

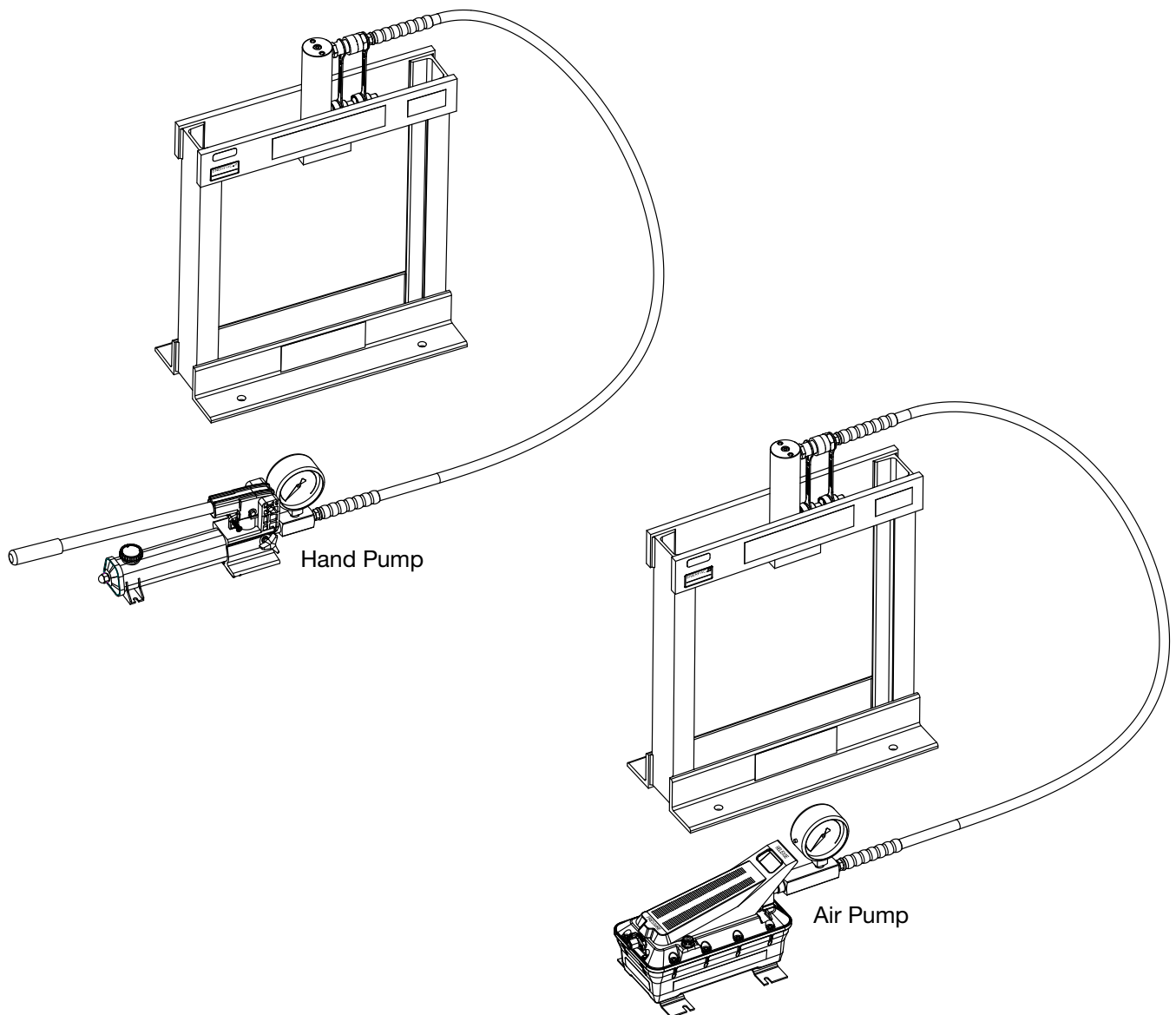
VLP-Series Hydraulic Bench Press

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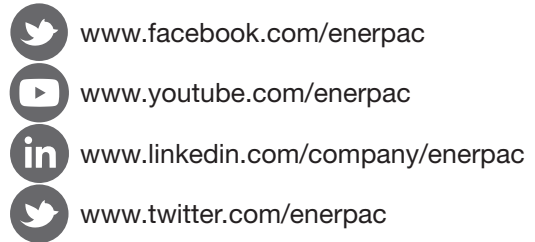
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To reduce the risk of injury, user must read and understand this document before use.

ABOUT US

Enerpac is a global market leader in high pressure hydraulic tools, controlled force products, portable machining, on-site services and solutions for precise positioning of heavy loads. As a leading innovator with over a 100 year legacy, Enerpac has helped move and maintain some of the largest structures on earth. When safety and precision matter, elite professionals in industries such as aerospace, infrastructure, manufacturing, mining, oil & gas and power generation rely on Enerpac for quality tools, services and solutions. For additional information, visit www.enerpac.com.

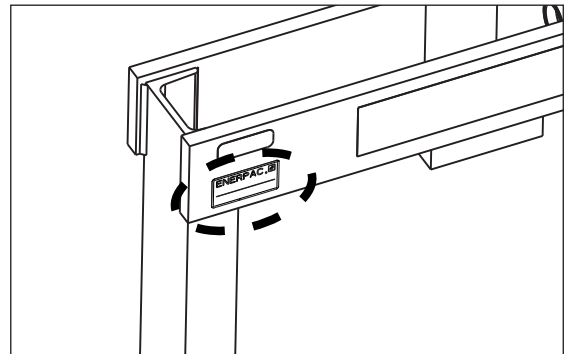


WARRANTY

Refer to the Enerpac Global Warranty document for terms and conditions of the product warranty. Such warranty information can be found at www.enerpac.com.

NAMEPLATE

Refer to the nameplate decal for the press model number. Decal appearance and text may vary depending on location of product manufacture.



AVAILABLE LANGUAGES

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1. Safety

Read all instructions carefully. Follow all recommended safety precautions to avoid personal injury as well as damage to the product and / or damage to other property. Enerpac cannot be responsible for any damage or injury from unsafe use, lack of maintenance, or incorrect operation. Do not remove warning labels, tags, or decals. In the event that any questions or concerns arise, contact Enerpac or a local Enerpac distributor for clarification.

Save these instructions for future use.

If you have never been trained on high-pressure hydraulic safety, consult your distributor or service center for information about Enerpac hydraulic safety courses.

This manual follows a system of safety alert symbols, signals, words, and safety messages to warn the user of specific hazards. Failure to comply with these warnings could result in death or serious personal injury, as well as damage to the equipment or other property.



The Safety Alert Symbol appears throughout this manual. It is used to alert you to potential physical injury hazards. Pay close attention to Safety Alert Symbols and obey all safety messages that follow this symbol to avoid the possibility of death or serious injury.

Safety Alert Symbols are used in conjunction with certain Signal Words that call attention to safety messages or property damage messages and designate a degree or level of hazard seriousness. The Signal Words used in this manual are WARNING, CAUTION, and NOTICE.

WARNING Indicates a hazardous situation that, if not avoided, could result in death or serious personal injury.

CAUTION Indicates a hazardous situation that, if not avoided, could result in minor or moderate personal injury.

NOTICE Indicates information considered important, but not hazard related (e.g. messages related to property damage). Please note that the Safety Alert Symbol will not be used with the signal word.

1.1 Hydraulic Press Safety Precautions

WARNING

Failure to observe and comply with the following precautions could result in death or serious personal injury. Property damage could also occur.

- Ensure force application point on workpiece is centered under the press cylinder and that the entire cylinder saddle is in contact with the workpiece.
- Avoid side loading the press cylinder and workpiece as significant damage or physical injury could occur.
- Where possible, use a safety screen for safety purposes.
- Ensure the material placed on the press bed is rated for press capacity.
- Verify hydraulic components (pump, cylinder, hoses, and accessories) remain in good working condition.
- Use only accessories (such as press plates and V-Blocks) of adequate design and sufficient rating to safely secure the workpiece during application. Use of Enerpac V-Blocks (Model VB-10 - optional accessory) is strongly recommended.
- Do not use the press for pulling applications. The VLP-Series Hydraulic Bench Press is designed *only* for pressing applications.
- Do not position or hold workpieces when load is being applied or while workpieces are under load.
- Keep all body parts away from the press cylinder and workpieces while press is in use.
- Ensure that press frame is secured to the floor, workbench or other solid surface.
- Ensure area around the press is safe and secure before operating press.
- Ensure proper personal protective equipment (PPE) is in place when using the press.
- Be certain that the operator has read and understood all operating instructions provided with the press, pump and all accessories.
- Be sure the operator has completed appropriate safety training, specific to the work surroundings. The operator should be thoroughly familiar with the controls and the proper use of the press.

1.2 Additional Safety Precautions

WARNING

Failure to observe and comply with the following precautions could result in death or serious personal injury. Property damage could also occur.

- Always wear and/or use appropriate personal protective equipment (PPE) such as hard hat, hearing protection, safety shoes and gloves (at a minimum rigger type gloves).
- Ensure that protective clothing will not interfere with safe operation of the tool or restrict the ability to communicate with co-workers.
- The operator must be of at least the minimum age required by applicable local regulations, laws and the facility standard operating procedures.
- Be sure your workplace is safe. Follow the instructions in your workplace's standard operating procedures and be sure to observe all communicated safety precautions.
- Be sure appropriate guards (user-supplied) are securely in position and free from damage.
- Maximum allowable hydraulic system operating pressure is 10,000 psi [700 bar]. Do not exceed this pressure setting.
- Always be sure that pump is stopped and all pressure is fully relieved (0 psi/bar) before disconnecting or connecting the hydraulic hose. The sudden and uncontrolled release of pressurized hydraulic oil could occur if hose is disconnected while under pressure.
- Never attempt to connect or disconnect hoses while the pump is on and/or the system is pressurized.
- Before use, be certain that all hose couplers are fully connected. There should be no threads visible between the male and female coupler halves.
- Never apply more hydraulic pressure to any tool, hose, fitting or accessory than the maximum allowable pressure as stated in the manufacturer's specifications. The system operating pressure must not exceed the pressure rating of the lowest rated component in the system.
- Do not abuse or overstress hoses in any way. Do not bend hoses excessively.
- Take every precaution to prevent oil leaks from occurring. High pressure oil leaks can penetrate the skin, resulting in serious injury.

NOTICE

Failure to observe and comply with the following precautions could result in property damage and/or void the product warranty.

- Never carry the pump by its hose.
- If oil leakage is present from hydraulic cylinder, replace seals as required before placing the press back into service.
- If the press becomes damaged in any way, have it repaired and checked for proper operation before placing it back into service.
- Always follow the inspection and maintenance instructions contained in this manual. Perform maintenance and inspection activities at the specified time intervals.
- Always use Enerpac pumps and hoses.
- Always use Enerpac replacement parts.

2. Compliance

2.1 EU Declaration of Conformity (Model VLP106PAT1 Only)

Enerpac VLP-Series Press - Model VLP106PAT1

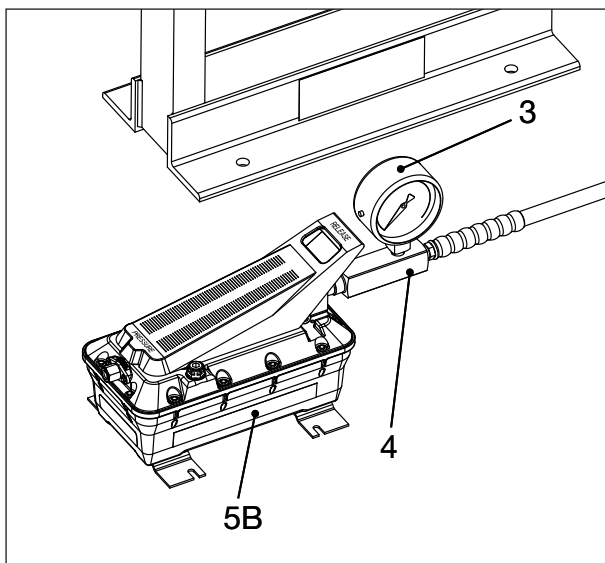
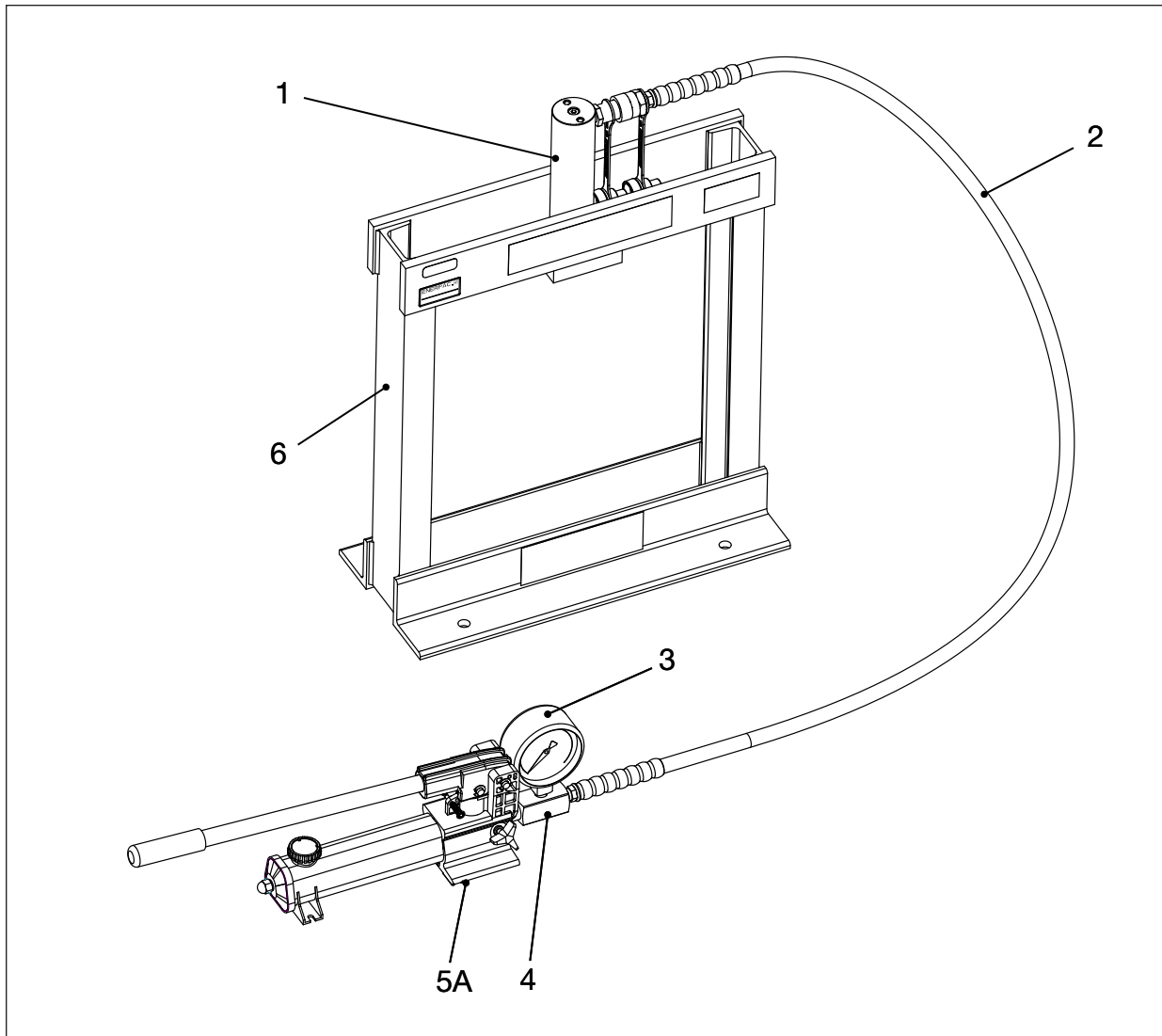


This tool conforms with the requirements for CE.

Enerpac declares that the VLP-Series Hydraulic Bench Press Model VLP106PAT1 has been tested and conforms to applicable standards and is compatible with all CE requirements.

A copy of the product EU Declaration of Conformity is enclosed with each shipment.

3. Features & Components



Key:

- 1. Hydraulic Cylinder
- 2. Hydraulic Hose
- 3. Hydraulic Pressure Gauge
- 4. Gauge Adapter
- 5A. Hydraulic Pump, Hand Operated
(Models VLP106P142 and
VLP106P142U only)
- 5B. Hydraulic Pump, Air Operated
(Models VLP106PAT1 and
VLP106PAT1U only)
- 6. Frame

Figure 1: Features and Components

4. Product Data

4.1 Specifications - Press

Press Model Number	Press Capacity		Max. Vertical Daylight		Max. Bed Width		Advance Speed *		Pressing Speed*		Weight **	
	Tons	KN	inch	mm	inch	mm	in/s	mm/s	in/s	mm/s	lb	kg
VLP106P142	10	101	16.73	425	17.13	435	0.10	2.5	0.02	0.6	108	49
VLP106P142U	10	101	16.73	425	17.13	435	0.10	2.5	0.02	0.6	108	49
VLP106PAT1	10	101	16.73	425	17.13	435	0.39	10.0	0.07	1.8	119	54
VLP106PAT1U	10	101	16.73	425	17.13	435	0.39	10.0	0.07	1.8	119	54

* Hand operated pump: Approximate no-load speed in inches [mm] per each lever stroke. Air operated pump: Approximate no-load speed in inches [mm] per second with pump running and 100 psi [69 bar] and 12 scfm [339 l/min] present at air inlet.

** Approximate weight of press frame, pump, hoses, fittings and cylinder.

4.2 Specifications - Hydraulic System

Press Model Number	Max. Hydraulic Operating Pressure *		Hydraulic Pump **			Hydraulic Cylinder **			
	psi	bar	Energac Model No.	Pump Type	Valve Type	Energac Model No.	Cylinder Type	Stroke	
								in	mm
VLP106P142	10,000	700	P142	Hand Pump	Manual	RC106	Single-Acting (spring return)	6.13	156
VLP106P142U	10,000	700	P142	Hand Pump	Manual	RC106	Single-Acting (spring return)	6.13	156
VLP106PAT1	10,000	700	PATG1102N	Air Operated	Manual (treadle)	RC106	Single-Acting (spring return)	6.13	156
VLP106PAT1U	10,000	700	PATG1102N	Air Operated	Manual (treadle)	RC106	Single-Acting (spring return)	6.13	156

* Pump internal safety relief valve limits maximum system hydraulic pressure to approximately 10,800 psi [745 bar].

** Refer to the separate hydraulic pump and cylinder manuals for additional specifications and product details.

4.3 Dimensions

VLP106		
Dimension	in	mm
A	4.00-4.33	102-110
B	3.00-3.15	76-80
C	9.00-9.45	229-240
E	17.13	435
G	21.26	540
H	24.21-24.56	615-624
J	29.61	752
K1 max.	16.73-16.88	425-429
K2 min.	10.60-10.74	269-273
L	7.09	180
M	15.00	381
N	3.00-3.15	76-80
Ø (4 places)	in	mm
O	0.63	16.0

5. Installation

5.1 Mounting the Press Frame

The press frame may be mounted in either the vertical or horizontal position. It can be floor mounted or installed on a workbench or other suitable work surface.

Mount the frame with four bolts of appropriate size (user supplied) using the four mounting holes in the press base. Refer to Section 4.3 for mounting hole dimensions.

WARNING Be sure the press is securely mounted to a solid surface using all four mounting bolts. If the press frame is not securely mounted, the press may become unstable and tilt and fall on persons working in the area. Serious personal injury or death may result.

5.2 Hydraulic Cylinder Installation

NOTICE If the cylinder has been factory pre-installed on the press, skip this section and go on to Section 5.3.

Install the cylinder into the cylinder block at the top of the press frame. Refer to the following steps and see Figure 2.

1. Remove the thread protector from the cylinder collar threads.
2. Carefully thread the threaded end of the cylinder housing into the threads of the mounting block. Continue until the housing is fully threaded into the mounting block (bottomed out).
3. Desired orientation of the cylinder coupler can be achieved by unscrewing the cylinder out of the mounting block **no more than one complete revolution** from the fully threaded position.

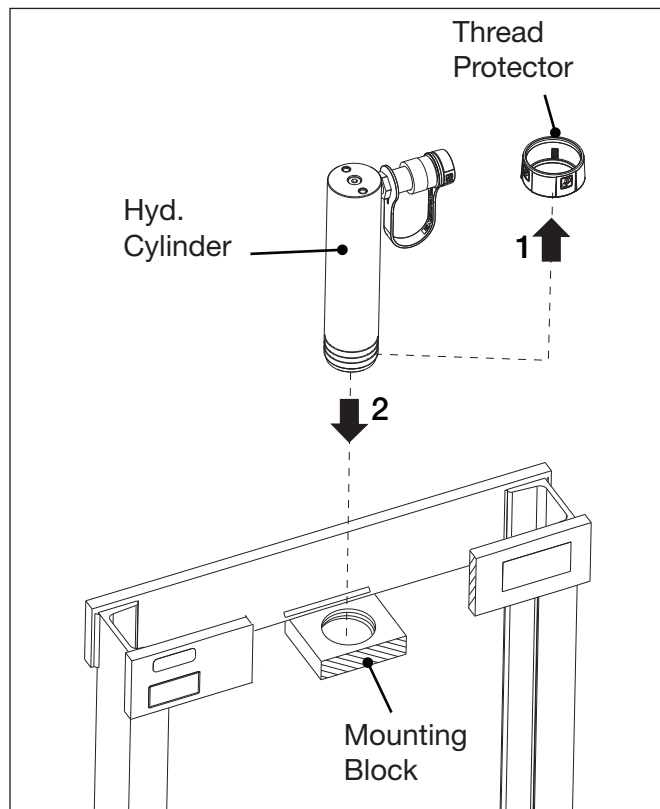


Figure 2: Hydraulic Cylinder Installation

5.3 Hydraulic Pump

A hydraulic pump is included in the shipment with the press. The pump may be a manual hand operated pump or an air powered pump, depending on which unit was specified at time of order.

After unpacking the pump, be certain that the hydraulic reservoir is filled to the proper level with Enerpac oil. Refer to the separate instruction manual provided with the pump for complete pump setup and operation instructions.

5.4 Hydraulic Connections

As fittings and components are installed, apply 1-½ wraps of PTFE thread sealing tape to the threads of all male NPT and NPTF threaded fittings, leaving the first complete thread free of tape. This will help ensure that pieces of tape do not enter the hydraulic system, possibly causing leakage or damage.

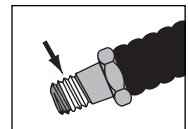


Figure 3: PTFE Tape

If desired, a suitable thread sealant (Loctite 545 or equivalent) can be used in place of PTFE tape.

Install and connect hydraulic system components as described in the following procedure. Refer to figures 4, 5 and 6.

NOTICE In steps 1, 2 and 3, tighten each item to 1.5 to 3 turns past finger tight (minimum of 40 ft-lbs [54.2 Nm]). For pressure gauge and adapter, orient as desired by first torquing to this minimum torque specification and then continuing to tighten until desired orientation is achieved.

1. Apply PTFE tape to male threads. Install the gauge adapter into the advance port of the pump.
2. Apply PTFE tape to male threads. Install the pressure gauge into the gauge port of the gauge adapter.
3. Apply PTFE tape to male threads. Install the hose fitting into the outlet port of the gauge adapter.
4. At the other end of the hose, connect the male coupler half of the hose to the female coupler half of the hydraulic cylinder.

NOTICE Fasten coupler halves only by hand - do not use tools. Ensure that coupler halves are fully fastened together (no threads visible) before pressurizing the system.

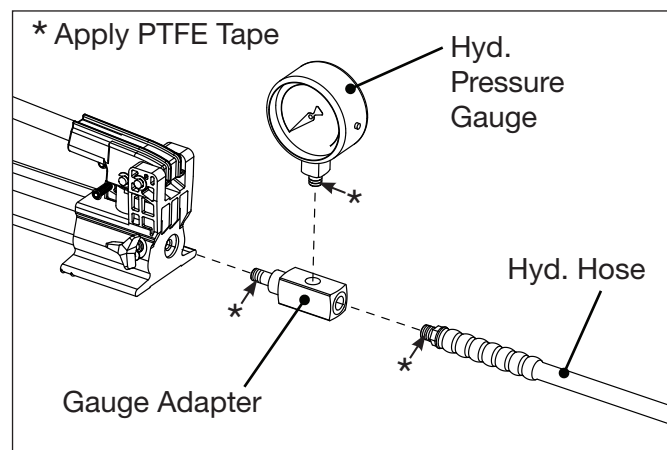


Figure 4: Hyd. Connections (hand operated pump)

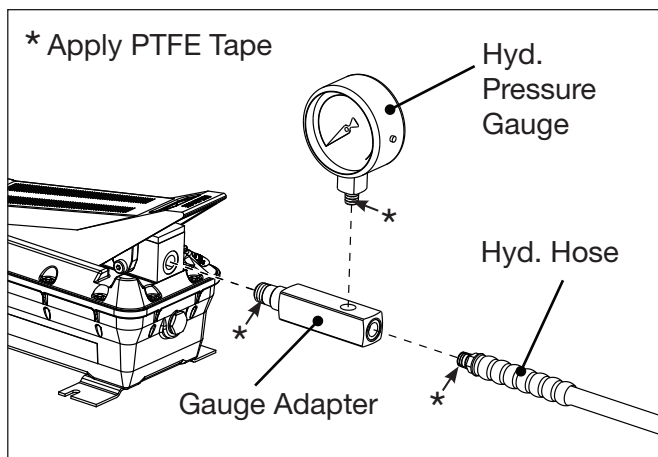


Figure 5: Hyd. Connections (air operated pump)

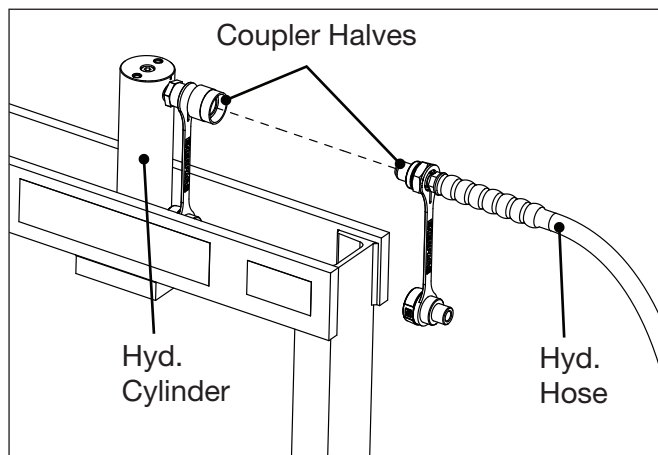


Figure 6: Hydraulic Cylinder Connections

5.5 Compressed Air Supply

If the pump is air operated, connect the compressed air supply line to the 1/4 NPT air inlet connection on the pump. Use PTFE tape on threads. Torque to 20-25 ft. lbs [27-34 Nm]. See Figure 7. Refer to the separate instruction manual provided with the pump for compressed air requirements.

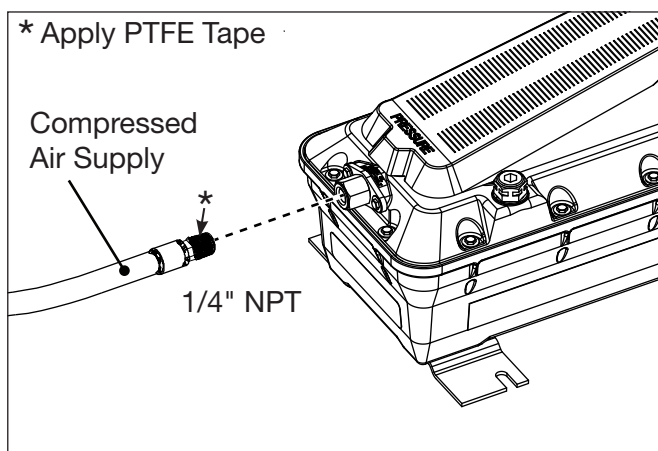


Figure 7: Air Inlet Connection (air operated pump)

6. Operation

WARNING Before operation, be certain to read and understand all safety precautions contained in Section 1 of this manual. Also read and understand all safety precautions contained in the separate manuals included with the hydraulic pump and cylinder. Failure to observe and follow these communicated safety precautions could result in death or serious personal injury. Property damage may also occur.

WARNING The welded steel frame of the VLP-Series Hydraulic Bench Press is designed ONLY for pressing applications. Never use the press for pulling applications. Use of the press for pulling could result in structural damage and/or catastrophic failure of press components. Death or serious personal injury could occur.

- The hydraulic cylinder is equipped with a spring return feature which automatically retracts the plunger when hydraulic pressure is relieved.
- Before using the press, it is strongly recommended that the hydraulic cylinder plunger be fully cycled without load several times to remove any air trapped in the system. Continue until the plunger moves smoothly without jerkiness or hesitation.
- Before beginning a pressing operation, be sure the workpiece is properly positioned as described in Section 6.1.
- If your press is equipped with a hand pump, refer to Section 6.2 for pump operating instructions. If your press is equipped with an air powered pump, refer to Section 6.3.

6.1 Workpiece Positioning

Position and secure the workpiece within the press using appropriately rated press accessories, such as press plates and V-Blocks (user supplied).

Before pressing, always make sure that the workpiece is centered directly under the hydraulic cylinder.

WARNING Never perform a pressing operation using only the edge of the cylinder plunger. This could result in the workpiece being ejected from the press with great force and velocity, potentially striking the operator or bystanders. Death or serious personal injury could result. Damage to the cylinder could also occur.

6.2 Using Hand Operated Pump

NOTICE Refer to the separate pump operation manual for detailed pump operating instructions and safety precautions.

See Figure 8.

1. Close the release valve on the pump.
2. Raise and lower the pump lever repeatedly to begin advancing the cylinder plunger. Continue advancing the plunger as required to complete the pressing procedure.
3. Continually observe the workpiece and the pressure gauge during the pressing operation to determine when the desired position or amount of force is achieved.

- When the pressing procedure is completed, open the release valve to relieve hydraulic pressure and retract the plunger. Pressure gauge should indicate zero (0) psi/bar when pressure is fully relieved.

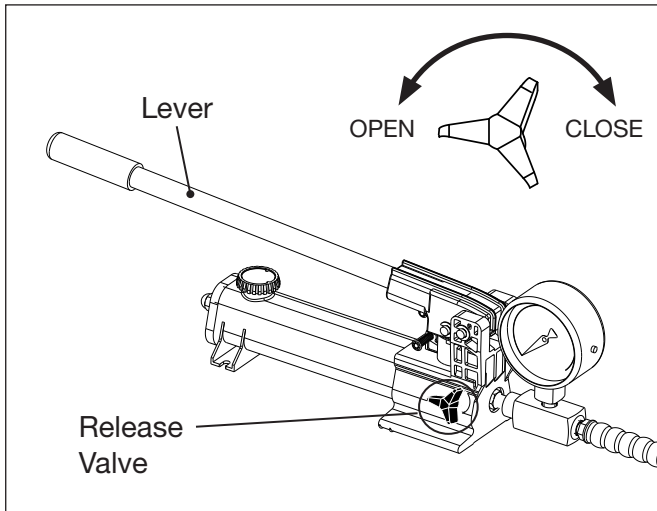


Figure 8: Hand Pump Features (typical)

6.3 Using Air Operated Pump

NOTICE Refer to the separate pump operation manual for detailed pump operating instructions and safety precautions.

See Figure 9.

- To begin advancing the cylinder plunger, press down and hold the area of the pump treadle marked “PRESSURE”. The pump will start automatically and the pressure gauge will indicate the system hydraulic pressure.
- Continue depressing the “PRESSURE” area of the treadle to advance the cylinder plunger as needed. Continually observe the workpiece and pressure gauge to determine when the desired position or amount of force is achieved.

NOTICE Motion can be stopped at any time by removing pressure from the treadle.

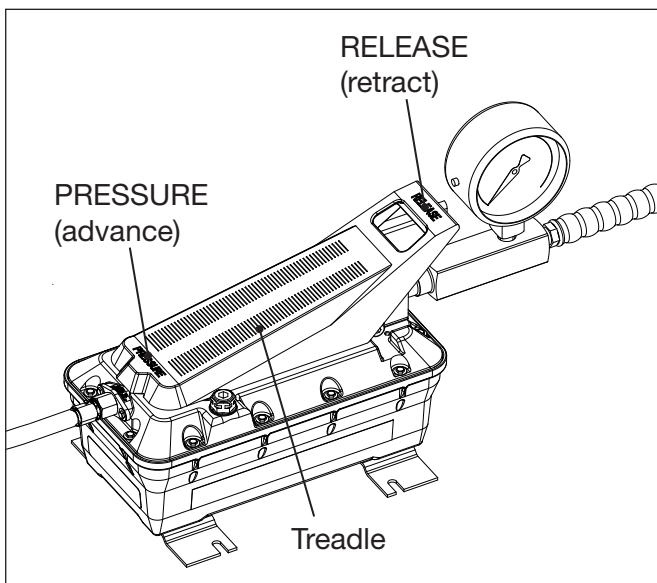


Figure 9: Air Pump Features (typical)

- When the pressing procedure is completed, depress the area of the pump treadle marked “RELEASE” to retract the cylinder plunger. Pressure gauge should indicate zero (0) psi/bar when pressure is fully relieved.

7. V-Blocks

Enerpac V-Blocks (model VB-10) are available as an optional accessory. They can be used to facilitate the positioning of pipes and bars. See Figure 10.

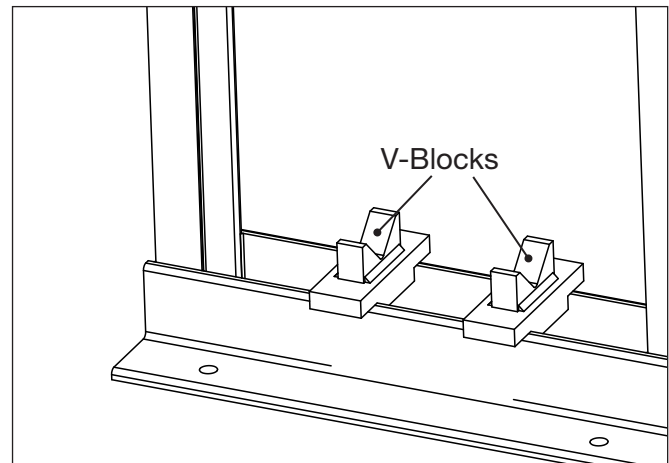


Figure 10: Enerpac V-Blocks (optional accessory)

8. Maintenance

- Replace any worn or damaged parts immediately. Use only genuine Enerpac replacement parts.
- Keep press frame surfaces clean. Remove any dirt or grit. Promptly sand and repaint any corroded surfaces.
- Keep all hydraulic components clean. To prevent dirt entry, install dust caps when hydraulic hose is disconnected from cylinder.
- A replaceable wear saddle is located at the end of the cylinder plunger. Periodically inspect the saddle for damage or wear and replace as required.
- Periodically check the press hydraulic system for loose connections and leaks. Be certain the hydraulic hose is in good condition and not kinked or worn. Tighten, repair or replace components as required.
- Change the oil in the hydraulic system as recommended in the pump instruction manual.
- Perform pump inspection, adjustment and maintenance in accordance with the procedures and safety information contained in the pump instruction manual.
- Periodically check the press frame. Make sure that all frame members are in good condition and that there are no cracked welds.
- The press must only be serviced by a qualified and trained technician. If repairs are required, contact your nearest Enerpac Authorized Service Center.

9. Troubleshooting

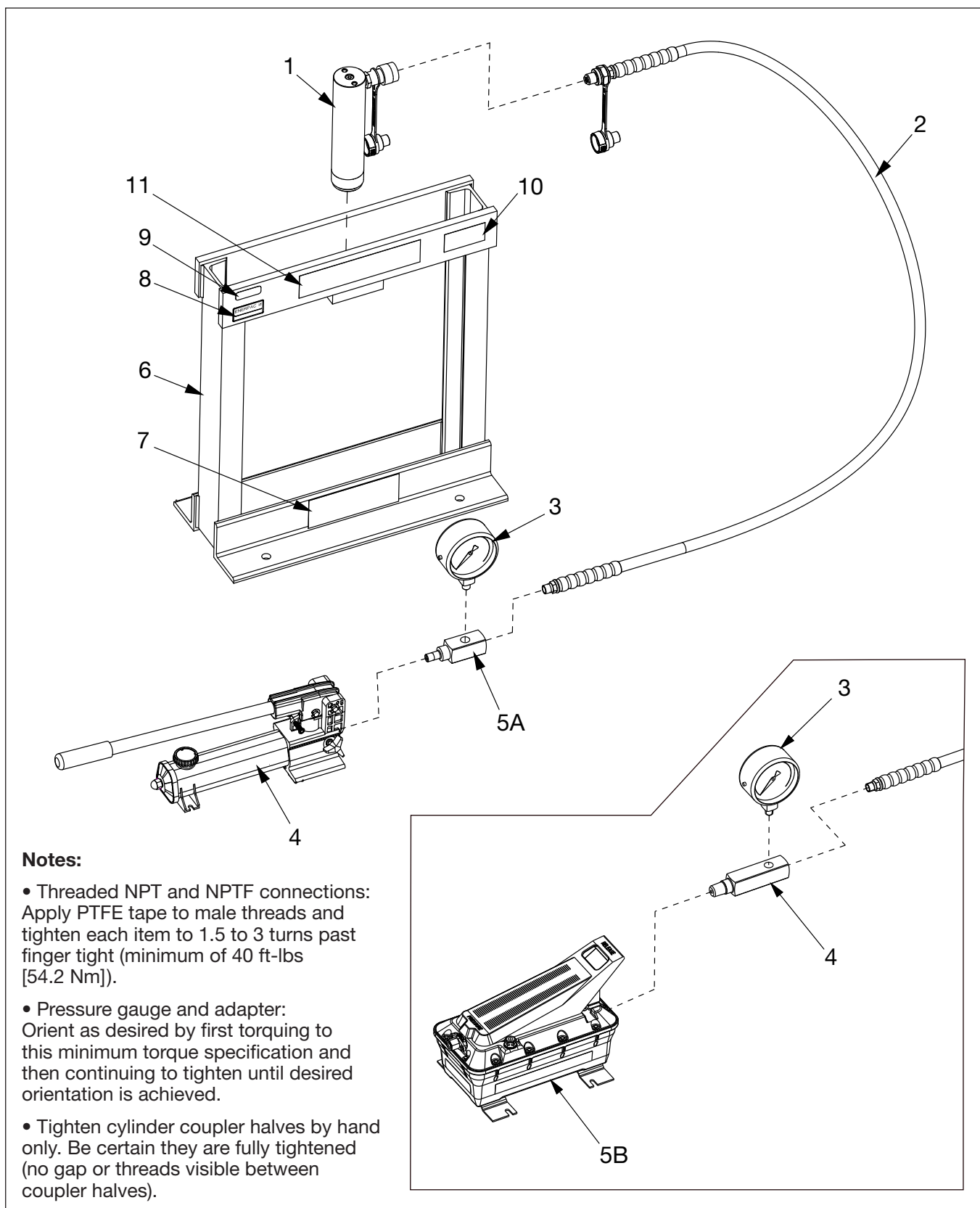
The information in the Troubleshooting Guide is intended as an aid to help diagnose and correct various possible problems that may occur. For repair service, contact your nearest Enerpac Authorized Service Center.

Troubleshooting Guide		
Problem	Possible Cause	Action
1. Cylinder plunger does not advance, advances slowly or in spurts.	a. Oil level in pump reservoir is low.	Add oil to pump.
	b. Pump release valve open.	Close pump release valve.
	c. Loose hydraulic coupler at cylinder.	Check that coupler halves are fully tightened.
	d. Air trapped in hydraulic system.	Position the pump <i>higher</i> than the cylinder. Remove air from hydraulic system according to procedure in the pump instruction manual.
	e. Low air pressure and/or air flow.*	Increase pressure of compressed air supply to pump. Verify that flow rate of compressed air system is at least 12 SCFM [339 l/min]. Refer to pump instruction manual for additional information.
	f. Cylinder plunger binding.	Have cylinder serviced by an Enerpac Authorized Service Center.
	g. Internal hydraulic leakage in cylinder and/or pump.	Have cylinder and/or pump serviced by an Enerpac Authorized Service Center.
2. Cylinder plunger advances, but does not hold pressure. Motor stops under load.	a. Loose hydraulic connection(s).	Check threaded hydraulic connections for proper torques. Tighten or replace leaking components as required.
	b. Leaking cylinder seals.	Have cylinder serviced by an Enerpac Authorized Service Center.
	c. Internal leakage in pump.	Have pump serviced by an Enerpac Authorized Service Center.
3. Cylinder plunger does not retract, retracts part way or retracts more slowly than normal.	a. Pump release valve closed.	Open pump release valve.
	b. Pump reservoir over filled.	Drain oil level to full mark.
	c. Loose hydraulic coupler at cylinder.	Check that coupler halves are fully tightened.
	d. Air trapped in hydraulic system.	Position the pump <i>higher</i> than the cylinder. Remove air according to procedure in the pump instruction manual.
	e. Additional tooling on cylinder too heavy.	Remove tooling. Check cylinder for damage.
	f. Cylinder retraction spring broken or other internal cylinder damage.	Have cylinder serviced by an Enerpac Authorized Service Center.
4. Oil leaking from cylinder.	a. Loose hydraulic connection(s).	Check threaded hydraulic connections for proper torques. Tighten or replace leaking components as required.
	b. Worn or damaged cylinder seals.	Have cylinder serviced by an Enerpac Authorized Service Center.
	c. Internal cylinder damage.	Have cylinder serviced by an Enerpac Authorized Service Center.
5. Oil leaking from pressure gauge, hose or fittings.	a. Loose hydraulic connection(s).	Check threaded hydraulic connections for proper torques. Tighten or replace leaking components as required.
	b. Insufficient sealant.	Ensure that an appropriate amount of PTFE tape is applied to threaded hydraulic connections as discussed in Section 5.4. Remove old tape and properly reapply new tape as required. Then, reconnect hydraulic components and verify that there are no leaks.

* Models equipped with air operated hydraulic pump only.

10. Parts List

10.1 Exploded View, VLP-Series Hydraulic Bench Press



10.2 Parts Table, VLP-Series Hydraulic Bench Press

(Refer to diagram in Section 10.1)

Item	Description	Qty.	Part Numbers			
			VLP106P142	VLP106P142U	VLP106PAT1	VLP106PAT1U
1	Cylinder	1	RC106	RC106	RC106	RC106
2	Hose, Hydraulic	1	HC7206	HC7206	HC7206	HC7206
3	Gauge, Pressure	1	GF10B	GF10P	GF10B	GF10P
4	Adapter, Gauge	1	GA4	GA4	GA2	GA2
5A	Hyd. Pump, Hand Operated	1	P142	P142	- - -	- - -
5B	Hyd. Pump, Air Operated	1	- - -	- - -	PATG1102N	PATG1102N
6	Frame	1	DC2623950	DC2623950-US	DC2623950	DC2623950-US
7	Decal, Product Type	2	▲	▲	▲	▲
8	Decal, Nameplate	1	▲	▲	▲	▲
9	Decal, Warning	2	▲	▲	▲	▲
10	Decal, Capacity	1	▲	▲	▲	▲
11	Decal, Enerpac	2	▲	▲	▲	▲
- - -	Enerpac V-Block Kit	-	VB-10 ■	VB-10 ■	VB-10 ■	VB-10 ■

▲ Indicates items included and available only as part of Label Kit, VLP10LS.

■ Optional accessory (See Figure 10). Two V-blocks are included in each kit. Order as required.

NOTES

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NOTES

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