



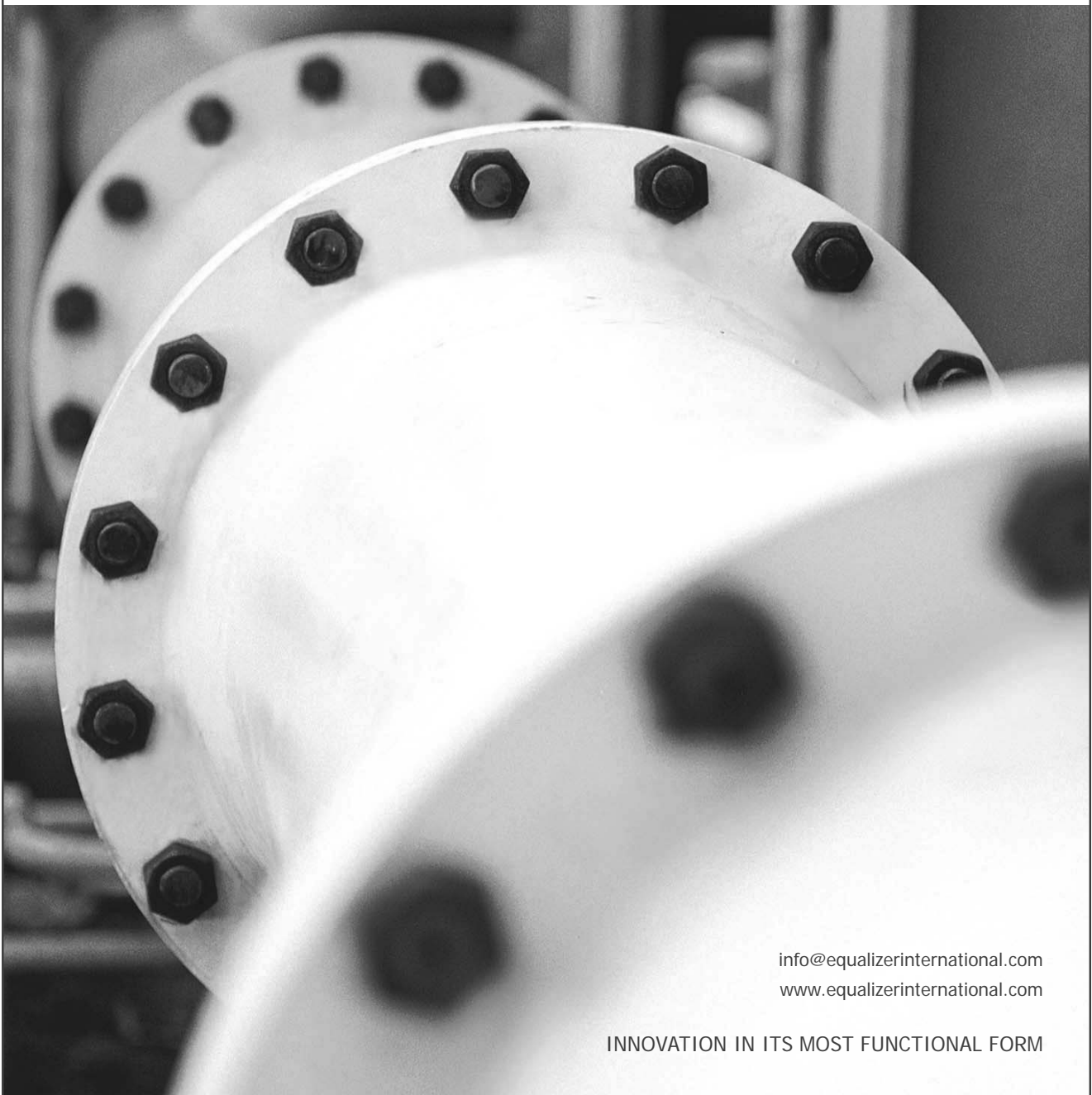
VLW18TE, VLW18TI

HYDRAULIC VERTICAL LIFTING WEDGES

Operator Instruction Manual



EQUALIZER[™]
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www.equalizerinternational.com

INNOVATION IN ITS MOST FUNCTIONAL FORM



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1. INTRODUCTION

The Equalizer VLW18TE/TI Hydraulic Vertical Lifting Wedge is an aid for assisting with the lifting and installation of plant and heavy equipment.

- **Access gap required:** 9.5 mm (0.37")
- **Lifting force:** 10,000 psi (700 bar) = 18 T (180 kN)



2. SAFETY INFORMATION

The operator MUST read this manual prior to using the tools.

Failure to comply with the following cautions and warnings could cause equipment damage and personal injury; read the manual fully!

Read all the following instructions, warnings and cautions carefully. Follow all safety precautions to avoid personal injury or property damage during system operation.

Equalizer International Ltd cannot be responsible for damage or injury resulting from unsafe product use, lack of maintenance or incorrect product and/or system operation. Contact Equalizer International Ltd when in doubt as to the safety precautions and applications. To protect your warranty, use only good quality hydraulic oil of the grade 15cSt.

Only people competent in the use of hydraulic equipment should use these tools.

In all installations the site safety requirements must be adhered to. ALSO the safety of the operator, and when present, any assisting personnel, is of paramount importance along with the safety of others including, when present, the general public.

These instructions are only to cover the safe operation of THE EQUALIZER VLW18TE/TI HYDRAULIC VERTICAL LIFTING WEDGE during normal maintenance/installation operations. All other safety aspects must be controlled by the operation supervisor.



A **CAUTION** is used to indicate correct operating or maintenance procedures and practices to prevent damage to, or destruction of equipment or other property.

A **WARNING** indicates a potential danger that requires correct procedures or practices to avoid personal injury.

A **DANGER** is only used when your action or lack of action may cause serious injury or even death.



IMPORTANT: Operator must be competent in the use of hydraulic equipment. The operator must have read and understood all instructions, safety issues, cautions and warnings before starting to operate the Equalizer equipment.



WARNING: To avoid personal injury and possible equipment damage, make sure all hydraulic components are rated to a safe working pressure of 700 bar (10,000 psi)



WARNING: Do not overload equipment. Overloading causes equipment failure and possible personal injury.

The risk of overloading can be avoided by using the Equalizer Hand Pump, which has its safety valve set to 700 bar by the factory. If alternative pumps are used, ensure they are rated at a safe working pressure of 700 bar (10,000 psi).



CAUTION: Make sure that all system components are protected from external sources of damage, such as excessive heat, flame, moving machine parts, sharp edges and corrosive chemicals.



CAUTION: Avoid sharp bends and kinks that will cause severe back-up pressure in hoses. Bends and kinks lead to premature hose failure. Do not drop heavy objects onto hoses. A sharp impact may cause internal damage to hose wire strands; applying pressure to a damaged hose may cause it to rupture. Do not place heavy weights on the hoses, or allow vehicles to roll over the hoses; crush damage will lead to premature hose failure.



WARNING: Immediately replace worn or damaged parts with genuine Equalizer parts. Equalizer parts are designed to fit properly and withstand rated loads. For repair or maintenance service contact your Equalizer distributor or service centre.



DANGER: To avoid personal injury keep hands and feet away from the tool and workpiece during operation.



WARNING: Always wear suitable clothing and Personal Protective Equipment (PPE).



DANGER: Do not handle pressurised hoses. Escaping oil under pressure can penetrate the skin, causing serious injury. If oil is injected under the skin, seek medical attention immediately.



WARNING: Never pressurize unconnected couplers. Only use hydraulic equipment in a connected system.



IMPORTANT: Do not lift hydraulic equipment by the hoses or couplers. Use the carrying handle or other means of safe transport.



CAUTION: Do not operate the equipment without lubricating all moving parts as in sections 4.5 & 5.5. Use only high pressure molybdenum disulphide grease.



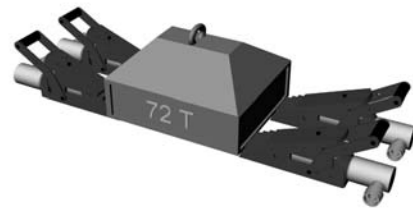
3. TECHNICAL DATA

The EQUALIZER VLW18TE and VLW18TI hydraulic vertical lifting wedges will generate 18 Tons (180 kN) lifting force from 10,000 psi (700 bar) of hydraulic pressure. The tools require a minimum access gap of 9.5 mm (0.37") on the first step and will lift vertically.

Using two VLW18TE/TI wedges will allow a lift of 36 Tons



Using four VLW18TE/TI wedges will allow a lift of 72 Tons





4. VLW18TE HYDRAULIC VERTICAL LIFTING WEDGE

4.1 KIT COMPONENTS/KIT OPTIONS

MINI KIT COMPONENTS

- 1 x VLW18TE Wedgehead
 - 1 x 10,000 psi (700 bar) Hydraulic Cylinder
 - 1 x Safety Block
 - 1 x Stepped Block
 - 1 x Instruction Manual
 - 1 x Hex Key
 - 1 x Countersunk Screw
 - 1 x Cardboard Packaging
- Product Code: VLW18TEMIN



STANDARD KIT COMPONENTS

- 1 x VLW18TE Wedgehead
 - 1 x 10,000 psi (700 bar) Hydraulic Hose, 2 m (78.75")
 - 1 x 10,000 psi (700 bar) Hydraulic Cylinder
 - 1 x 10,000 psi (700 bar)
 - HP350S Sealed Hand Pump with Gauge
 - 1 x Safety Block
 - 1 x Stepped Block
 - 1 x Hex Key
 - 1 x Countersunk Screw
 - 1 x Instruction Manual
 - 1 x Carry-Case
- Product Code: VLW18TESTDSPB



MAXI KIT COMPONENTS

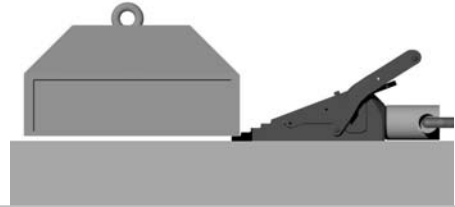
- 2 x VLW18TE Wedgeheads
 - 2 x 10,000 psi (700 bar) Hydraulic Hoses, 2 m (78.75")
 - 2 x 10,000 psi (700 bar) Hydraulic Cylinders
 - 1 x 10,000 psi (700 bar)
 - HP350D Sealed Hand Pump with Gauges
 - 2 x Safety Blocks
 - 2 x Stepped Blocks
 - 2 x Hex Key
 - 2 x Countersunk Screw
 - 1 x Instruction Manual
 - 1 x Carry-Case
- Product Code: VLW18TEMAXSPB



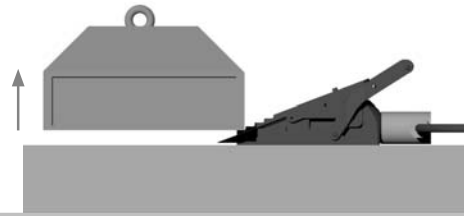


4.2. HOW THE VLW18TE WORKS

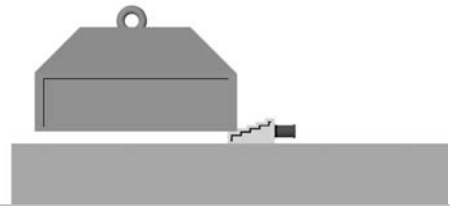
1. The hydraulic hose and hand pump are attached to the tool and the tool is inserted into the access gap



2. The hand pump is primed which powers the hydraulics that lift the load



3. The load is secured using the safety block

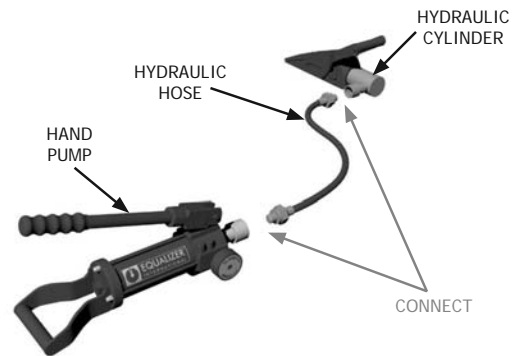




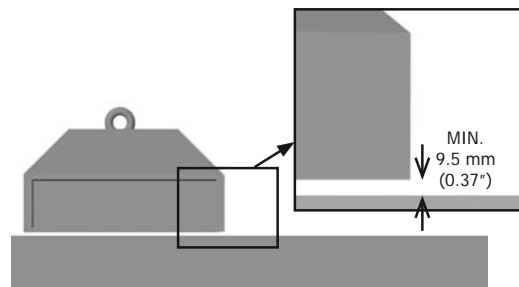
4.3 STANDARD INSTALLATION AND OPERATION

The operation procedure is exactly the same for both the VLW18TE Mini and Standard Kits. The VLW18TE Mini Kit does not contain either a 10,000 psi (700 bar) hydraulic hand pump or a 10,000 psi (700 bar) hydraulic hose. These items will come from the user's inventory.

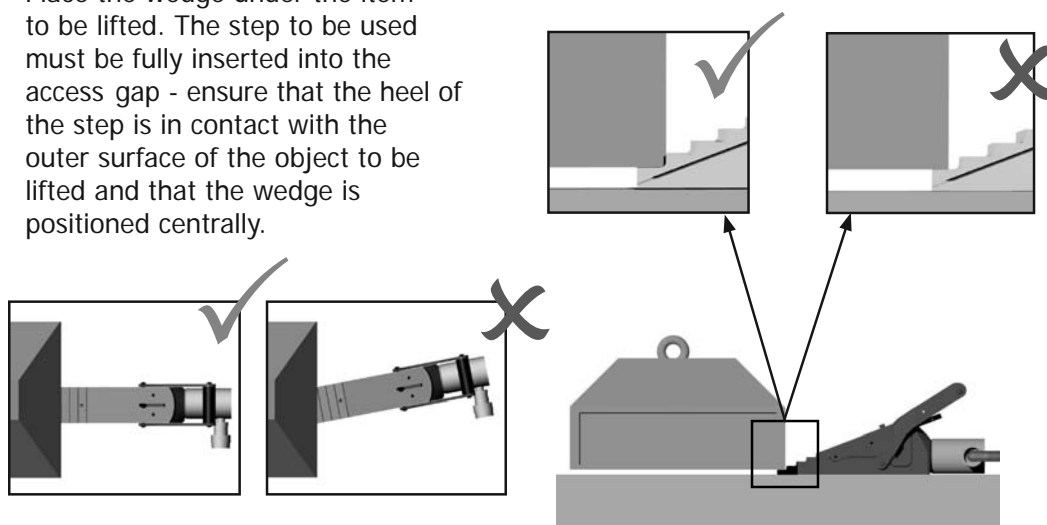
1. Assemble the kit by connecting one end of the hydraulic hose to the hand pump, and the other end to the hydraulic cylinder.



2. Ensure the access gap under the item to be lifted measures 9.5 mm (0.37") or greater.



3. Place the wedge under the item to be lifted. The step to be used must be fully inserted into the access gap - ensure that the heel of the step is in contact with the outer surface of the object to be lifted and that the wedge is positioned centrally.



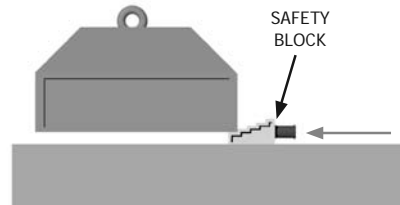


4. Close the return valve on the hand pump (by turning clockwise) and advance the wedge by priming the pump.

N.B. The HP350S Hand Pump has a self contained non-vented oil system. This means that the pump will function without the need for an air vent to be opened. This allows the pump to be used vertically, horizontally or upsides down should the situation require. Having no open vent eliminates the risk of hydraulic oil spillage during use.



5. Once the item has been lifted to the desired height, or to the maximum height on the step used, the safety block should be inserted into the gap. Secure the load by releasing the pressure onto the block.



6. If required, the wedge should then be re-inserted on the next step and steps 3 - 5 repeated to lift the item further.



Never place fingers under an item being lifted.

Always ensure that both the wedge and the safety block are inserted under the item until the heel of the step is in contact with the side of the item to be lifted and the step is positioned centrally (see Installation and Operation step 3)



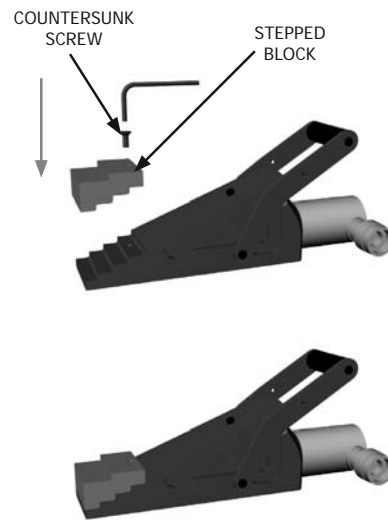
Care should be taken not to drop any of the component parts when removing them from the lifted load. This action will prevent injuries to either the operator's lower limbs, or to passers by.



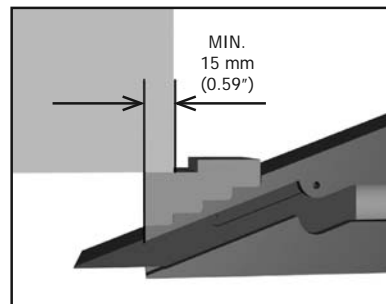
4.4 USING THE STEPPED BLOCK ACCESSORY

The Equalizer Stepped Block enables the VLW18TE Hydraulic Vertical Lifting Wedge to be used to lift an item with a larger gap, and will lift the item further with less penetration

1. Attach the stepped block to the tool using the M6 countersunk screw



2. Insert the tool under the item to be lifted. Ensure there is a minimum hold of 15 mm (0.59") and that the full width of the block is used





4.5 EXAMINATION, MAINTENANCE AND STORAGE

- On return from each job and before allocation against subsequent work the completeness of the Equalizer VLW18TE kit must be established and items examined to ensure that they are serviceable.
- Any missing or damaged items are to be replaced as soon as possible and prior to the tool being used again.
- Store the tool in a cool dry place and ensure all machined surfaces are greased
- Grease all moving parts each and every time the tool is used:

Greasing the wedge:

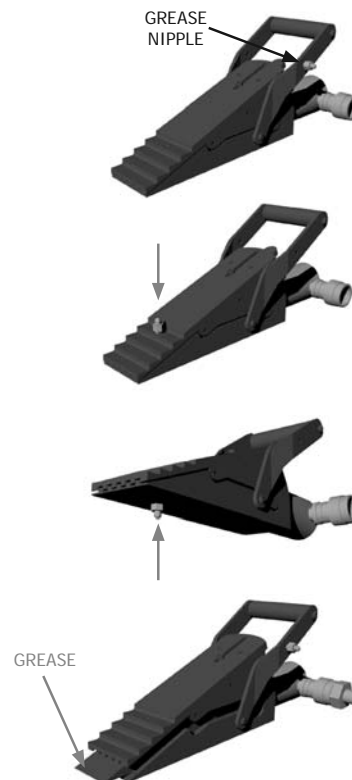
- Remove the grease nipple from the handle of the tool

Screw the grease nipple into the jaw, attach the grease gun and squeeze grease into the wedge

Screw the grease nipple into the base of the tool, attach the grease gun and squeeze grease into the wedge

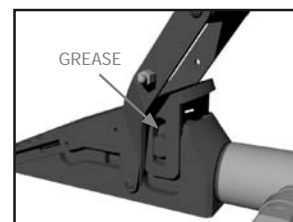
OR

- Connect the hose to the wedge and advance the wedge forward, smear grease onto the surfaces of the wedge



Greasing the slide pins:

- Simply smear some grease into the slots. Also ensure the slide pins are free from grit.

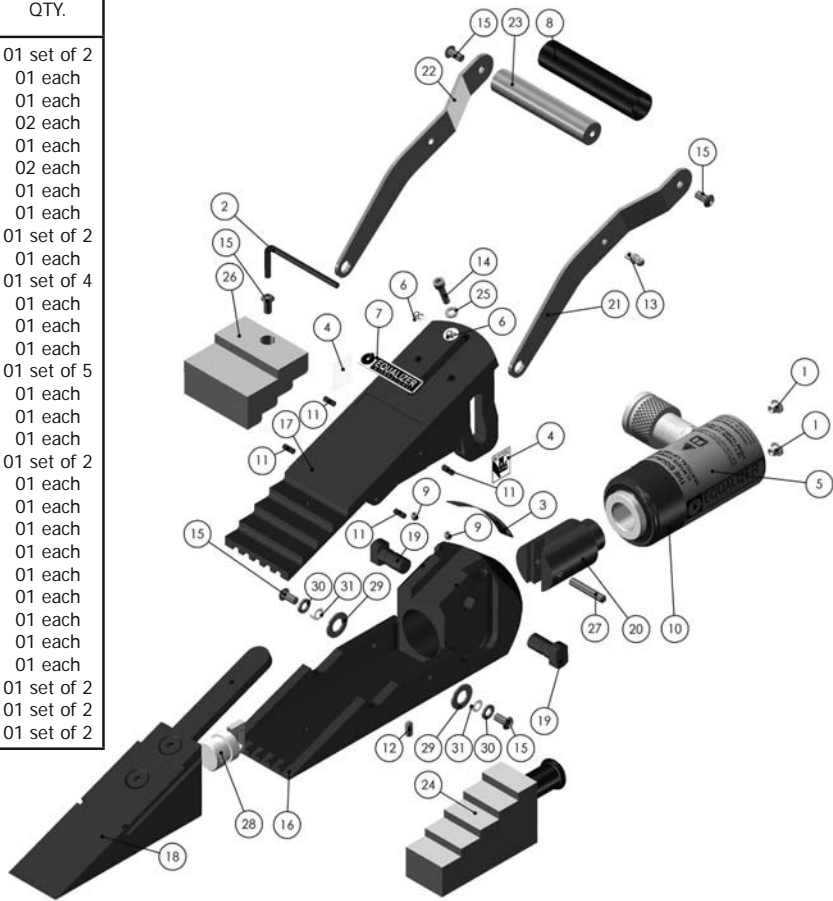




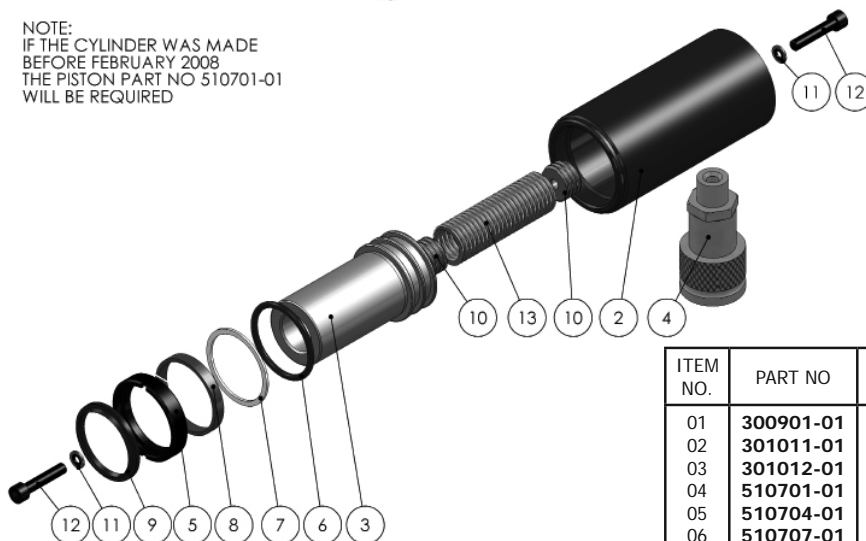
4.6 PARTS LISTS

VLW18TE TOOL

| ITEM NO. | PART NO | DESCRIPTION | QTY. |
|----------|-----------|-----------------------|-------------|
| 01 | 060101-01 | WHITE PLASTIC CAP | 01 set of 2 |
| 02 | 060701-01 | 4 MM ALLEN KEY | 01 each |
| 03 | 070012-01 | SERIAL NO STICKER | 01 each |
| 04 | 070014-01 | PINCH POINT STICKER | 02 each |
| 05 | 070053-01 | WRAP AROUND STICKER | 01 each |
| 06 | 070054-01 | QC SEALED TOP STICKER | 02 each |
| 07 | 070098-01 | EQUALIZER LOGO | 01 each |
| 08 | 201203-01 | BLACK HANDLE SLEEVE | 01 each |
| 09 | 300401-01 | M5X6 SCKT SCREW | 01 set of 2 |
| 10 | 301003-01 | HYDRAULIC CYLINDER | 01 each |
| 11 | 301201-01 | SPIROL PIN | 01 set of 4 |
| 12 | 301301-01 | M6X12 GRUB SCREW | 01 each |
| 13 | 310601-01 | M6 GREASE NIPPLE | 01 each |
| 14 | 402701-01 | M5 SCKT HEAD SCREW | 01 each |
| 15 | 402902-01 | SCREW FOR HANDLE | 01 set of 5 |
| 16 | 500101-01 | MAIN BODY | 01 each |
| 17 | 500201-01 | TOP PLATE | 01 each |
| 18 | 500302-01 | WEDGE C-W TAIL | 01 each |
| 19 | 500401-01 | GUIDE PIN | 01 set of 2 |
| 20 | 500503-01 | PUSH PIN MK III | 01 each |
| 21 | 501101-01 | HANDLE LEFT | 01 each |
| 22 | 501201-01 | HANDLE RIGHT | 01 each |
| 23 | 501301-01 | HANDLE BAR | 01 each |
| 24 | 501401-01 | SAFETY BLOCK | 01 each |
| 25 | 501601-01 | WASHER FOR TAIL | 01 each |
| 26 | 501901-01 | STEP BLOCK | 01 each |
| 27 | 502301-01 | GRUB SCREW | 01 each |
| 28 | 503201-01 | SLOT PLUG | 01 each |
| 29 | 503301-01 | WASHER 10 MM | 01 set of 2 |
| 30 | 503401-01 | WASHER 6MM | 01 set of 2 |
| 31 | 503501-01 | SPACER | 01 set of 2 |



NOTE:
IF THE CYLINDER WAS MADE
BEFORE FEBRUARY 2008
THE PISTON PART NO 510701-01
WILL BE REQUIRED



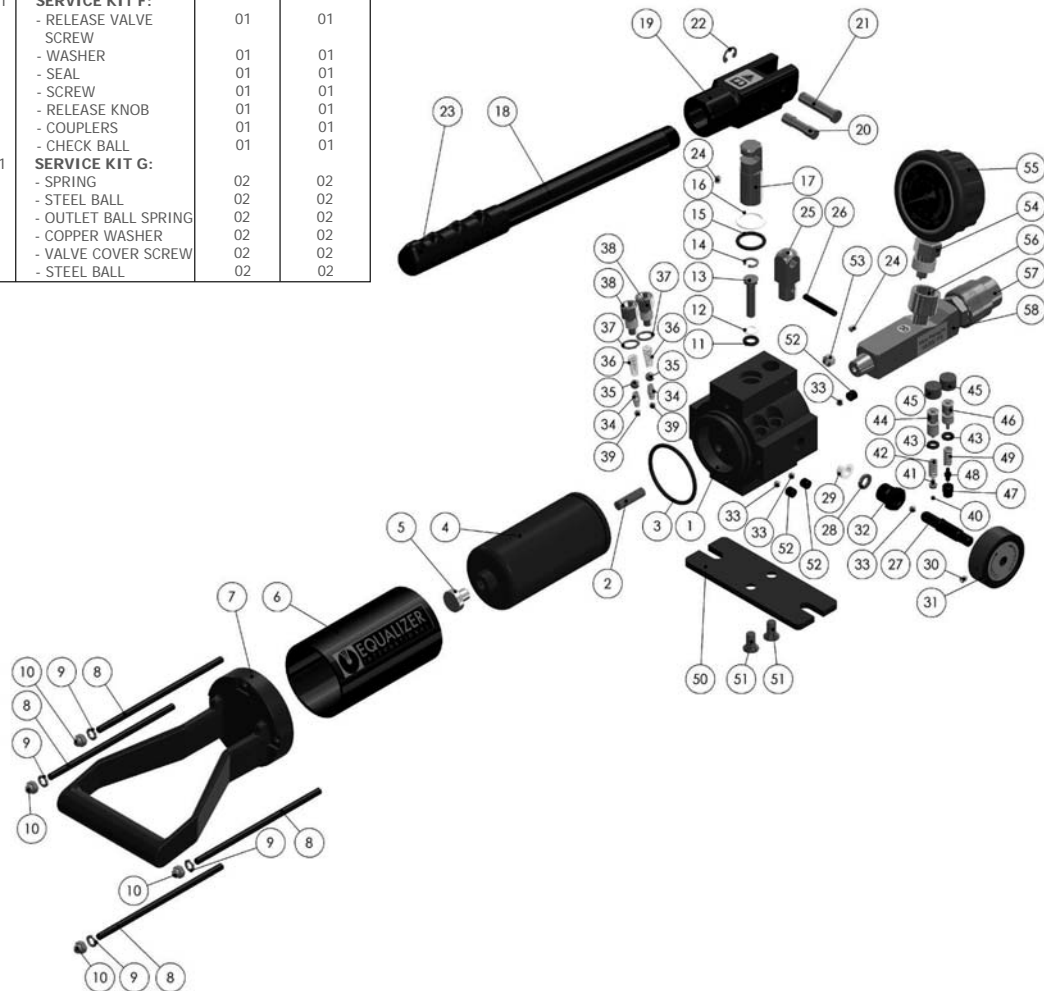
| ITEM NO. | PART NO | DESCRIPTION | QTY. |
|----------|-----------|-------------------|------|
| 01 | 300901-01 | HYDRAULIC COUPLER | 01 |
| 02 | 301011-01 | CYLINDER BASE | 01 |
| 03 | 301012-01 | SPRING | 01 |
| 04 | 510701-01 | PISTON ROD | 01 |
| 05 | 510704-01 | SPRING LOCK | 02 |
| 06 | 510707-01 | SCREW | 02 |
| 07 | 510709-01 | FASTEN NUT | 01 |
| 08 | 301403-01 | SERVICE KIT | 01 |
| 09 | | O-RING | 01 |
| 10 | | BACK-UP RING | 01 |
| 11 | | GASKET SEAL | 02 |
| 12 | | SPLIT RING | 01 |
| 13 | | WIPER | 01 |



HP350S HUDRAULIC SINGLE PORT SEALED HAND PUMP

| ITEM | PART No. | DESCRIPTION | KIT QUANTITY | PUMP QUANTITY |
|------|-----------|-----------------------|--------------|---------------|
| 01 | 710101-01 | PUMP HOUSING | | 01 |
| | 715100-01 | SERVICE KIT A: | | |
| 02 | | - OIL FILTER | 01 | 01 |
| 03 | | - O-RING | 01 | 01 |
| 04 | | - RESERVOIR BLADDER | 01 | 01 |
| 05 | | - REFILLING PLUG | 01 | 01 |
| 06 | 710601-01 | RESERVOIR | | 01 |
| | 725200-01 | SERVICE KIT B: | | |
| 07 | | - TAIL BASE | 01 | 01 |
| 08 | | - SCREW | 04 | 04 |
| 09 | | - SPRING WASHER | 04 | 04 |
| 10 | | - NUT | 04 | 04 |
| | 715300-01 | SERVICE KIT C: | | |
| 11 | | - O-RING | 01 | 01 |
| 12 | | - BACK-UP RING | 01 | 01 |
| 13 | | - PUMP PISTON | 01 | 01 |
| 14 | | - SNAP RING | 01 | 01 |
| 15 | | - O-RING | 01 | 01 |
| 16 | | - BACK-UP RING | 01 | 01 |
| 17 | | - PUMP PISTON | 01 | 01 |
| | 715400-01 | SERVICE KIT D: | | |
| 18 | | - HANDLE | 01 | 01 |
| 19 | | - YOKE | 01 | 01 |
| 20 | | - PISTON PIN | 01 | 01 |
| 21 | | - YOKE PIN | 01 | 01 |
| 22 | | - RETAINING RING | 01 | 01 |
| 23 | | - HANDLE GRIP | 01 | 01 |
| 24 | | - SCREW | 01 | 01 |
| | 715500-01 | SERVICE KIT E: | | |
| 25 | | - YOKE BASE | 01 | 01 |
| 26 | | - SPRING PIN | 01 | 01 |
| | 715600-01 | SERVICE KIT F: | | |
| 27 | | - RELEASE VALVE SCREW | 01 | 01 |
| 28 | | - WASHER | 01 | 01 |
| 29 | | - SEAL | 01 | 01 |
| 30 | | - SCREW | 01 | 01 |
| 31 | | - RELEASE KNOB | 01 | 01 |
| 32 | | - COUPLERS | 01 | 01 |
| 33 | | - CHECK BALL | 01 | 01 |
| | 715700-01 | SERVICE KIT G: | | |
| 34 | | - SPRING | 02 | 02 |
| 35 | | - STEEL BALL | 02 | 02 |
| 36 | | - OUTLET BALL SPRING | 02 | 02 |
| 37 | | - COPPER WASHER | 02 | 02 |
| 38 | | - VALVE COVER SCREW | 02 | 02 |
| 39 | | - STEEL BALL | 02 | 02 |

| ITEM | PART No. | DESCRIPTION | KIT QUANTITY | PUMP QUANTITY |
|------|-----------|-------------------------|--------------|---------------|
| | 715800-01 | SERVICE KIT H: | | |
| 40 | | - STEEL BALL | 01 | 01 |
| 41 | | - SPRING END CAP | 01 | 01 |
| 42 | | - L.P. SPRING | 01 | 01 |
| 43 | | - O-RING | 02 | 02 |
| 44 | | - OVERLOAD COVER SCREW | 01 | 01 |
| 45 | | - CAP | 02 | 02 |
| 46 | | - OVERLOAD COVER SCREW | 01 | 01 |
| 47 | | - CONE SEATO | 1 | 01 |
| 48 | | - CONE | 01 | 01 |
| 49 | | - LONG SEPARATOR SPRING | 01 | 01 |
| | 715900-01 | SERVICE KIT I: | | |
| 50 | | - BASE PLATE | 01 | 01 |
| 51 | | - SCREW | 02 | 02 |
| | 716100-01 | SERVICE KIT K: | | |
| 52 | | - SCREW | 04 | 03 |
| 53 | | - SCREW | 01 | 01 |
| 24 | | - SCREW | 01 | 01 |
| 33 | | - CHECK BALL | 04 | 03 |
| | 716200-01 | SERVICE KIT L: | | |
| 54 | | - GAUGE COUPLER MALE | 01 | 01 |
| 55 | | - GAUGE | 01 | 01 |
| | 716300-01 | SERVICE KIT M: | | |
| 56 | | - GAUGE COUPLER FEMALE | 01 | 01 |
| 57 | | - COUPLER | 01 | 01 |
| 58 | | - GAUGE PORT ADAPTOR | 01 | 01 |





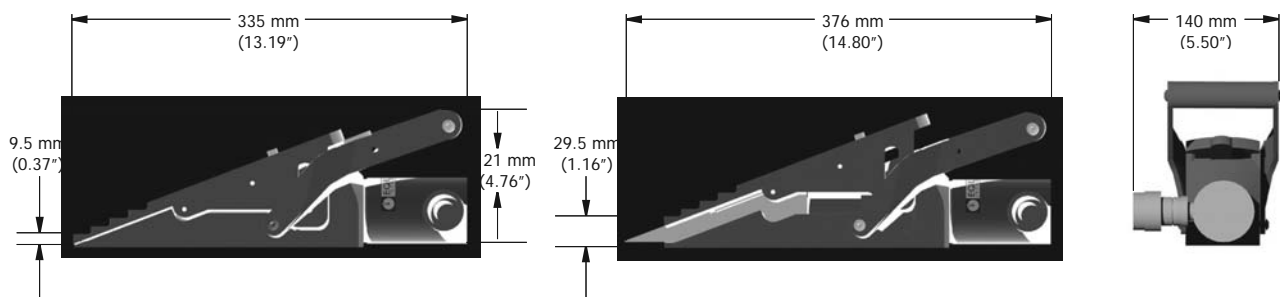
4.7 WEIGHTS AND DIMENSIONS

WEIGHTS

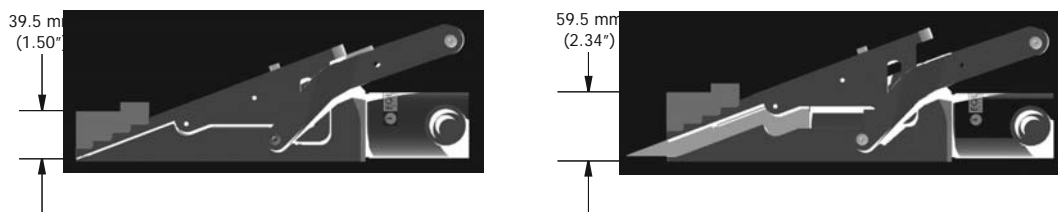
VLW18TE Wedge with Hydraulic Cylinder = 8.5 kg (18.7 lbs)
Carry-Case = 6 kg (13.2 lbs)

GROSS MINI KIT WEIGHT = 9.8 kg (21.5 lbs)
GROSS STANDARD KIT WEIGHT = 21.5 kg (47.4 lbs)
GROSS MAXI KIT WEIGHT = 33 kg (72.8 lbs)

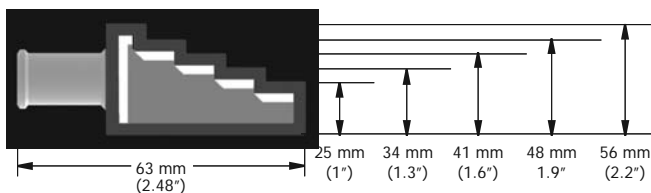
MINIMUM EXTENSION



MAXIMUM EXTENSION (USING STEPPED BLOCK)



SAFETY BLOCK



STEPPED BLOCK





4.8 TROUBLESHOOTING

Problem: Hoses are connected but the tool does not advance. The pressure on the pump handle is minimal.

- The release valve is in the retract (open) position
- Close the release valve



Problem: Hoses are connected and the pump quickly reaches maximum pressure but the tool has not advanced

- One or more of the connectors are not fully tightened and the hydraulic oil cannot pass through from the pump to the cylinder
- Check all connectors are fully tightened and the release valve is in the fully closed position

Problem: Hoses are connected and the tool advances with maximum pressure on the pump handle but the load will not lift

- The pressure required to lift the load is greater than that of the tools you are using
- Add another tool and try again

Problem: Hoses are connected and the tool advances but there is minimal pressure on the pump handle and the handle is rising back of its own accord

- There is dirt or a damaged valve seat within the pump unit
- The pump should be sent to an authorised Equalizer distributor for repair

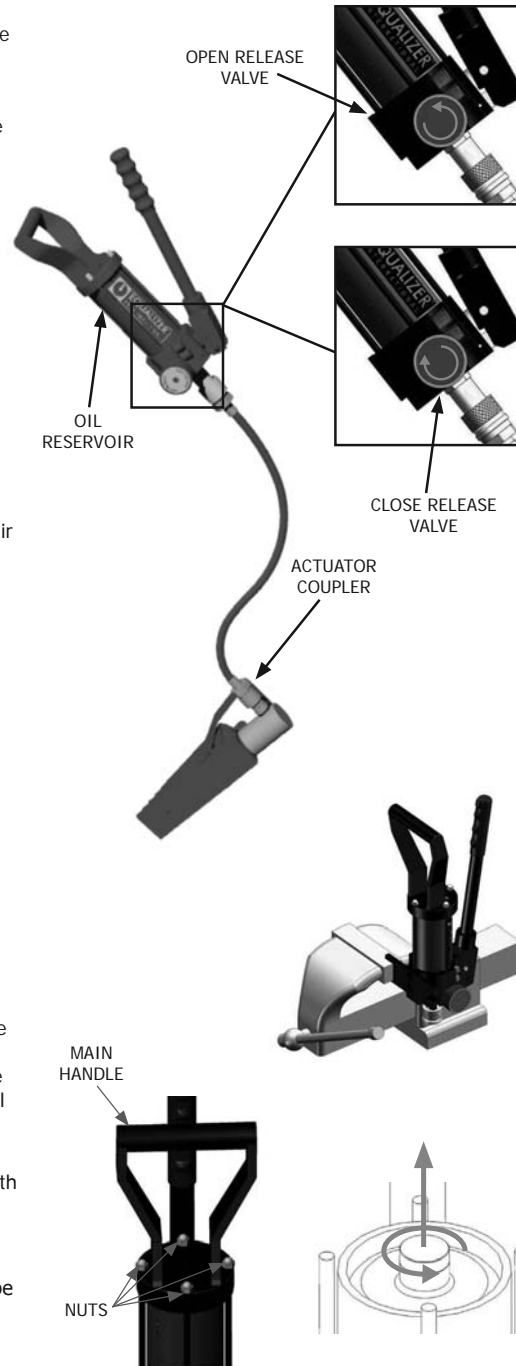


Problem: The wedge is advancing but does not reach full pressure

→ Air could be present in the hydraulic system

→ Use the airlock removal procedure as follows:

1. Connect the hand pump to the tool with the hydraulic hose
2. Close the release valve on the pump, and prime the pump until the hydraulic cylinder is fully extended and a small pressure is achieved
3. With the hand pump held above the tool and the tool in an upright position, open the release valve causing any air that is within the system to be forced up through the pump and vented into the oil reservoir
4. Repeat steps 1 - 3 three or four times to ensure that all air is removed from the system and the tool will reach full working pressure
5. Disconnect the hand pump from the hydraulic hose, grip the baseplate of the hand pump body in a vice with the pump body vertical and the main handle at the top
6. Remove the four nuts holding the main handle and lift off
7. Grip the refilling plug with pliers and extract it by pulling and twisting simultaneously. Ensure the reservoir body is held down when removing the refilling plug as pulling up on the reservoir body will release the bladder within, and oil will spill out.
8. Fill the reservoir to the top with a good quality hydraulic oil of the grade 15 cSt
9. Reinsert the refilling plug, wipe away any oil, and reassemble by reversing the disassembly process





5. VLW18TI INTEGRAL HYDRAULIC VERTICAL LIFTING WEDGE

5.1 KIT COMPONENTS

- 1 x VLW18TI Wedgehead
- 1 x 10,000 psi (700 bar) Integral Hydraulic Pump/Cylinder
- 1 x Safety Block
- 1 x Stepped Block
- 1 x Hex Key
- 1 x Countersunk Screw
- 1 x Instruction Manual
- 1 x Carry-Case

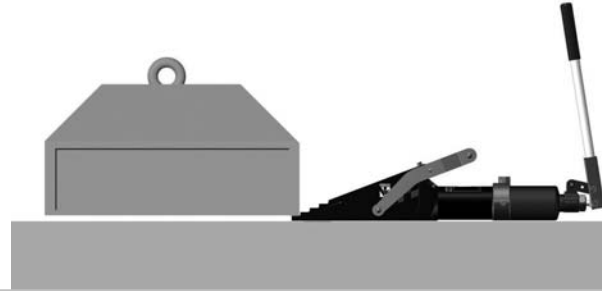
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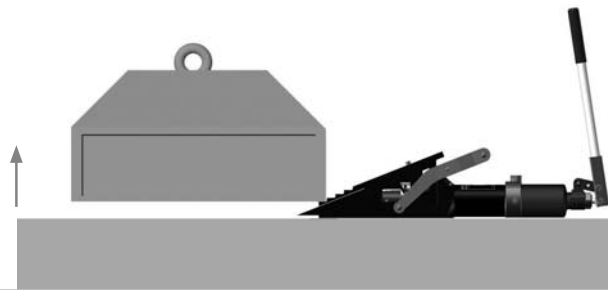


5.2 HOW THE VLW18TI WORKS

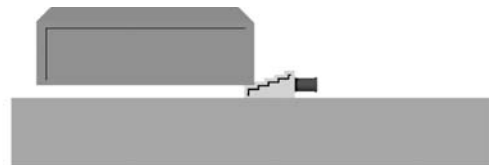
1. The tool is inserted into the access gap



2. The pump is primed which powers the hydraulics that lift the load



3. The load is secured using the safety block

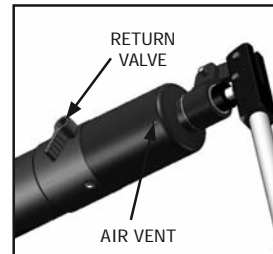




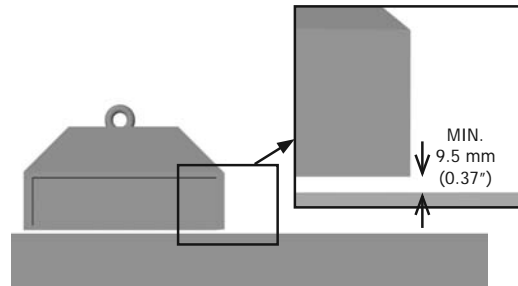
5.3 STANDARD INSTALLATION AND OPERATION

1. Before installing the wedge, ensure that it is fully retracted and tighten the return valve in a clockwise direction to the closed position.

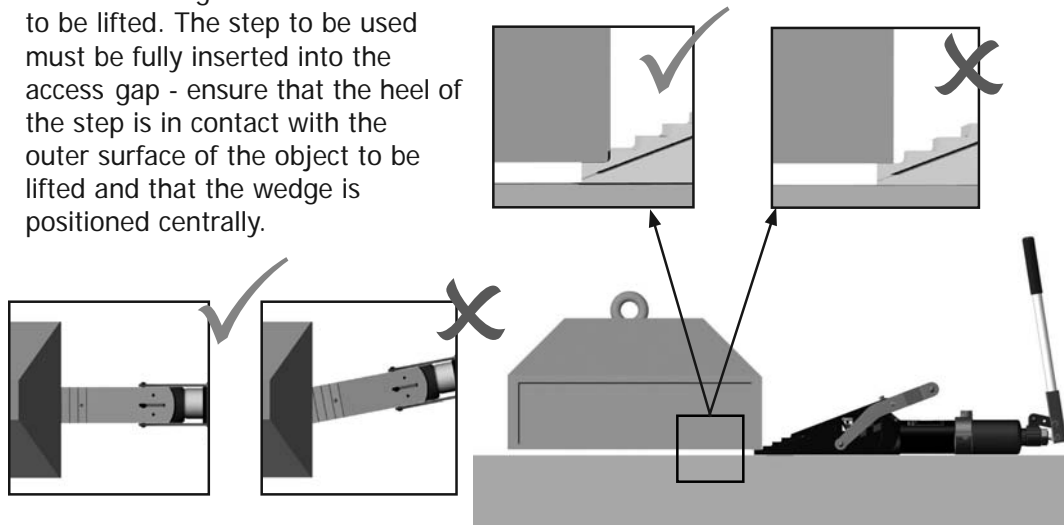
Also ensure the air vent is not obstructed in any way as this will result in a vacuum within the system and the wedge will not advance.



2. Ensure the access gap under the item to be lifted measures 9.5 mm (0.37") or greater.

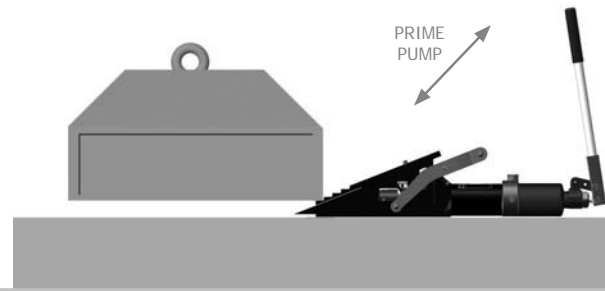


3. Place the wedge under the item to be lifted. The step to be used must be fully inserted into the access gap - ensure that the heel of the step is in contact with the outer surface of the object to be lifted and that the wedge is positioned centrally.

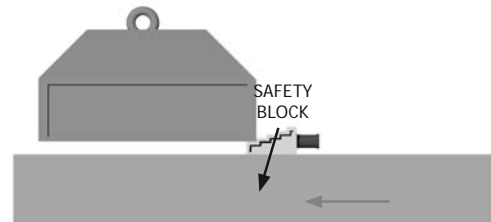




4. Advance the wedge by priming the pump.



5. Once the item has been lifted to the desired height, or to the maximum height on the step used, the safety block should be inserted into the gap. Secure the load by releasing the pressure onto the block.



6. If required, the wedge should then be re-inserted on the next step and steps 3 - 5 repeated to lift the item further.



Never place fingers under an item being lifted.

Always ensure that both the wedge and the safety block are inserted under the item until the heel of the step is in contact with the side of the item to be lifted and the step is positioned centrally (see Installation and Operation step 3)



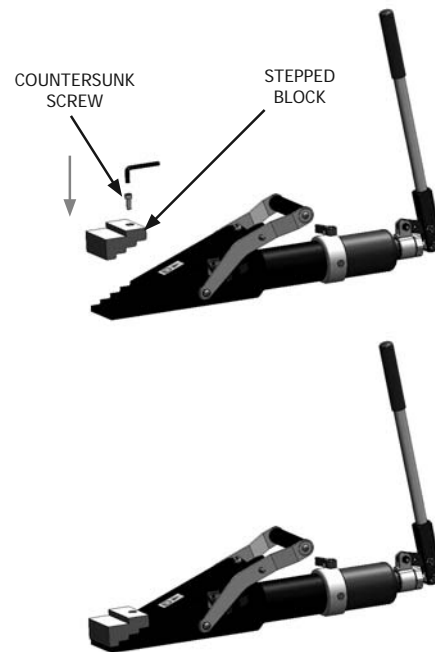
Care should be taken not to drop any of the component parts when removing them from the lifted load. This action will prevent injuries to either the operator's lower limbs, or to passers by.



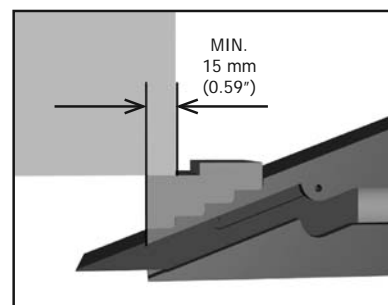
5.4 USING THE STEPPED BLOCK ACCESSORY

The Equalizer Stepped Block enables the VLW18TI Integral Hydraulic Vertical Lifting Wedge to be used to lift an item with a larger gap, and will lift the item further with less penetration

1. Attach the stepped block to the tool using the M6 countersunk screw



2. Insert the tool under the item to be lifted. Ensure there is a minimum hold of 15 mm (0.59") and that the full width of the block is used





5.5 EXAMINATION, MAINTENANCE AND STORAGE

- On return from each job and before allocation against subsequent work the completeness of the Equalizer VLW18TI kit must be established and items examined to ensure that they are serviceable.
- Any missing or damaged items are to be replaced as soon as possible and prior to the tool being used again.
- Store the tool in a cool dry place and ensure all machined surfaces are greased
- Grease all moving parts each and every time the tool is used:

Greasing the wedge:

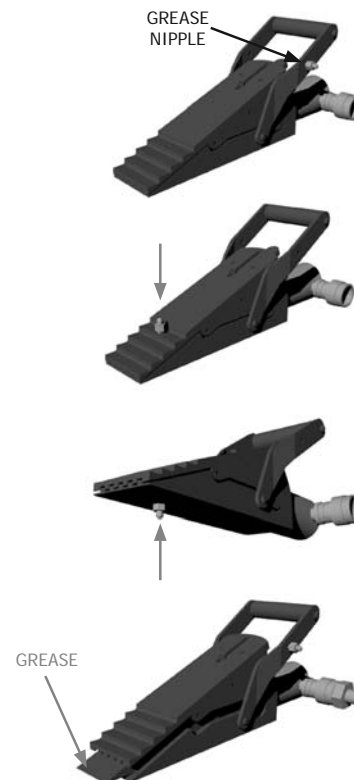
- Remove the grease nipple from the handle of the tool

Screw the grease nipple into the jaw, attach the grease gun and squeeze grease into the wedge

Screw the grease nipple into the base of the tool, attach the grease gun and squeeze grease into the wedge

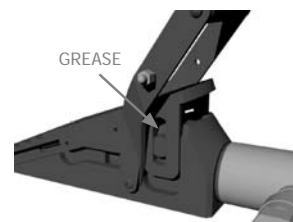
OR

- Advance the wedge forward, smear grease onto the surfaces of the wedge



Greasing the slide pins:

- Simply smear some grease into the slots. Also ensure the slide pins are free from grit.

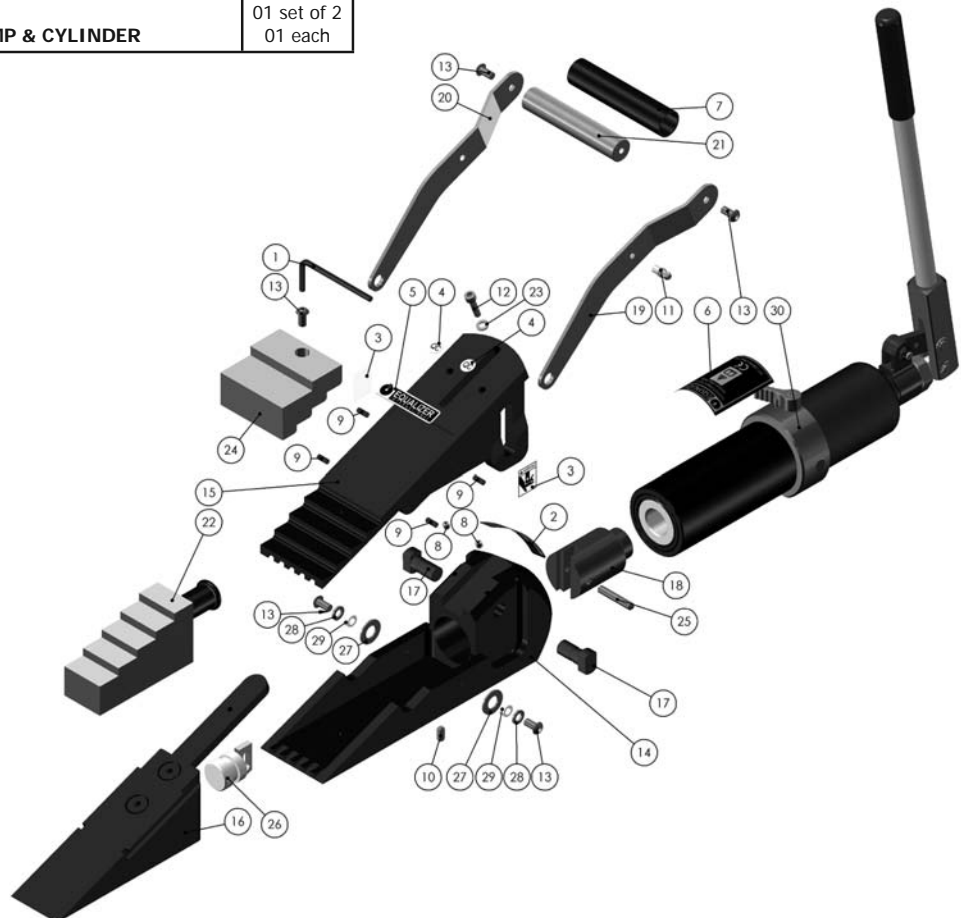




5.6 PARTS LISTS

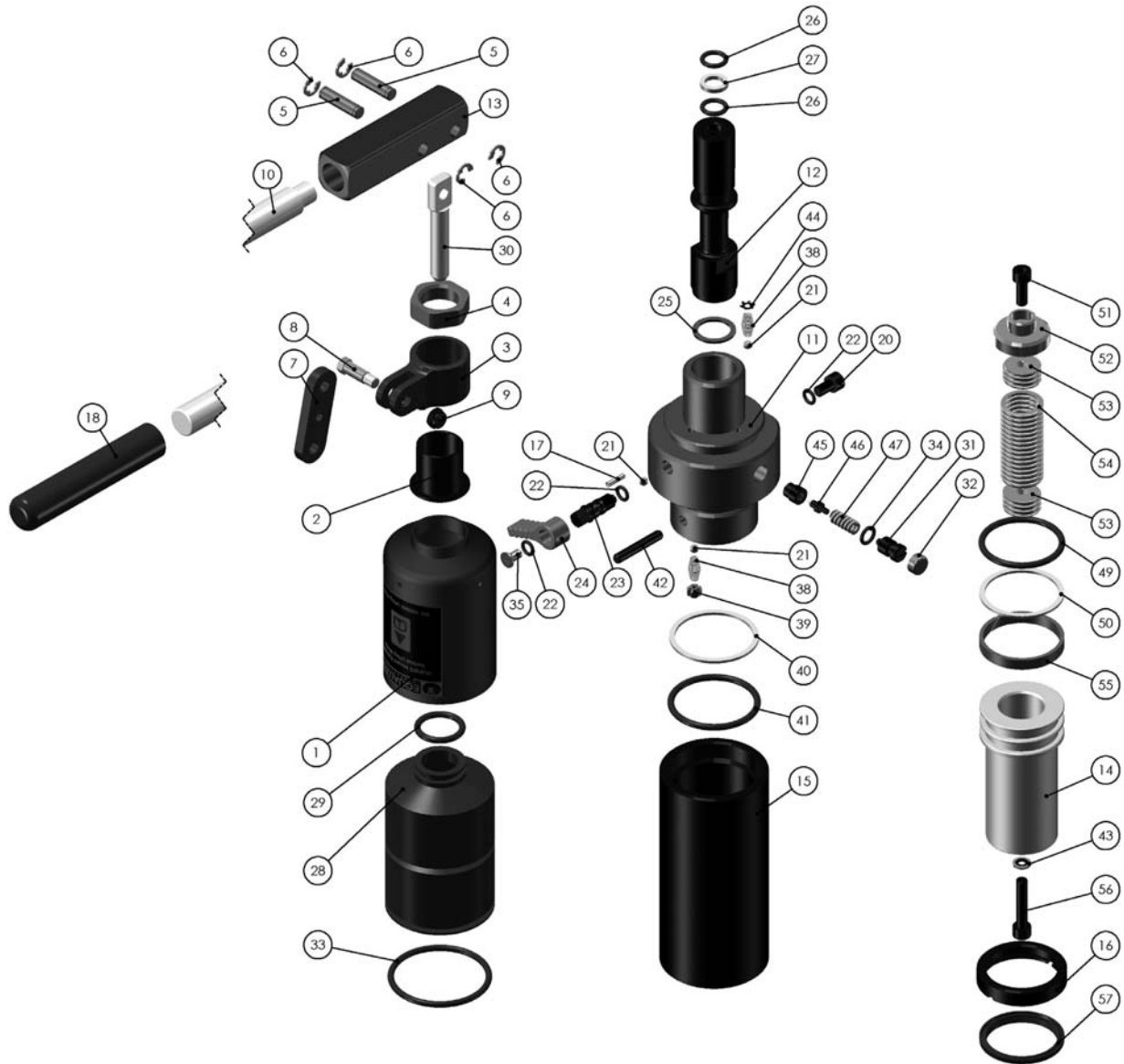
VLW18TI TOOL

| ITEM NO. | PART NO | DESCRIPTION | QTY. |
|----------|-----------|-----------------------|-------------|
| 01 | 060701-01 | 4 MM ALLEN KEY | 01 each |
| 02 | 070012-01 | SERIAL NO STICKER | 01 each |
| 03 | 070014-01 | PINCH POINT STICKER | 02 each |
| 04 | 070054-01 | QC SEALED TOP STICKER | 02 each |
| 05 | 070098-01 | EQUALIZER LOGO | 01 each |
| 06 | 070249-01 | READ INSTR. STICKER | 01 each |
| 07 | 201203-01 | BLACK HANDLE SLEEVE | 01 each |
| 08 | 300401-01 | M5X6 SCKT SCREW | 01 set of 2 |
| 09 | 301201-01 | SPIROL PIN | 01 set of 4 |
| 10 | 301301-01 | M6X12 GRUB SCREW | 01 each |
| 11 | 310601-01 | M6 GREASE NIPPLE | 01 each |
| 12 | 402701-01 | M5 SCKT HEAD SCREW | 01 each |
| 13 | 402902-01 | SCREW FOR HANDLE | 01 set of 5 |
| 14 | 500101-01 | MAIN BODY | 01 each |
| 15 | 500201-01 | TOP PLATE | 01 each |
| 16 | 500302-01 | WEDGE C-W TAIL | 01 each |
| 17 | 500401-01 | GUIDE PIN | 01 set of 2 |
| 18 | 500503-01 | PUSH PIN MK III | 01 each |
| 19 | 501101-01 | HANDLE LEFT | 01 each |
| 20 | 501201-01 | HANDLE RIGHT | 01 each |
| 21 | 501301-01 | HANDLE BAR | 01 each |
| 22 | 501401-01 | SAFETY BLOCK | 01 each |
| 23 | 501601-01 | WASHER FOR TAIL | 01 each |
| 24 | 501901-01 | STEP BLOCK | 01 each |
| 25 | 502301-01 | GRUB SCREW | 01 each |
| 26 | 503201-01 | SLOT PLUG | 01 each |
| 27 | 503301-01 | WASHER 10 MM | 01 set of 2 |
| 28 | 503401-01 | WASHER 6MM | 01 set of 2 |
| 29 | 503501-01 | SPACER | 01 set of 2 |
| 30 | 510701-01 | INT. PUMP & CYLINDER | 01 each |





INTEGRAL HYDRAULIC PUMP/CYLINDER serial no: 11187 onwards



| ITEM NO. | PART NO | DESCRIPTION | QTY. | ITEM NO. | PART NO | DESCRIPTION | QTY. | ITEM NO. | PART NO | DESCRIPTION | QTY. |
|----------|-----------|---------------------|------|----------|-----------|----------------------|------|----------|-----------|-----------------------|------|
| 01 | 372301-01 | BLADDER HOUSING | 01 | 19 | 375010-01 | SERVICE KIT A | 01 | 36 | 375020-01 | SERVICE KIT C | 01 |
| 02 | 342401-01 | PISTON HOUSING CAP | 01 | 20 | | OIL FILL SCREW | 01 | 21 | | STEEL BALL | 02 |
| 03 | 372501-01 | SWIVEL CLEVIS | 01 | 21 | | STEEL BALL | 01 | 38 | | SPRING | 02 |
| 04 | 372601-01 | RETAINING NUT | 01 | 22 | | O-RING | 03 | 39 | | SCREW | 01 |
| 05 | 372901-01 | CLEVIS PIN | 02 | 23 | | RELIEF VALVE SCREW | 01 | 40 | | BACK-UP RING | 01 |
| 06 | 373001-01 | RETAINING RING | 04 | 24 | | RELIEF VALVE KNOB | 01 | 41 | | O-RING | 01 |
| 07 | 373101-01 | LINK CONNECTOR | 01 | 25 | | WASHER | 01 | 42 | | PIN | 01 |
| 08 | 373201-01 | CLEVIS SCREW | 01 | 26 | | O-RING | 02 | 43 | | GASKET SEAL | 01 |
| 09 | 373301-01 | ANTI-LOOSEN NUT | 01 | 27 | | BACK UP RING | 01 | 44 | | SPRING LOCK | 01 |
| 10 | 373401-01 | HANDLE ROD | 01 | 28 | | RESERVOIR BLADDER | 01 | 45 | | CONE SEAT | 01 |
| 11 | 375101-01 | CYLINDER BASE | 01 | 29 | | O-RING | 01 | 46 | | CONE | 01 |
| 12 | 376901-01 | PUMP PISTON HOUSING | 01 | 30 | | PUMP PISTON ROD | 01 | 47 | | LONG SEPARATOR SPRING | 01 |
| 13 | 377101-01 | HANDLE CLEVIS | 01 | 31 | | OVERLOAD COVER SCREW | 01 | 48 | 510700-01 | SERVICE KIT D | 01 |
| 14 | 510701-01 | PISTON ROD | 01 | 32 | | CAP | 01 | 49 | | O-RING | 01 |
| 15 | 510708-01 | PULLER BODY | 01 | 33 | | O-RING | 01 | 50 | | BACK-UP RING | 01 |
| 16 | 510709-01 | FASTEN NUT | 01 | 34 | | O-RING | 01 | 51 | | SCREW | 01 |
| 17 | 510712-01 | ROLL PIN | 01 | 35 | | FIXING SCREW | 01 | 52 | | STOP COLLAR | 01 |
| 18 | 510713-01 | HANDLE GRIP | 01 | | | | | 53 | | SPRING CLOCK | 01 |
| | | | | | | | | 54 | | SPRING | 01 |
| | | | | | | | | 55 | | SPLIT RING | 01 |
| | | | | | | | | 56 | | SCREW | 01 |
| | | | | | | | | 57 | | WIPER | 01 |



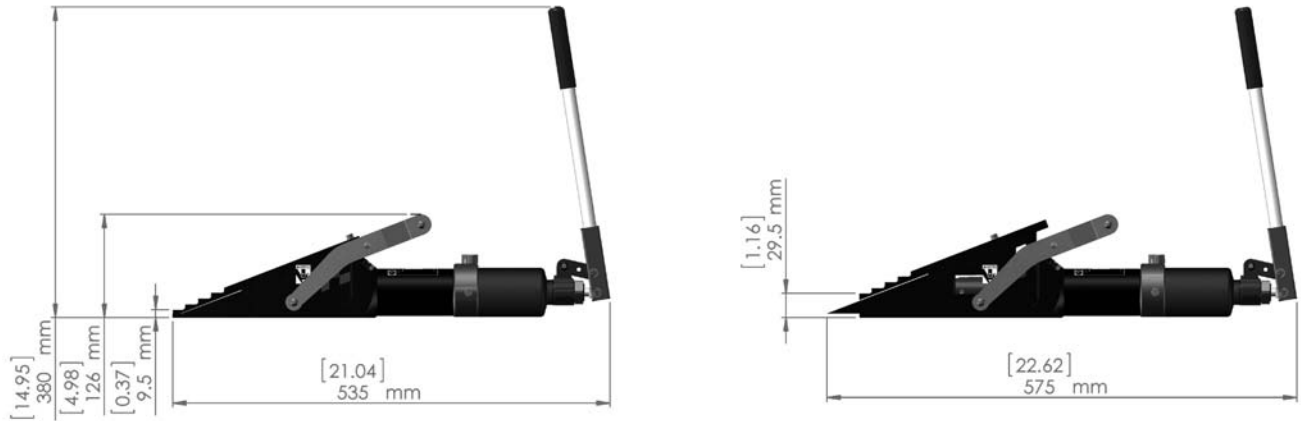
5.7 WEIGHTS AND DIMENSIONS

WEIGHTS

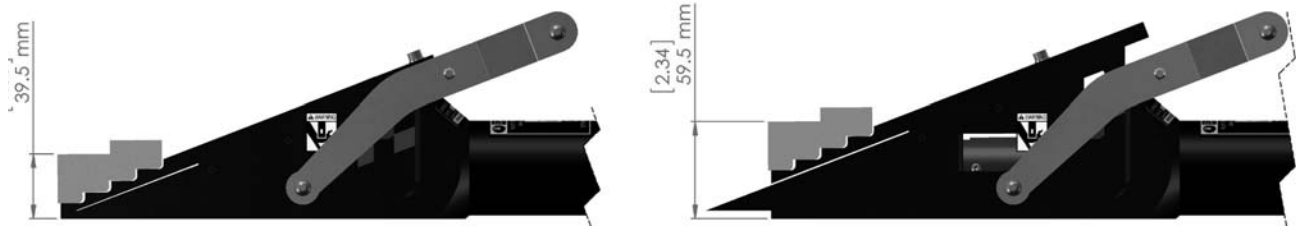
VLW18TI Wedge = 10 kg (22 lbs)
Carry-Case = 2.5 kg (5.5 lbs)

GROSS KIT WEIGHT = 13.5 kg (29.8 lbs)

MINIMUM EXTENSION

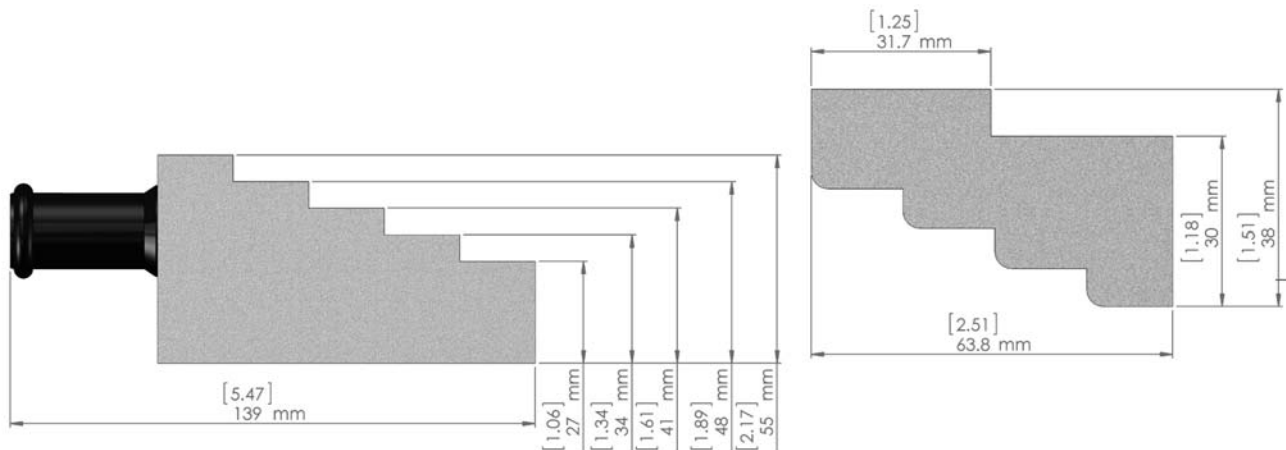


MAXIMUM EXTENSION (USING STEPPED BLOCK)



SAFETY BLOCK

STEPPED BLOCK





5.8 TROUBLESHOOTING

Problem: Wedge advances 50% and then stops functioning

- | | |
|--|--|
| ↪ A sticker has been placed over the air vent | → Remove sticker |
| ↪ The operator is covering the air vent with his finger while operating the pump | → One hand should be on the handle of the tool while the other hand operates the pump handle |
| ↪ The air vent has become blocked with dirt | → Carefully unblock the air vent using a small blunt object |

Problem: No wedge movement

- | | |
|---|---|
| ↪ Air lock within system | → Open release valve and prime pump to circulate oil around the system |
| ↪ Insufficient oil | → Refill with clean oil and bleed system |
| ↪ Release valve open | → Close release valve |
| ↪ Air accumulates around pump inlet when used upside down | → Bleed out air from reservoir. Look for any oil leaks on reservoir which may indicate a perished bladder. Refer to an approved Equalizer distributor for further instructions. |
| ↪ Inlet check or intermediate valve ball stuck | → Dismantle check valve, free and clean balls. Refer to an approved Equalizer distributor for further instructions. |

Problem: Wedge moves but under load feels as if it is not reaching full pressure

- | | |
|---|---|
| ↪ Intermediate valve not seating / relief valve leaking | → Check ball for dirt then re-seat using a hammer and punch. Refer to an approved Equalizer distributor for further instructions. |
|---|---|

Problem: Pressure leaks away, handle rises of its own accord

- | | |
|------------------------------|---|
| ↪ Outlet check valve leaking | → Check ball for dirt then re-seat using a hammer and punch. Refer to an approved Equalizer distributor for further instructions. |
|------------------------------|---|

Problem: Pressure leaks away, handle remains static

- | | |
|----------------------------------|--|
| ↪ Release valve leaking | → Release lever may not be tight enough. Refer to an approved Equalizer distributor for further instructions. |
| ↪ Piston seal leaking | → Look for oil leaking from cylinder bearing. Refer to an approved Equalizer distributor for further instructions. |
| ↪ Leaks on cylinder or pump body | → Check blanking plugs for leaks, tighten. Refer to an approved Equalizer distributor for further instructions. |

Problem: Spongy action

- | | |
|-----------------|--|
| ↪ Air in system | → Bleed system. Refer to an approved Equalizer distributor for further instructions. |
|-----------------|--|