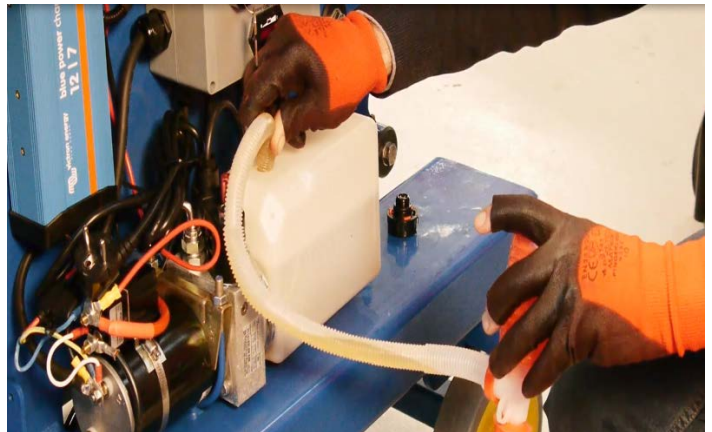


How to Change the Oil in the Hydraulic System

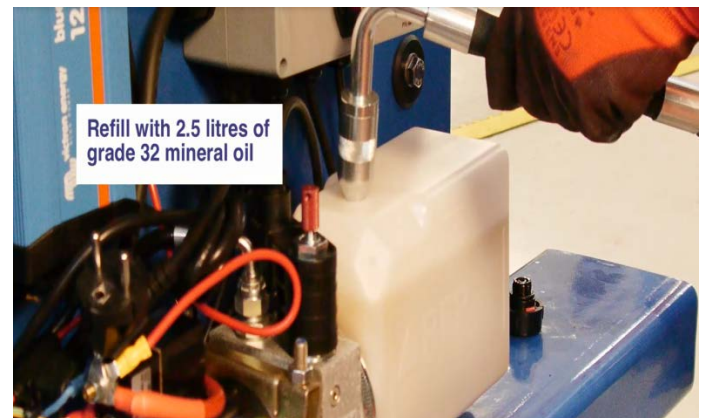
Please ensure, the unit is isolated and you use the correct PPE as indicated.



Use a syringe to empty the hydraulic reservoir.

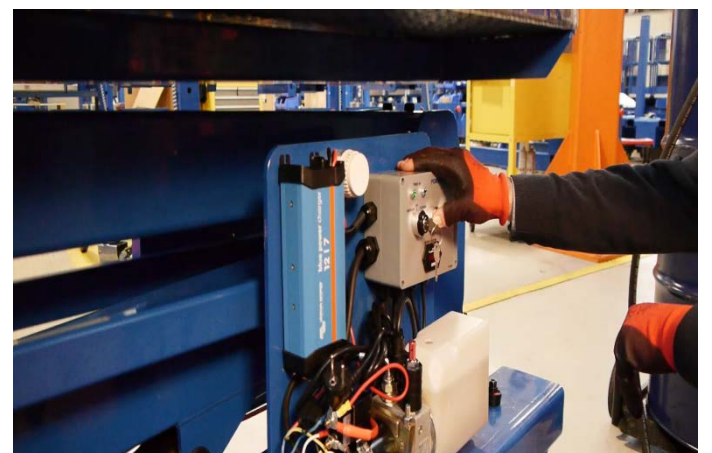


Refill with 2.5 litres of **Grade 32** mineral oil.



Elevate the machine from the ground controls to ensure the platform reaches full travel. If not add a little more oil.

Please Note; Do not keep the pump running without any oil in the tank.

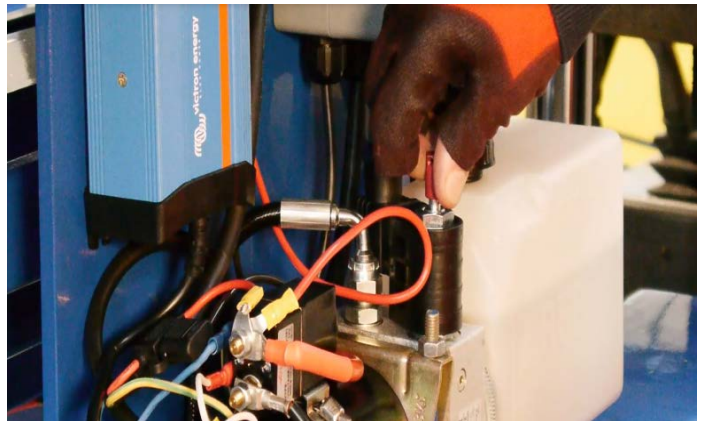


Check Operation of Emergency Lowering Valve

Please ensure, the unit is isolated and you use the correct PPE as indicated.

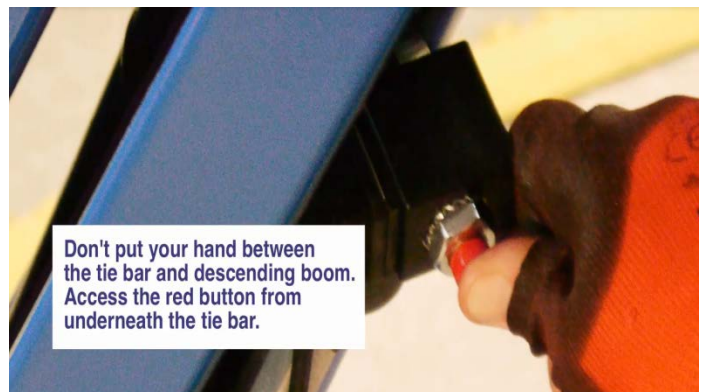


Elevate the platform from the ground controls, ideally to full height. Pull and twist the knurled knob on the power pack so it is locked open. Press the red button on the cylinder valve.

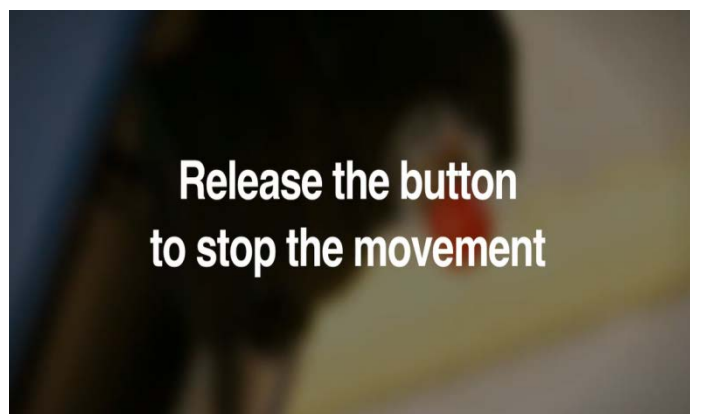


Keep pressed until the platform is fully lowered.

Please note when pressing the red button on the cylinder valve do not put your hand between the tie bar and descending boom, access the red button from underneath the tie bar.



Release the button at any time to stop the movement. Keep clear of the descending structure.



Repair a Faulty Emergency Cylinder Valve Shaft

Please ensure, the unit is isolated and you use the correct PPE as indicated.



Locate the spindle on the cylinder

The valve spindle can become bent, preventing it from sliding into the housing correctly.



Remove the red cap. Identify the direction of the bend and, using a pair of pliers, gently straighten the bend.

Replace the red cap and ensure that the lowering valve operates correctly.



Gate Spring Mechanism

Please ensure, the unit is isolated and you use the correct PPE as indicated.



Offer the gate to the hinges and pass the long pivot bolt downward through the top hinge bracket. When feeding downward, slide the bolt through the spring until just before passing through the lower hinge bracket. Twist the lower arm of the spring behind the gate upright and then pass the pivot bolt through the lower hinge.



Allow the gate to close, and check that the “U” pin locates correctly in the jaw of the of the gate latch. If the “U” pin is too low, raise the pivot bolt slightly above the lower hinge and fit one or two M10 washers as required. Pass the pivot bolt all the way through the hinge plates, fit and tighten a lock nut and washer



Inspect Main Boom Pivot Pins

Please ensure, the unit is isolated and you use the correct PPE as indicated.



Elevate the platform from the ground controls to full height. Ensure the machine is on firm level ground.

Remove the black plastic pin cap on the boom to chassis pivot pin



Stand by the side of the machine and push the boom, just above the middle knuckle post, sideways, back and forth.



Observe the end of the lower boom to chassis pivot pin and see if there is any movement on the hole.

If there is, get an assistant to measure it. Ideally there should be no more than 0.5 millimetres. 0.25 to 0.3 millimetres is acceptable.



If the movement is above the tolerance, then replace the pin use a small amount of Loctite 648 when replacing the plastic pin caps



Use Loctite 648 on the plastic pin caps

Replacing the Lift Cylinder

Please ensure, the unit is isolated and you use the correct PPE as indicated.

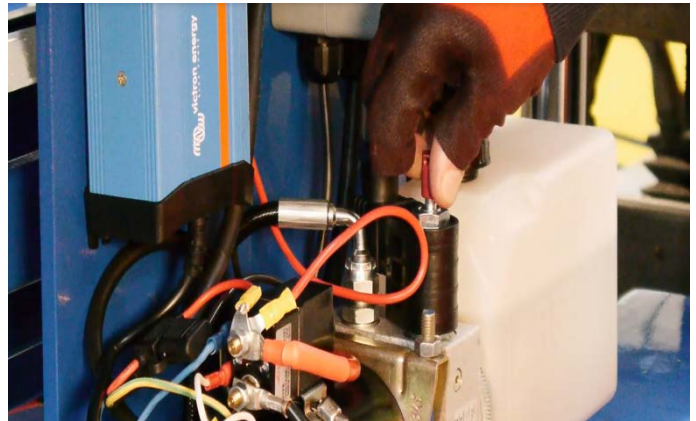


Ensure the platform is fully lowered in the transport position and open the emergency-lowering valve on the power pack.



Allow to drain for a minute or two.

To Drain Pull and twist the Knurled knob and push and hold the red button on the Cylinder.

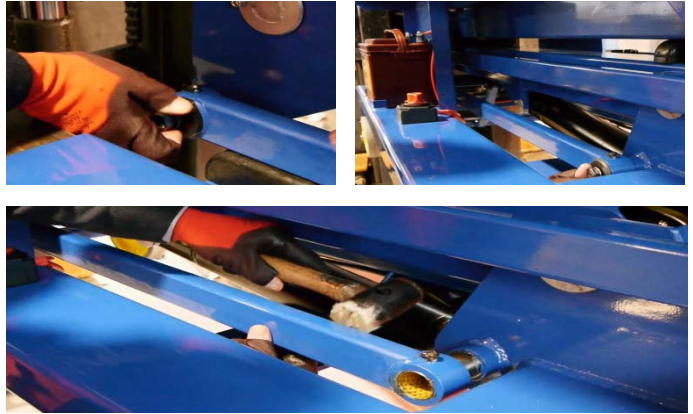


Disconnect the hydraulic pipes and the electric plug from the cylinder.



Tie Bar

Undo the 2 x M12 bolts and remove the tie bar from one side of machine.



Cylinder

Undo the 2 x M12 bolts and 2 x M6 locking screws and drift out the cylinder base end-pin, followed by the rod end-pin. Repeat this process at either end of the cylinder.



Remove the cylinder.



Replace in the reverse sequence. Apply a small amount of Loctite 648 when replacing the M6 locking screws and when replacing the M12 bolts.

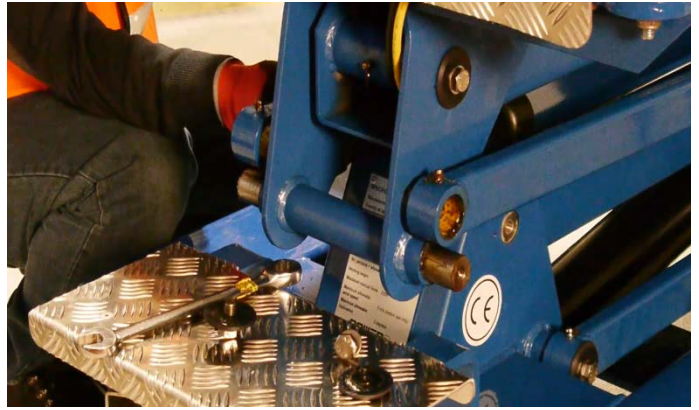


Replace a Main Pivot Pin

Please ensure, the unit is isolated and you use the correct PPE as indicated.



To replace the boom pivot pin, first lower the machine to the ground. Remove the M12 bolt and plastic end cap from both sides to enable you to slide off the tie bars.



Then remove the M6 pivot locking screw and use a suitable rod (diameter 30 millimetres), or another pin, to push out the old pin.



With a new pin (part Number PT- M- 120 OR 120S), align the hole on the pin with the hole on the chassis. And tap into place with a mallet.



Replace the M6 pivot locking screw.
Ensure to use a small amount of thread lock 648 on M6



Replace the M12 bolts and plastic end caps

Please Note ensure to use a small amount 222 thread lock on M12



Castor and Wheel Maintenance

Please ensure, the unit is isolated and you use the correct PPE as indicated.



Ensure the Castor bolt is torque to **55Nm**, If the castor bolts are to be found to be worn then replace with PT-M-170. Again ensure this is tightened and torqued to **55Nm**.



Ensure the wheel spins freely and rotates on the castor if the wheel doesn't move freely after being tightened to the required torque then fit a spacer washer. Check for any damage, the breaking latch moves freely and the castor is not twisted.



Replacement of Castor Wheel

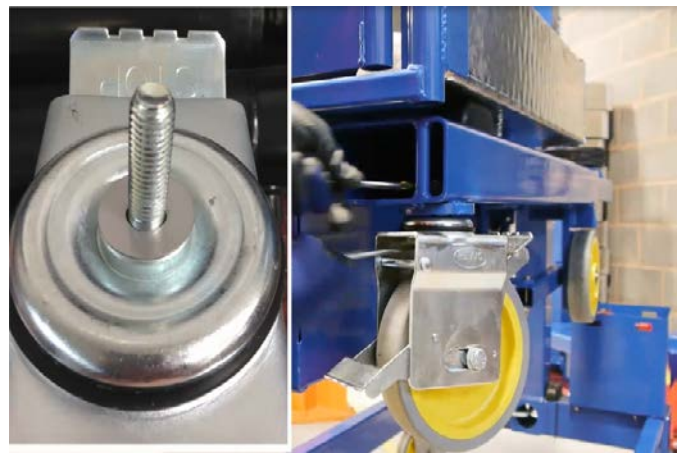
Please ensure, the unit is isolated and you use the correct PPE as indicated.



Raise the machine from the ground with a suitable hoist or block the front of the machine so the castor wheels are clear of the ground by approximately 50 millimetres. Undo the fixing bolt and remove the castor.



Refitting is a reverse of this procedure but it is essential to fit a spacer washer but when tightening the fixing bolt, ensure it is torque to **55Nm**, ensure the wheel moves freely.



Replace a Real Wheel

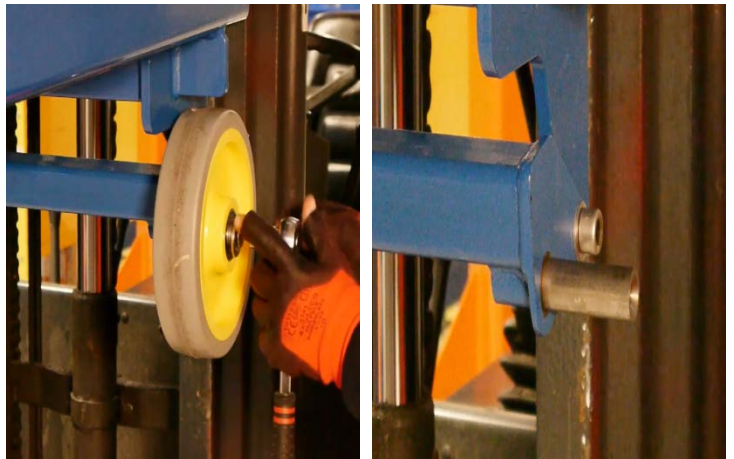
Please ensure, the unit is isolated and you use the correct PPE as indicated.



Use a suitable hoist or forklift to raise the machine off the ground



Remove the locking nut. Remove the wheel, making sure to remove the bearing also.



Affix the new wheel and tap into place.

Please Note; Apply a small amount of Thread Lock 648 and torque to 30Nm, make sure the wheel spins freely.

