

Superior quality since
1984

Owners Manual

HYDRAULIC PORTA POWER KIT

BORUM

INDUSTRIAL WORKSHOP EQUIPMENT

**INDUSTRIAL
QUALITY**



Specifications:

- Safe Working Capacity: 20,000kg
- Retracted Ram Length: 282mm
- Extended Ram Length: 410mm
- Ram Stroke: 125mm
- Max. Pump Pressure: 59.1MPa (8500psi)
- Hydraulic Hose Length: 1470mm
- Fluid Capacity: 750ml
- Weight: 62kg

About the Borum brand

Our **“heavy duty commercial”** range of **Borum Industrial** equipment has been manufactured to exacting standards for the past **34 years**. We specify industrial quality components and design to ensure a long and durable working life in **commercial transport, mining, earthmoving and railway** environments. Our **Borum Industrial** range of equipment is focused on achieving superior professional standards, reliability, quality, and are covered by a **12 month trade use warranty**.

WARNING INFORMATION



IMPORTANT: READ ALL INSTRUCTIONS BEFORE USE



WARNING

The instructions and warnings contained in this manual should be read and understood before using or operating this equipment. Do not allow anyone to use or operate this equipment until they have read this manual and have developed a thorough understanding of how this equipment works. Failure to observe any of the instructions contained in the manual could result in severe personal injury to the user or bystanders, or cause damage to the equipment and property. Keep this manual in a convenient and safe place for future reference.

The warnings, cautions and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

Whilst every effort has been made to ensure accuracy of information contained in this manual, the Borum policy of continuous improvement determines the right to make modifications without prior warning.

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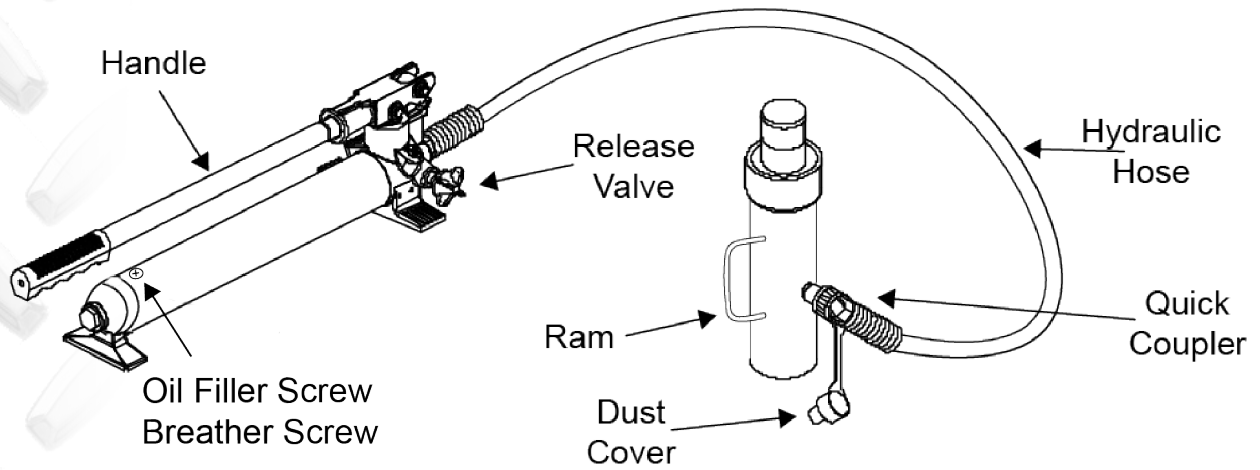
Intended Use

For industrial medium-heavy duty applications where the convenience of hydraulic power can be utilized for spreading, clamping, pushing and lifting.

STANDARD OPERATING PROCEDURE

OPERATIONAL SAFETY INFORMATION

- Keep work area clean and well lit. Cluttered or dark work areas invite accidents.
- ALWAYS wear suitable personal protective clothing, gloves and eyewear manufactured to the latest Australian Safety Standards.
- ALWAYS ensure that adequate lighting is available. A minimum intensity of 300 lux should be provided. Ensure that lighting is placed so that you will not be working in your own shadow.
- Use as intended only. Do not use this item to raise or move a vehicle.
- ALWAYS use according to vehicle's service instructions only. It is beyond the scope of this manual to provide body/frame repair guidelines. It is the responsibility of the user to consult a body/frame repair technical manual for full instructions.
- Stay clear of hydraulic ram during operation. Position body as far away as practical when hydraulic ram is under load. Ram can slip suddenly, causing injury.
- This Porta Power Equipment is designed for straightening vehicle body/frame applications. Using this equipment in an application for which it is not designed could result in overloading, reduced load capacity, reduced stability and/or system failure.
- Do not overload the hydraulic system; creating pressure beyond the rated capacity of the pump and ram may result in personal injury. Overloading is indicated by bowing extension tubes or slipping attachments.
- Some components in this set do not match the maximum pressure rating of the pump and ram. USE A PRESSURE GAUGE IN THE SYSTEM TO MONITOR HYDRAULIC PRESSURE (NOT INCLUDED). Refer to the instructions in this document for typical applications and load capacity.
- When extension tubes are used, the rated capacity is always reduced by 50% for each tube that is connected.
- Attachments and extension tubes must be aligned and fully engaged so ram force is straight, avoiding an off-centre load condition.
- Keep the Hose Couplers protected when the not in use. Screw Dust Caps onto Hose Couplers when not in use to keep Ram internal mechanisms clean.
- Use the right product for the job. There are certain applications for which the Porta Power Equipment was designed. Do not modify the hydraulic body repair kit and do not use the hydraulic body repair kit for a purpose for which it was not intended.
- ALWAYS regularly check for damage. If any part of this Porta Power Equipment is damaged it should be carefully inspected to make sure that it can perform it's intended function correctly. If in doubt, it should be repaired or replaced. Refer all servicing to a qualified technician.
- When servicing, use only Borum Industrial identical replacement parts. Use of any other parts will void the warranty.
- Do not modify this Porta Power Equipment and do not use for a purpose for which it was not intended.



NOTE: When using this Porta Power Equipment always open the oil filler screw/breather screw

Pump and Ram Safety Instructions:

- When using this Porta Power Equipment, always open the oil filler screw/breather screw (P7). Then close it when not in use to minimise the chance of seeping hydraulic fluid.
- Do not exceed the maximum capacity of the pump or tamper with the internal high-pressure relief valve. Creating pressure beyond the rated capacity can result in personal injury.
- Do not allow the piston rod of the ram to extend so far as to exceed the maximum ram stroke.
- When coupler valves are disconnected, always cover with the dust cap to keep the hydraulic system clean.
- Completely retract the ram before removing the filler/breather screw on the pump to add hydraulic fluid. An overfill can cause personal injury due to excess reservoir pressure created when rams are retracted.
- Do not set poorly balanced or off-centre loads on a ram.

Hose Safety Instructions:

- Before operating the pump, tighten all hose connections. Do not over tighten; connections need only be secure and leak free. Over tightening may cause premature thread failure or high-pressure fittings to fail at pressures lower than rated capacity.
- Do not drop heavy objects on to the hose. Do not twist or stretch the hose. Always keep the hose clean to avoid damage to the hose or connectors.
- Should a hydraulic hose ever rupture, burst, or need to be disconnected, immediately shut the pump OFF, and open the control valve to release all pressure. Never grasp a leaking, pressurised hose with your hands; the force of escaping hydraulic fluid could cause serious injury.
- Do not subject the hose to any potential hazard such as fire, extreme cold or heat, sharp surfaces, or heavy impact. Do not allow the hose to kink, twist, curl, or bend so tightly that the fluid flow within the hose is blocked or reduced. Do not use the hose to move attached equipment. Periodically inspect the hose for wear, because any of these conditions can damage the hose and result in personal injury.
- Hose material and coupler seals must be compatible with the hydraulic fluid used. Hoses must not come in contact with corrosive materials.

ASSEMBLY, OPERATION, PREVENTITIVE MAINTENANCE

1. FEATURES

The Borum Industrial Hydraulic Porta Power Kit includes a series of attachments that combined with the pump, cylinder and hose, enable configuration of specific tools designed for various operations such as pushing, separating, joining, lifting, compressing, stretching and fixing. The cylinder provides the indicated nominal force, but as some attachments can induce cylinder side loading, the unit can only be used at up to 50% of its capacity when attachments are fitted. (See page5)

2. ASSEMBLY

Unpacking: after removing the packing material, make sure the product is in perfect condition and that there are no visible damaged parts. The packaging materials (Polyethylene bags, polystyrene etc.), must be disposed of in an appropriate refuse collection container. These materials must not be left within the reach of children as they are potential sources of danger.

This Porta Power kit includes a hand operated pump with the hydraulic hose connected to the pump at one end and a male quick connect fitting at the other end of the hose. Hose and ram connections are made by inserting the male quick connect fitting at the end of the hose into the female quick connect fitting on the ram. Push the quick connect fittings all the way together and screw the threaded collar of the female connect fitting all the way onto the externally threaded portion of the male connect fitting. Tighten by hand only. It is not necessary to use pliers to tighten the threaded collar.

3. BEFORE USE

Conduct a thorough visual inspection checking for leaks and any abnormal conditions, such as cracked welds, leaks, and damaged, loose, or missing parts.



This Porta Power kit includes a vented hydraulic pump. The oil filler/breather screw is located in the top rear end of the pump's reservoir. The oil filler/breather screw must be opened by turning it in a counterclockwise direction two full turns before operating the pump.

4. OPERATION

Prior to each use always conduct a visual inspection checking for and any abnormal conditions, such as cracked welds, and damaged, loose, or missing parts.

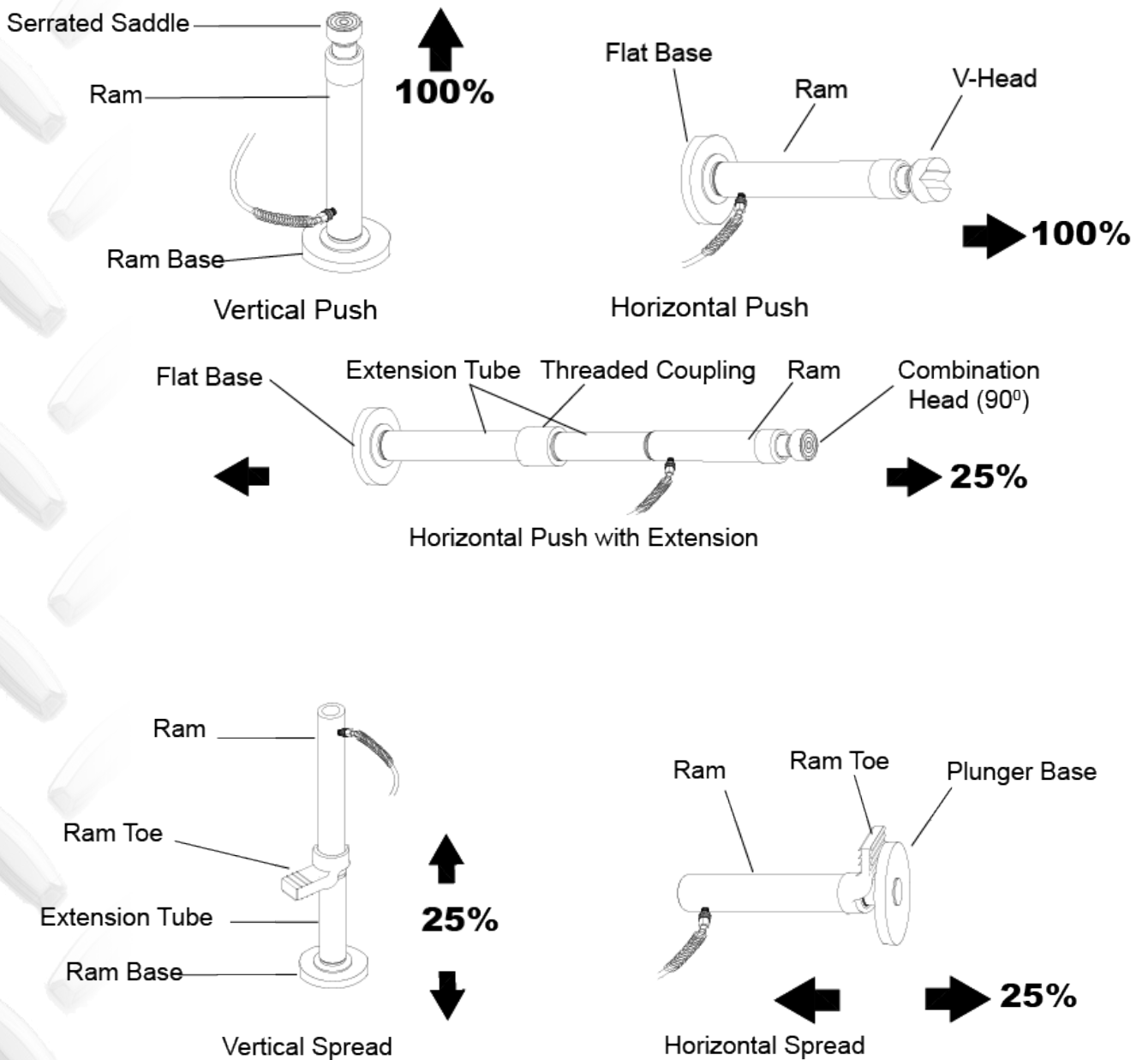
1. Connect the hydraulic ram unit, hose and pump unit together, ensure that you have securely fastened the quick connect couplers.
2. Open the oil filler/breather screw (P7).
3. Turn the pump's release valve (P4) clockwise to a closed position.
IMPORTANT: Hand tighten the valve only; applying too much force to the valve may damage the valve system.
4. Work the pump handle up and down to send oil pressure through the hose to the ram, causing the piston to extend to the work piece.
5. The pump is equipped with an overload valve that will bypass oil back into the pump reservoir in an overload situation (when the system meets maximum pressure). In this case, continued pumping will have no effect on the system. If an overload situation commonly occurs, a higher capacity set is needed.
6. To release pressure, slowly turn the release valve counter clockwise. (The release speed is controlled by how fast the valve is opened).
7. Close the oil filler/breather screw (P7) to minimise the chance of seeping hydraulic fluid during storage or transport.
8. **IMPORTANT:** Make sure the ram is completely retracted before disconnecting the hose from the ram.

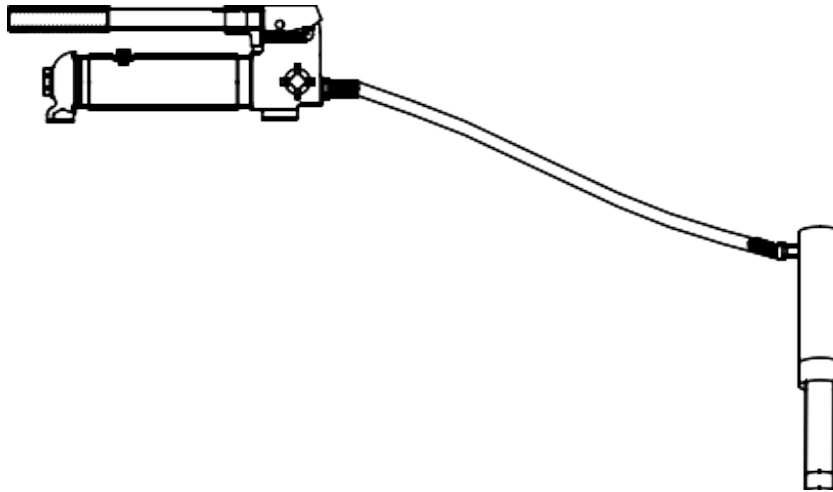
Using attachments and extensions

Some components in this set do not match the maximum pressure rating of the pump and ram. ALWAYS monitor pressure, load or position using suitable equipment. Pressure may be monitored by adding a manifold and pressure gauge (not included). Load may also be monitored by means of a load cell and/or digital indicator. By using a load cell, digital indicator or inline pressure gauge, you can calculate the applied force using the formula, $P = \text{pressure in psi}$, and $A = \text{effective ram area in in}^2$. Ram Area is: 2.411 in²

When extension tubes in this kit are used, the rated capacity is always reduced by 50% for each tube that is connected. Attachments and extension tubes must always be aligned and fully engaged so ram force is straight, avoiding an off-centre load condition.

If bowing or bending of ram or any attachment occurs during use, "STOP", release pressure immediately and reconsider application. Application may not be compatible with product, a kit with a higher capacity may be needed.





Bleeding Air from the System

Air can accumulate in the hydraulic system during the initial setup or after prolonged use, causing the ram to respond slowly or in an unstable manner. To bleed the air;

1. Place the ram at a lower level than the pump, with the piston end pointing down.
2. Pump handle to extend and retract the ram several times without putting a load on the system. Air will be released into the pump reservoir.
3. With the ram fully retracted, the pump sitting level, and no pressure in the hydraulic system, remove the pump's oil filler/breather screw to release air from the hydraulic system. If necessary top up the reservoir with good quality hydraulic jack oil until the fluid level is within 13mm of the pump oil filler/breather screw hole.

Important: Repeated changing of hoses may cause loss of oil and air to enter the hydraulic ram. This will cause the ram to perform poorly; seals will not be under sufficient pressure to operate effectively and additional oil may leak from the ram. In this circumstance see "Bleeding Air from System" and "Adding Oil" to restore normal operation.

When offset attachments are used, the rated capacity of the hydraulic system is reduced 50%. For each extension tube used in the setup, the rated capacity is reduced another 50%. When using two or more extension tubes together, always position the shortest tube farthest away from the ram.

5. STORAGE

When not in use, always close the oil filler/breather screw and store this kit with the pump handle piston and ram fully retracted to protect from dirt, dust and corrosion. If this hydraulic porta power kit is not regularly cleaned and maintained correctly the components will become clogged, corroded and will not perform at its best. Always disconnect the pump hose from the ram, then wipe the external surfaces with a clean, dry cloth. Store in a secure dry location using the storage cases provided.

6. MAINTENANCE

Inspection:

Inspect the pump, hoses and ram for damage, wear, broken or missing parts and that all components function before each use.

- Tighten connections as needed. Use pipe thread sealing compound when servicing connections.
- Only use a good grade hydraulic oil. Do not mix different liquids and NEVER USE brake fluid, turbine oil, transmission fluid, motor oil or glycerine. Improper fluid can cause premature failure of the ram and the potential for sudden and immediate loss of load.
- Check the oil level by placing the pump in an upright position.

Cleaning:

Periodically check the pump piston and ram for signs of rust or corrosion. Clean as needed and wipe with an oily cloth. Never use sandpaper or abrasive material on these surfaces.

Lubrication:

Application of a coating of light lubricating oil to pivot points and hinges will help to prevent rust and assure that pump assemblies move freely.

Adding Oil:

1. With ram fully lowered, set pump unit in its normal, level position. Locate and remove oil filler/breather screw.
2. Fill until oil is within 13mm of the oil filler/breather screw hole opening, re-install oil filler/breather screw.

Changing Oil:

For best performance and increased system life, replace the complete fluid supply at least once per year.

1. With ram fully lowered, remove oil filler/breather screw from the pump reservoir as above.
2. Lay the pump on its side and drain the fluid into a suitable container.
3. Set pump in its level upright position.
4. Fill with good quality jack oil to within 13mm of the oil filler/breather screw hole opening.
5. Re-install oil filler/breather screw.

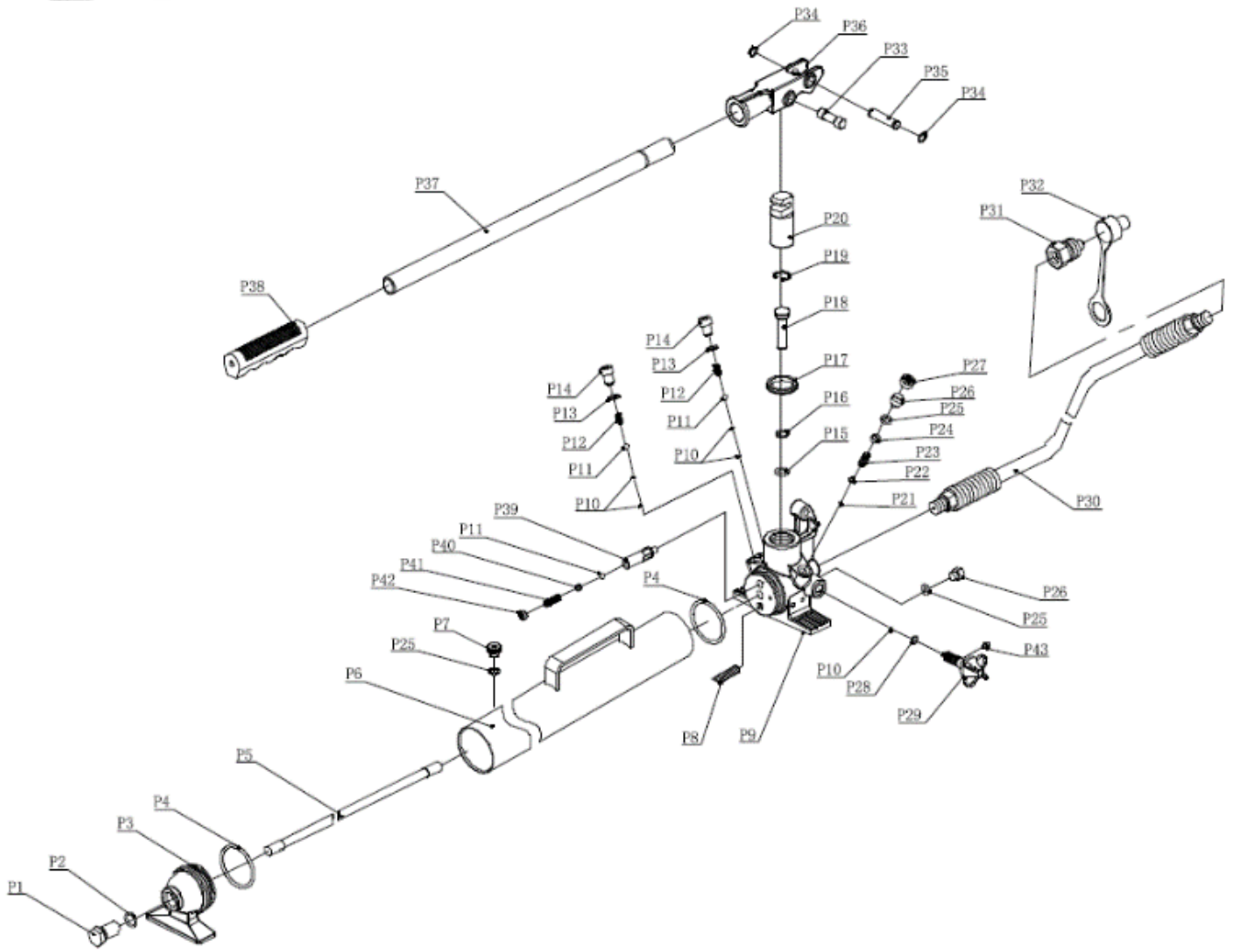
7. SERVICE & REPAIR

Any Hydraulic Porta Power Kit found damaged in any way, or found to be worn or operates abnormally should be removed from service until repaired by an authorised service agent. Owners and / or operators should be aware that repair of this product may require specialised equipment and knowledge. Only authorised parts, labels, decals shall be used on this equipment. Annual inspection of the Hydraulic Porta Power Kit is recommended and can be made by an authorised repair facility to ensure that your equipment is in optimum condition and that the equipment has the correct decals and safety labels specified by the manufacturer.

TROUBLESHOOTING TIPS

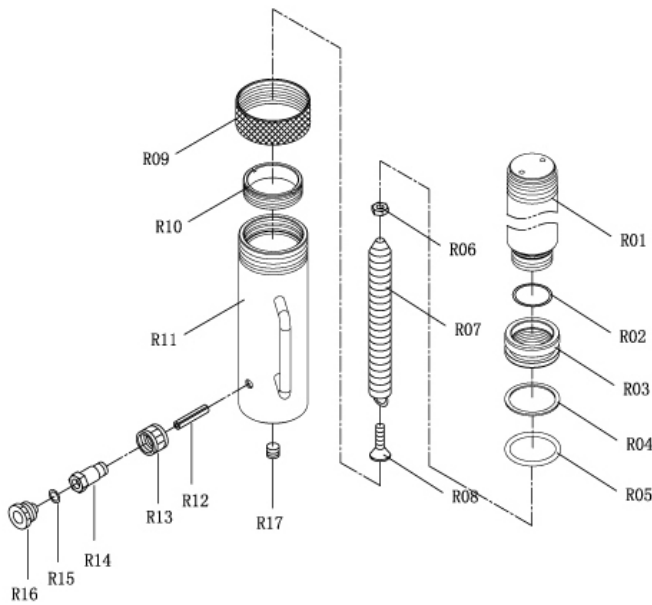
Problem	Cause	Solution
Pump loses pressure	<ol style="list-style-type: none"> 1. System components leaking fluid 2. Pump release valve not fully closed 	<ol style="list-style-type: none"> 1. Repair or replace as necessary
Pump not delivering fluid	<ol style="list-style-type: none"> 1. Low fluid level in reservoir 2. Seats are worn 	<ol style="list-style-type: none"> 1. Check fluid level 2. Repair seats or replace pump body
Pump handle has a spongy feel	<ol style="list-style-type: none"> 1. Air trapped in system 2. too much fluid in reservoir 	<ol style="list-style-type: none"> 1. Refer to bleeding air from the system 2. Check fluid level
Ram piston will not extend	<ol style="list-style-type: none"> 1. Loose couplers 2. Pump release valve not fully closed 3. Low fluid level in pump reservoir 4. Ram seals leaking 	<ol style="list-style-type: none"> 1. Tighten couplers 2. Fill and bleed the system 3. Replace worn seals. Look for excessive contamination or wear
Ram piston extends only partially	<ol style="list-style-type: none"> 1. Low fluid level in pump reservoir 2. Load is above capacity of system 	<ol style="list-style-type: none"> 1. Fill and bleed the system 2. Use correct equipment
Ram piston extends slower than normal	<ol style="list-style-type: none"> 1. Loose couplers 2. Pump release valve not fully closed 3. Restricted hydraulic line or fitting 4. Pump not working correctly 5. Ram seals leaking 	<ol style="list-style-type: none"> 1. Tighten couplers 2. Clean and replace if damaged 3. Repair or replace as necessary 4. Replace worn seats. Look for excessive contamination or wear.
Ram does not hold pressure	<ol style="list-style-type: none"> 1. Leaky connection 2. Ram seals leaking 3. Pump or valve not working correctly 	<ol style="list-style-type: none"> 1. Clean, reseal with thread sealant, and tighten connection 2. Replace worn seals. Look for excessive contamination or wear Replace contaminated fluid 3. Repair or replace as necessary
Ram leaks hydraulic fluid	<ol style="list-style-type: none"> 1. Worn or damaged seals 4. Loose connection 	<ol style="list-style-type: none"> 1. Replace worn seals. Look for excessive contamination or wear. Replace contaminated fluid. 4. Clean, reseal with thread sealant, and tighten connection.
Ram will not retract or retracts slower than normal	<ol style="list-style-type: none"> 1. Pump release valve closed 2. Loose couplers 3. Blocked hydraulic lines 4. Weak or broken retraction springs 5. Ram damaged internally 5. Pump reservoir too full 	<ol style="list-style-type: none"> 1. Open pump release valve 2. Tighten couplers 3. Clean and flush lines 4. Send to service centre 5. Send to service centre 5. Drain fluid to correct level

PARTS LIST & DIAGRAM



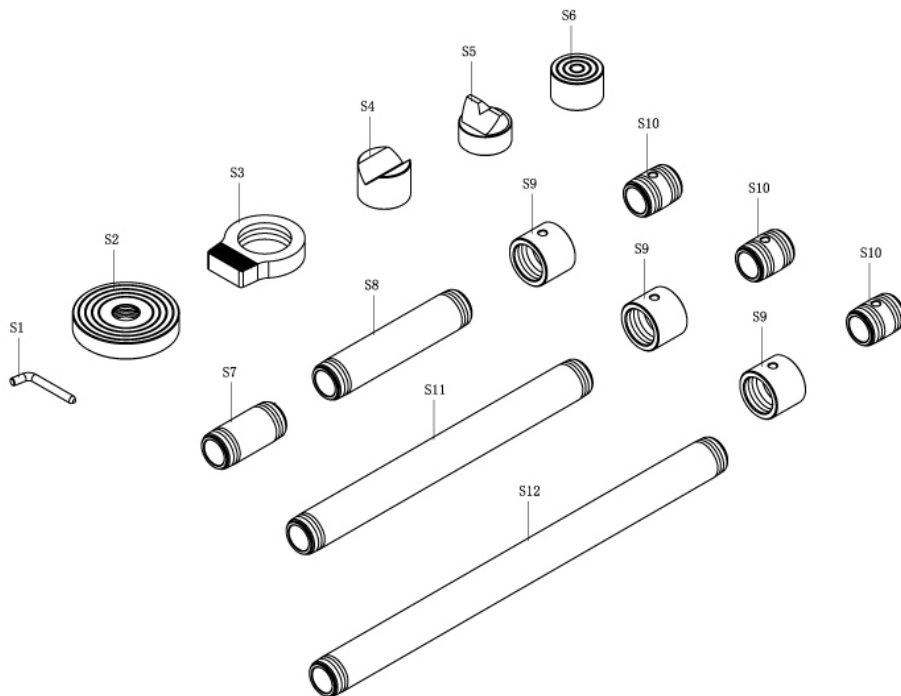
Part	Description	Qty
P1	Screw	1
P2	O-Ring	1
P3	Pump Foot	1
P4	O - Ring	2
P5	Tie Rod	1
P6	Sealing Ring Reservoir	1
P7	Oil filler/breather screw	1
P8	Oil Filter	1
P9	Pump Assembly	1
P10	Ball	5
P11	Ball	3
P12	Spring	2
P13	Washer	2
P14	Screw	2
P15	O-Ring	1
P16	PTFE Washer	1
P17	U-Ring	1
P18	Piston	1
P19	Retaining Ring	1
P20	Piston	1
P21	Ball	1
P22	Ball Cup	1

Part	Description	Qty
P23	Spring	1
P24	Screw	1
P25	O-Ring	3
P26	Screw	2
P27	Plastic Cap	1
P28	O-Ring	1
P29	Release Valve	1
P30	Oil Hose	1
P31	Hose Fitting	1
P32	Dust Proof Cover	1
P33	Pin	1
P34	Retaining Ring	2
P35	Pin	1
PP36	Handle Socket	1
P37	Handle	1
P38	Handle Sleeve	1
P39	Valve Base	1
P40	Ball Cup	1
P41	Spring	1
P42	Screw	1
P43	Screw	1



Part	Description	Qty
R1	Piston Rod	1
R2	O-Ring	1
R3	Piston	1
R4	Nylon Ring	1
R5	O-Ring	1
R6	Nut	1
R7	Spring	1
R8	Screw	1
R9	Protection Cap	1

Part	Description	Qty
R10	Retaining Ring	1
R11	Cylinder	1
R12	Screw	1
R13	Coupling Ring	1
R14	Coupling Bolt	1
R15	O-Ring	1
R16	Dust Cap	1
R17	Screw	1



Part	Description	Qty
S1	Wrench	1
S2	Base	1
S3	Ram Toe	1
S4	V-Base	1
S5	Wedge Toe	1
S6	Plunger Toe	1

Part	Description	Qty
S7	Connecting Tube	1
S8	Connecting Tube	1
S9	Connecting Tube	3
S10	Connecting Tube	3
S11	Connecting Tube	1
S12	Connecting Tube	1

WARRANTY

BORUM Industrial products have been carefully tested and inspected before shipment and are guaranteed to be free from defective materials and workmanship for a period of 12 months from the date of purchase except where tools are hired out when the guarantee period is ninety days from the date of purchase. Should this piece of equipment develop any fault, please return the complete tool to your nearest authorised warranty repair agent or contact TQB Brands Pty Ltd Warranty team – warranty@tqbbrands.com.au.

If upon inspection it is found that the fault occurring is due to defective materials or workmanship, repairs will be carried out free of charge. This guarantee does not apply to normal wear and tear, nor does it cover any damage caused by misuse, careless or unsafe handling, alterations, accident, or repairs attempted or made by any personnel other than the authorised TQB Brands Pty Ltd repair agent. This guarantee applies in lieu of any other guarantee expressed or implied and variations of its terms are not authorised.

Your TQB Brands Pty Ltd guarantee is not effective unless you can produce upon request a dated receipt or invoice to verify your proof of purchase within the 12month period.

Consumer Guarantee

Our goods come with a guarantee that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.



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