



Instruction Manual

Air Hydraulic Driven H-Frame Presses
Model – HP-Series





This is a safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid injury or death

1.0 Product Information

DURAPAC – Air Hydraulic Driven H-Frame Presses are engineered to meet Industrial Standards for Performance and Safety. The HP-Series Air Hydraulic Driven H-Frame Press is ideal for the workshop pressing jobs such as the installation or removal of bearings and gears or other press fit parts.

- Force gauge in tons
- Rolling head design allows movement and locking of the cylinder from side to side
- Air return cylinder
- Air driven and manual pump are both incorporated in the press
- Threaded cylinder allows for rapid adjustment of cylinder extension
- V blocks included in standard supply
- Steel construction for maximum strength
- Protective screen included

Presses can exert extremely high forces at moderate hydraulic pump pressure. If you have any questions concerning how much force is exerted at a given pressure, contact a Durapac representative.

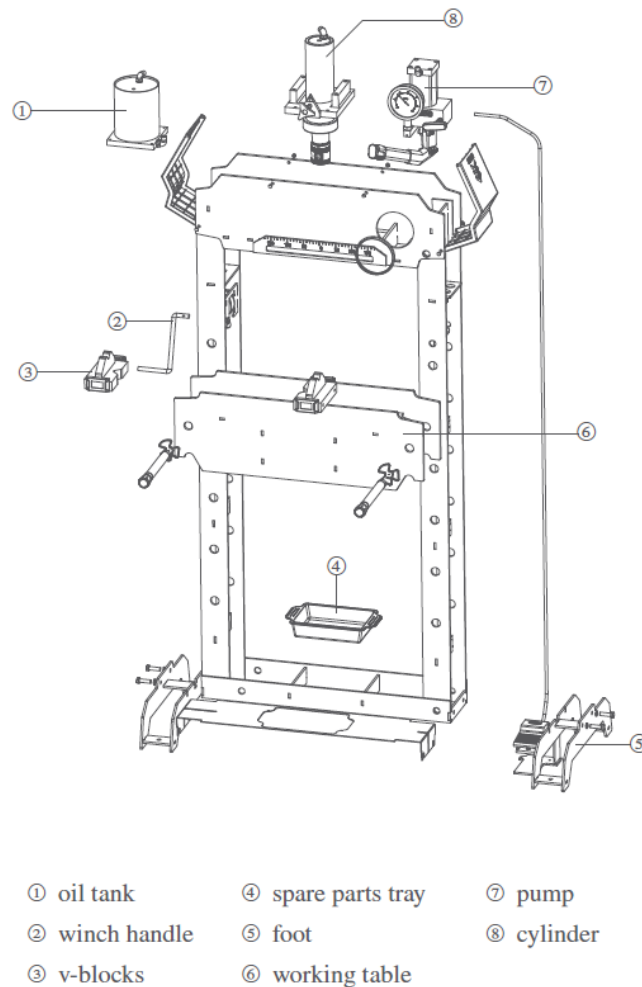
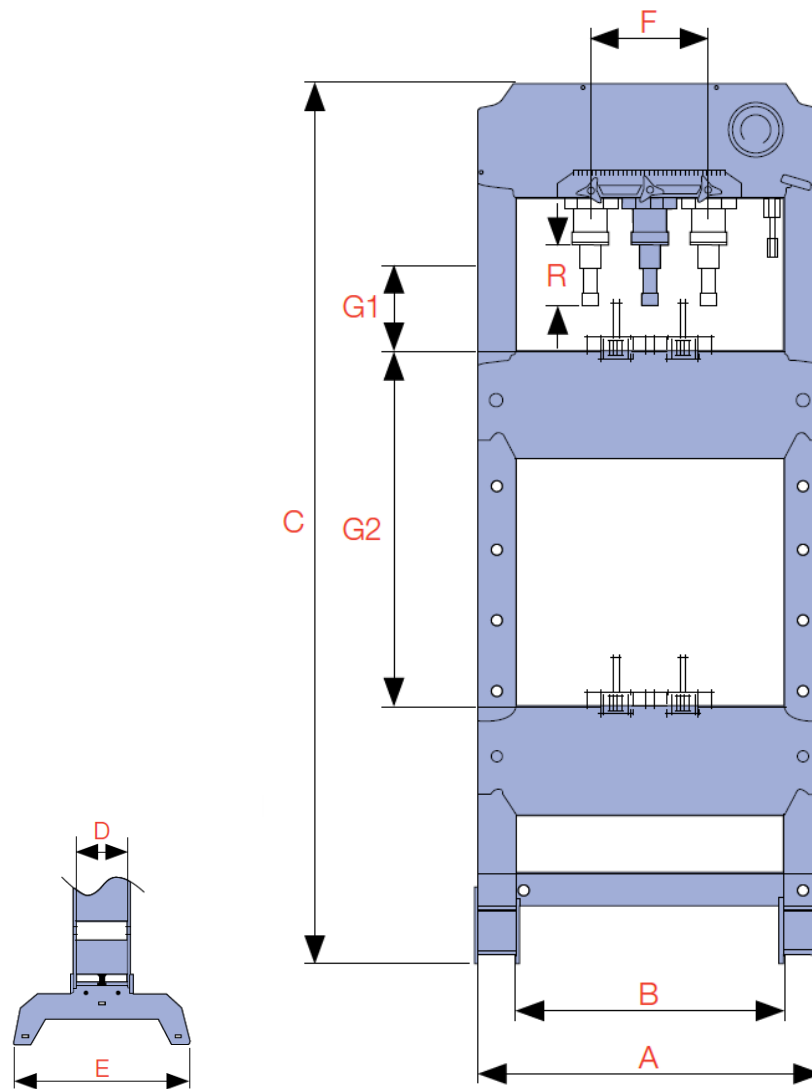


Figure 1 – H-Frame Press Components

Figure 2 – H-Frame Dimensions


Press Model	H-Frame Press Dimensions								
	A	B	C	D	E	F	G1	G2	R
	(mm)								
HP-30A	930	750	1,900	200	535	280	130	830	220
HP-50A	930	750	1,900	200	535	280	80	780	220
HP-100A	1,255	850	1,938	280	750	360	185	885	300

Special skill, knowledge and training may be required for a specific task and the product may not be suitable for all jobs. The user must ultimately make the decision regarding suitability of the product for any given task and assume the responsibility of safety for all in the work area. Contact a Durapac representative if you are unsure of your H Frame Presses suitability for a particular application.

2.0 Receiving Instructions

It is recommended prior to use that an inspection be done by qualified personnel and that any missing or damaged parts, decals, warning/safety labels or signs are replaced with Durapac authorised replacement parts only. Any H Frame Press that appears to be damaged in any way, is worn, leaking or operates abnormally should be removed from service immediately until such time as repairs can be made. Any press that has been or suspected to have been subject to a shock load should be removed from service immediately until inspected by a Durapac authorised service centre. Owners and operators of this equipment should be aware that the use and subsequent repair of this equipment may require specialised training and knowledge.

 Locate the press in an isolated area, or shield the press to minimize danger to others. Hydraulic pressure can cause materials to break, possibly resulting in personal injury

3.0 Safety

Save these instructions. For your safety, read and understand the information contained within. The owner and operator should understand this product and safe operating procedures before attempting to use this product. Instructions and safety information should be conveyed in the operator's native language before use of this product is authorised. Make certain that the operator thoroughly understands the inherent dangers associated with the use and misuse of the product. If any doubt exists as to the safe and proper use of this product as outlined in this factory authorised manual, remove from service immediately.



DANGER:

- To avoid personal injury keep hands and feet away from work area during operation
- **Do NOT** handle pressurised hoses. Escaping oil under pressure can penetrate the skin causing serious injury. If oil is injected under the skin, see a doctor immediately
- Stay clear of loads supported by hydraulics. A cylinder, when used as a load lifting device, should never be used as a load holding device. After the load has been raised or lowered, it must always be supported mechanically



WARNING:

- The system operating pressure must not exceed the pressure rating of the lowest rated component in the system. Install pressure gauges in the system to monitor operating pressure. It is your window to what is happening in the system
- Always wear appropriate personal protective equipment (PPE) when operating hydraulic equipment. The operator must take precaution against injury due to failure of the tool or work piece(s)
- **Do NOT** hold or stand directly in line with any hydraulic connections while pressurising
- **Do NOT** attempt to disconnect hydraulic connections under pressure. Release all line pressure before disconnecting hoses
- All personnel must be clear before lowering load or depressurising the system
- **Do NOT** attempt to lift a load weighing more than the capacity of the cylinder

**IMPORTANT:**

- If at any stage, the safety related decals become hard to read, these must be replaced
- Minimum age of the operator must be 18 years. The operator must have read and understood all instructions, safety issues, cautions and warnings before starting to operate the equipment. The operator is responsible for this activity towards other persons
- **Do NOT** lift hydraulic equipment by the hoses or couplers. Use the carrying handle or other means of safe transport
- Hydraulic equipment must only be serviced by a qualified hydraulic technician. For repair service, contact the Durapac authorised service centre in your area. To protect your warranty, use only high-quality hydraulic oil

**CAUTION:**

- **KEEP HYDRAULIC EQUIPMENT AWAY FROM FLAMES AND HEAT.** Hydraulic fluid can ignite and burn. Excessive heat will soften packings and seals, resulting in fluid leaks. Heat also weakens hose materials and packings. For optimum performance do not expose equipment to temperatures of 65°C (150°F) or higher. Protect all equipment from weld spatter
- No alteration should be made to this device

3.1 Hydraulic Presses

- Work pieces must be well supported and aligned so when pressure is exerted; parts being pressed do not slip out or break
- To prevent accidental slippage, do not place work pieces on the press bed, or apply hydraulic force until all bolster pins are in place and all tension has been removed from the bolster lift cables
- **Do NOT** overload equipment. Overloading can cause equipment failure and possible personal injury. The presses are designed for a maximum pressure of 700 bar
- **Do NOT** stress adaptors beyond their capacities. Any pushing or pulling adaptors used with this press must have a maximum tonnage rating equal to, or higher than, the maximum tonnage rating of the press, or breakage can occur

3.2 Hydraulic Hoses & Fluid Transmission Lines

- Avoid short runs of straight-line tubing. Straight line runs do not provide for expansion and contraction due to pressure and/or temperature changes
- Reduce stress in tube lines. Long tubing runs should be supported by brackets or clips. Before operating the pump, connections should be tightened securely and leak-free. Over tightening can cause premature thread failure or high-pressure fittings to burst
- Should a hydraulic hose ever rupture, burst or need to be disconnected, immediately shut off the pump and release all pressure. Never attempt to grasp a leaking pressurised hose with your hands. The force of escaping hydraulic fluid can inflict injury

- **Do NOT** subject the hose to potential hazard such as fire, sharp objects, extreme heat or cold or heavy impact
- **Do NOT** allow the hose to kink, twist, curl, crush, cut or bend so tightly that the fluid flow within the hose is blocked or reduced. Periodically inspect the hose for wear
- Hose material and coupler seals must be compatible with the hydraulic fluid used. Hoses also must not come in contact with corrosive materials such as battery acid, creosote-impregnated objects and wet paint. Never paint a coupler or hose

FAILURE TO HEED THESE WARNINGS MAY RESULT IN PERSONAL INJURY AS WELL AS PROPERTY DAMAGE.

4.0 Installation



IMPORTANT:

- **Do NOT** adjust safety valve pressure
- Use the parts breakdown in Section 8.0 for part descriptions for the assemblies shown below
- Ensure the press is securely mounted on level concrete. Unstable positioning may result in injury or equipment damage

4.1 Familiarise yourself with the specifications and illustrations in this owner's manual. Know your press, its limitations and how it operates before attempting to use. Refer to the specification chart below or if in doubt, contact a Durapac representative.

Press Model	Hyd. Stroke (mm)	Screw Adjust (mm)	Pump Type	Air Pressure Range (bar)	Net Weight (kg)
HP-30A	145	75	Air/Hyd. and Manual	9 - 12	244
HP-50A	145	75	Air/Hyd. and Manual	9 - 12	283
HP-100A	300	N/A	Air/Hyd. and Manual	9 - 12	719

4.2 Remove all banding from the press and shipping pallet and remove all cartons.

4.3 Foot Base Assembly – connect parts 18, 22, 25 to parts 3 & 6. Fix and tighten.

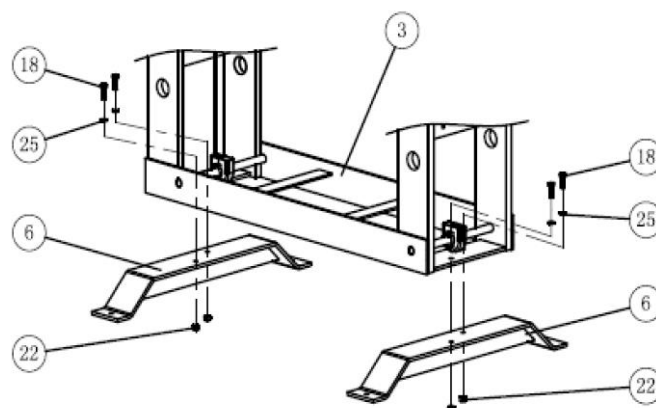


Fig. 3 – Foot Base Assembly

- 4.4 Handle Assembly – install parts 16 & 17 on part 1. Press part 16 and pull out the pin a. Press the button on part 8 and insert part 8 into part 16. Confirm that button pops up.

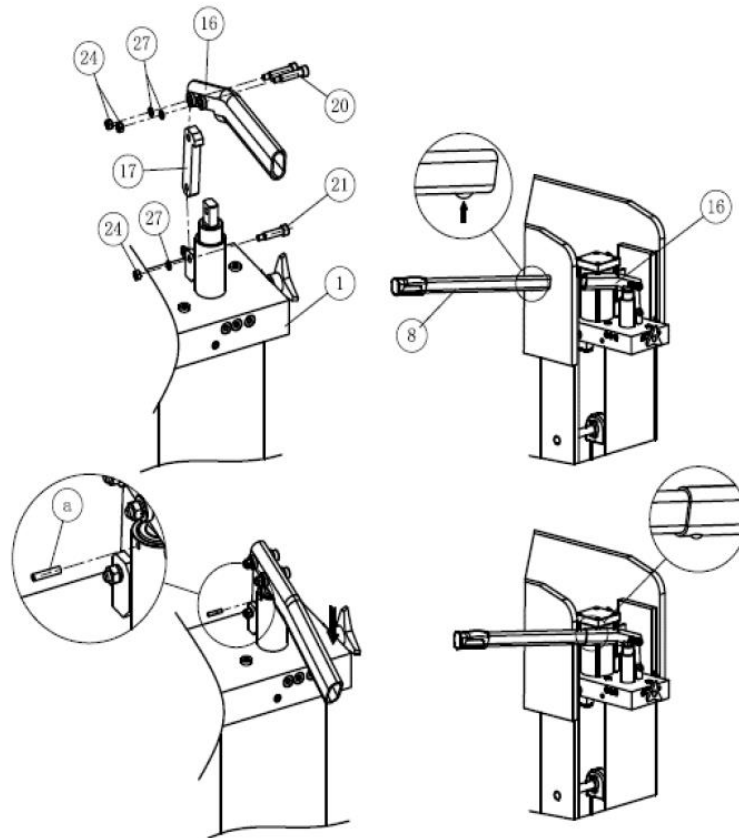


Fig. 4 – Handle Assembly

- 4.5 Installation of Handle Holder and Winch Handle Holder – install parts 11 & 15 (as shown). Note – part 8 can be stored in the parts 11 & 15.

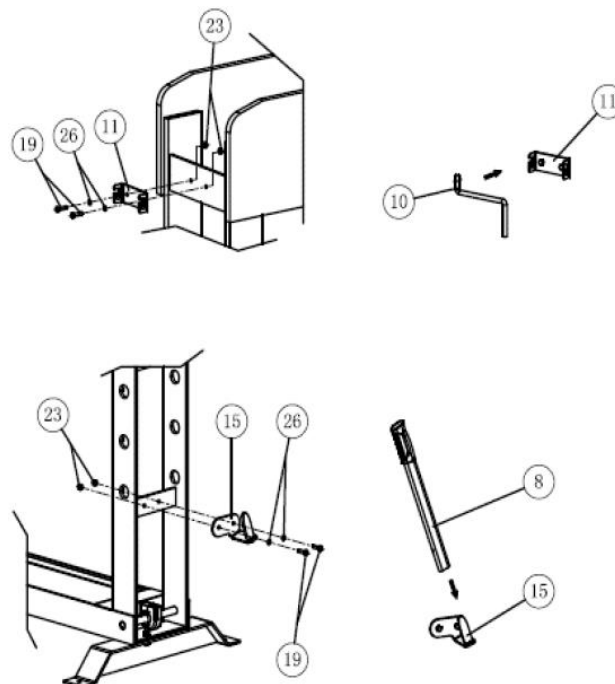


Fig. 5 – Handle Holder & Winch Handle Holder

- 4.6 Pin Sets Shelf Assembly (and use) – the parts shown below are optional parts (except part 31) and need to be purchased separately.

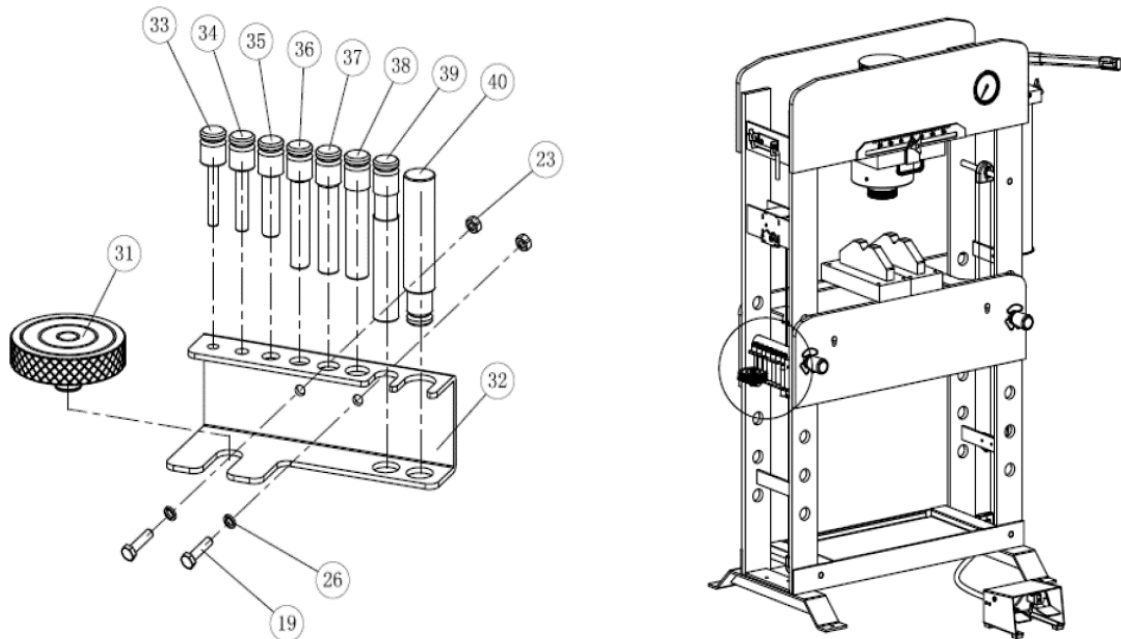


Fig. 6 – Pin Sets Shelf Assembly & Position

- 4.7 Protective Screen Assembly (and use) – align the 2 pieces of part 42 with 2 pieces of clamping slots on part 6, install and clamp them into the slots. The PC board c can be slid up and down and be fixed at any position by tightening.

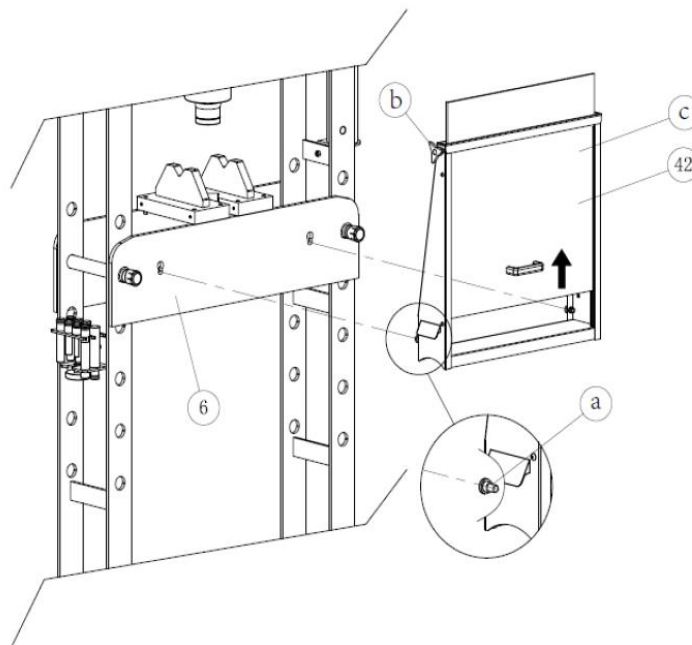


Fig. 7 – Protective Screen Installation

- 4.8 Connect a workshop airline to the air coupling at the base of the press. Note - maximum pressure is 130 psi.
- 4.9 Unit is delivered with oil.
- 4.10 Check all system fittings and connections to be sure they are tight and leak free.

5.0 Operation



IMPORTANT:

- It is mandatory that the operator has a full understanding of all instructions, safety regulations, cautions and warnings, before starting to operate any of this high force tool equipment
- To reduce the risk of personal injury and/or property damage, hydraulic connections must be securely fastened before building pressure in the system. Release all system pressure before loosening any hydraulic connection in the system
- Remove all weight from the bolster before raising or lowering
- Always monitor pressure, load or position using suitable equipment
- **Do NOT** operate the press while the cables are under tension
- When using your press, set the bed height to a minimum distance to carry out the procedure. Place appropriate supports under the job ie. press plates or V-blocks. Ensure the load cap or tooling is centrally located
- The supplied V-blocks must be used as a pair only

5.1 Working Bench Operation

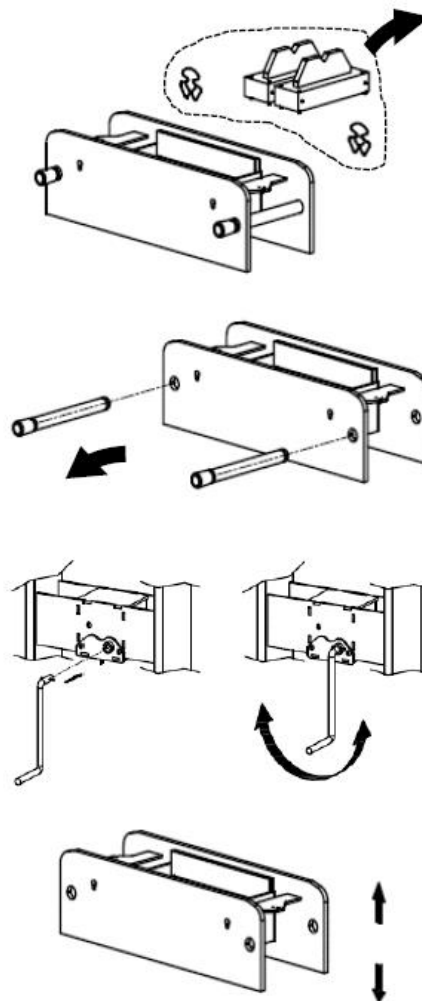


Fig. 8 – Working Bench Operation

5.2 Positioning the Hydraulic Cylinder

⚠ Items not aligned with the centre of the cylinder are unstable under pressure/load and can be ejected out of the press, potentially causing serious personal injury or equipment damage

- 5.2.1 Loosen the lock nut. Holding the cylinder mounting block, push the cylinder assembly left or right to the desired location.
- 5.2.2 Tighten the lock nut to ensure cylinder can no longer move left or right.

5.3 Cylinder Operation

- 5.3.1 Close the pressure release valve by turning it clockwise until it is firmly closed.
- 5.3.2 Swing the handle or step on the foot valve until the saddle is close to the workpiece.
- 5.3.3 Align the workpiece and the saddle so that the workpiece is properly centred.
- 5.3.4 Activate the pump to apply pressure to the workpiece.
- 5.3.5 When the work is finished, stop the pump and open the pressure release valve. Press down the foot valve to retract the cylinder.

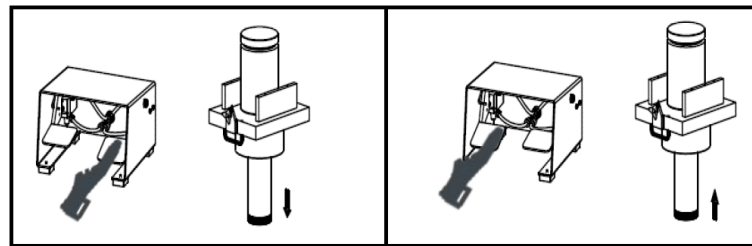


Fig. 9 – Cylinder Operation

5.4 Pin Sets Operation

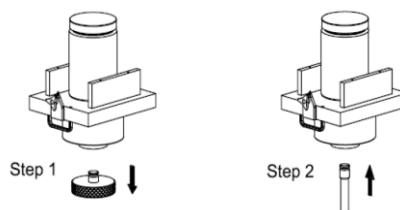


Fig. 10 – Pin Sets Operation

5.5 V-blocks Operation

When using the V-blocks, always keep the pins of part 7.1 protruding downward.

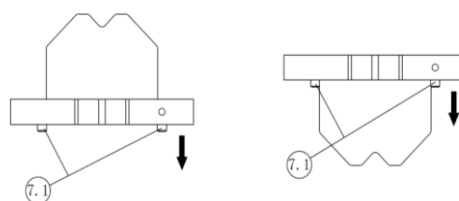


Fig. 11 – V-block Operation

6.0 Maintenance



IMPORTANT:

- Check oil level regularly
- Use only good quality hydraulic fluid. **Do NOT** use brake fluid, transmission fluid, turbine oil, motor oil, alcohol, glycerine etc. Use of anything other than good quality hydraulic oil will void warranty and damage the pump, hose, and application. We recommend Durapac Hydraulic Oil or equivalent
- Equipment must only be serviced by a qualified hydraulic technician. For repair service, contact your local Durapac authorised service centre
- Damage to hydraulic hoses may not be detected during visual inspections. For this reason, Durapac recommends that hydraulic hoses be replaced on a regular basis
- Tighten connections as needed. Use non-hardening pipe thread compound when servicing connections

Dirt, sand, etc. will quickly ruin any hydraulic system. Ensure that couplings are clean and free of foreign matter. After each use, clean couplings and attach dust caps.

Maintenance is required when wear or leakage is noticed. Periodically inspect all components to detect any problem that may require service and maintenance.

Shield press with a protective cover when not in use.

6.1 Adding Hydraulic Fluid

- ⚠ The hydraulic oil volume is 5.5 Litres. The press has been prefilled with enough hydraulic fluid before leaving the factory
- ⚠ For best results, change fluid once a year or every 300 hours of use

The oil filling port of this product is shown below in Figure 12.

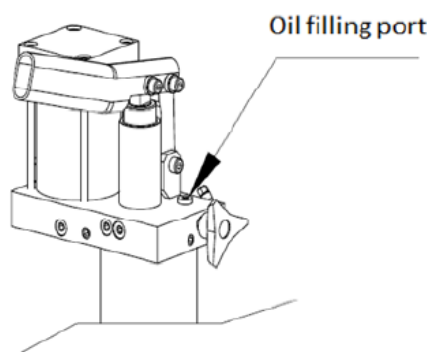


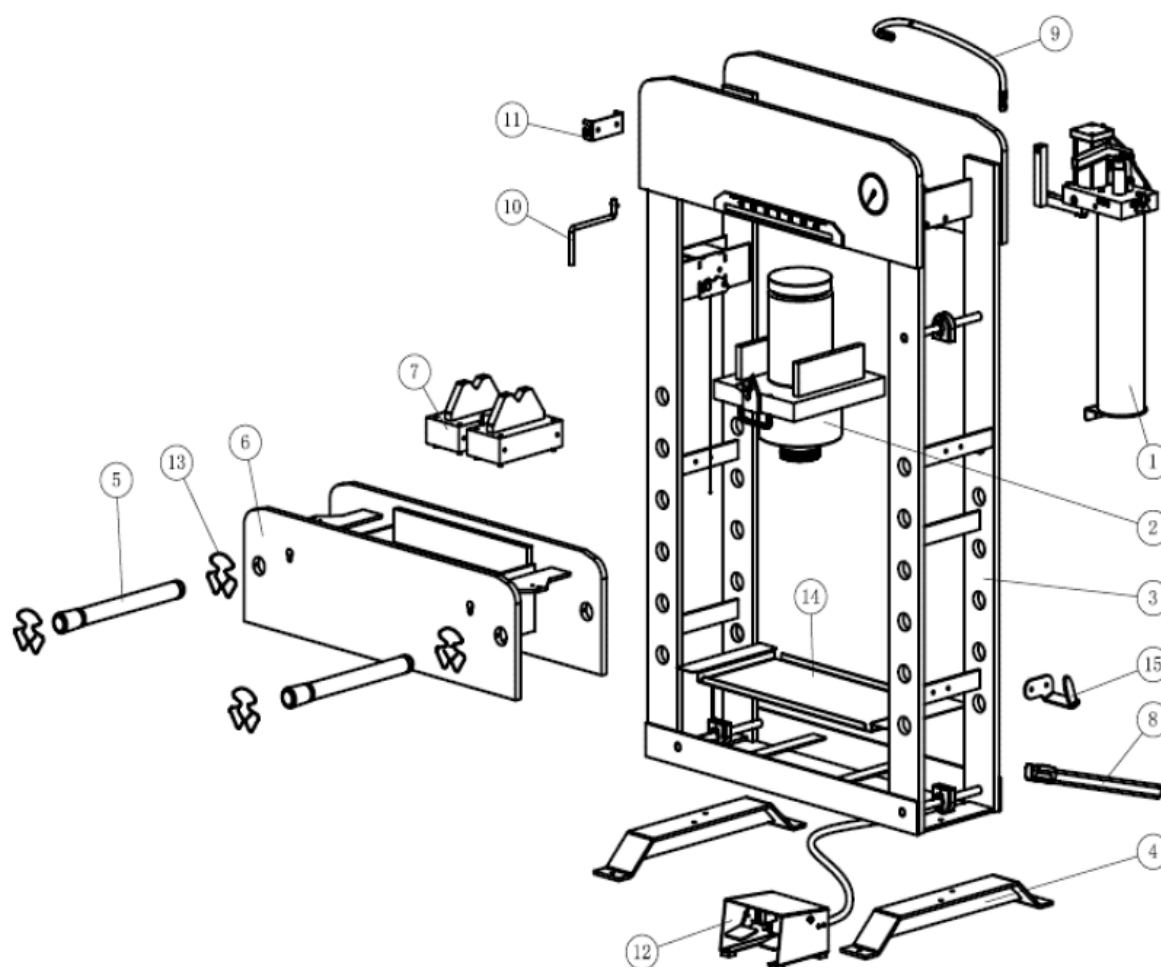
Fig. 12 – Adding Fluid

7.0 Troubleshooting

Problem	Cause	Solution
Cylinder moves but does not maintain pressure	Leaking connection	• Clean, reseal with thread sealant and tighten connection
	Leaking cylinder seals	• Replace worn seals • Check for excessive contamination or wear • Replace contaminated fluid as necessary
	Pump/valve malfunctioning	• Check pump or valve operating instructions
Cylinder leaks hydraulic fluid	Worn or damaged seals	• Replace worn seals • Check for excessive contamination or wear • Replace contaminated fluid as necessary
	Loose connections	• Clean, reseal with thread sealant and tighten connection
Cylinder will not retract or retracts slower than normal	Closed pump release valve	• Open pump release valve
	Loose couplers	• Tighten couplers
	Blocked hydraulic lines	• Clean and flush
	Weak or broken retraction springs	• Send to service centre for repair
	Internally damaged cylinder	• Send to service centre for repair
	Pump reservoir too full	• Drain hydraulic fluid to correct level
Erratic Action	Air in the system or pump cavitation	• Add fluid, bleed air and check for leaks as described in the Maintenance Section
	External leakage	• Replace worn packings • Check for excessive contamination fluid as necessary
	Sticking or binding cylinder	• Check for dirt or leaks • Check for bent, misaligned, worn parts or defective packings
Cylinder does not move	Loose couplers	• Tighten couplers
	Faulty coupler	• Verify that female coupler is not locked up (ball wedged into seat) • Replace both male and female couplers
	Improper valve position	• Close release valve or shift to new position
	Low or no hydraulic fluid in pump reservoir	• Fill and bleed the system as described in the Maintenance Section

Problem	Cause	Solution
	Air-locked pump	• Prime pump as described in 6.2 – Bleeding Air from the System in the Maintenance Section
	Pump not operating	• Check the Operation Section for the pump's operating instructions
	Load is above the capacity of the system	• Use the correct equipment
Cylinder extends only partially	Low or no hydraulic fluid in pump reservoir	• Fill and bleed the system as described in the Maintenance Section
	Load is above the capacity of the system	• Use the correct equipment
	Sticking or binding cylinder	• Check for dirt or leaks • Check for bent, misaligned, worn parts or defective packings
Cylinder moves slower than normal	Loose couplers	• Tighten couplers
	Restricted hydraulic line or fitting	• Clean and replace if damaged
	Pump not operating correctly	• Check the Operation Section for the pump's operation instructions
	Leaking cylinder seals	• Replace worn seals • Check for excessive contamination or wear • Replace contaminated fluid as necessary

8.0 Parts Breakdown and List



Item	Description	Qty	Item	Description	Qty	Item	Description	Qty
1	Oil pump assembly	1	10	Winch handle	1	19	Outer hexagonal screw M8	4
2	Oil cylinder assembly	1	11	Winch handle holder	1	20	Shoulder screw M6x30	2
3	Frame assembly	1	12	Foot pedal valve	1	21	Shoulder screw M6x25	1
4	Footbase assembly 1	2	13	Gear shaft circlip	4	22	Outer hexagonal bolt M10	4
5	Gear shaft	2	14	Spare part tray	1	23	Outer hexagonal bolt M8	4
6	Working bench assembly	1	15	Handle holder	1	24	Outer hexagonal bolt M6	3
7	V-block assembly	2	16	Handle assembly 2	1	25	Spring washer	4
8	Handle assembly 1	1	17	Pump connecting rod	1	26	Spring washer	4
9	Oil pipe	1	18	Outer hexagonal screw M10	4	27	Spring washer	3

Serial, model and item numbers need to be quoted when ordering parts.