



Operation and Maintenance Manual

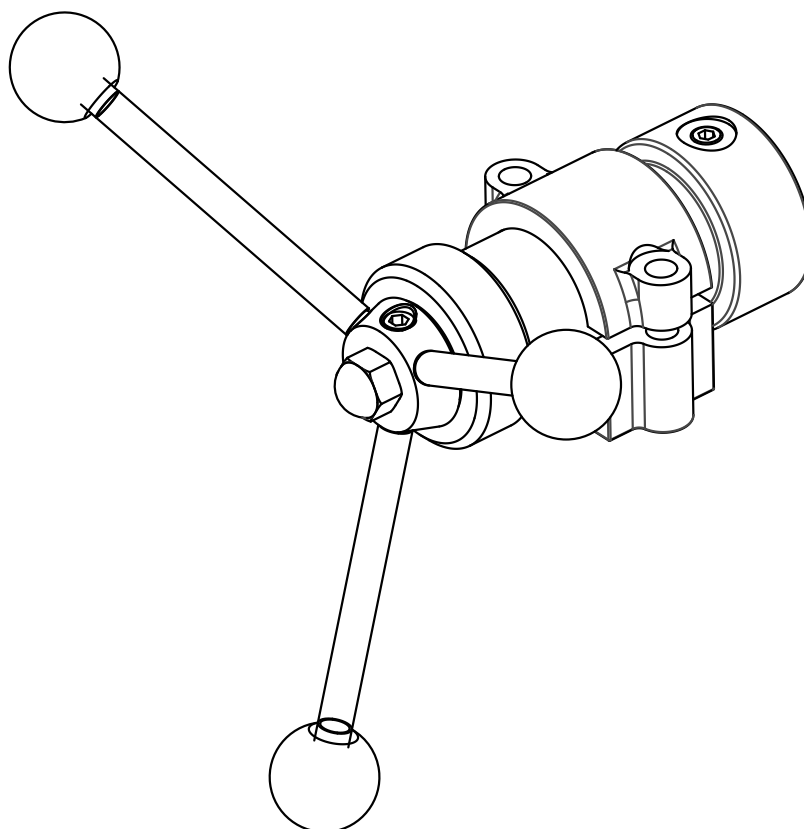
Enerpac SP Screw Pump - SP621/ SP621U101

Document Number: L4534

Document Revision: A

Document Revision Date: 15-FEB-2024

Document Language: English EN



To reduce the risk of injury, users 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 a 110-year legacy, Enerpac has helped move and maintain some of the largest structures on earth. When safety and precision matters, 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.



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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.

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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 DANGER, WARNING, CAUTION, and NOTICE.

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

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 Safety Precautions



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

- Read and completely understand safety precautions and instructions in this manual before operating a pump or preparing it for use. Always follow all safety precautions and instructions, including those that are contained within the procedures of this manual.
- If alternative hydraulic pumps are used, ensure that there are adequate systems to limit the working pressure.
- Wear personal protective gear when operating hydraulic equipment. Always wear eye protection. Safety equipment such as dust mask, non-skid safety shoes, hard hats, gloves or hearing protection (used as appropriate) will reduce personal injuries.
- Immediately replace worn or damaged parts. Use only genuine Enerpac parts from approved distributors or service centers. Standard grade parts will break causing personal injury and property damage. Enerpac parts are designed to fit properly and withstand high loads.
- To minimize risk of personal injury keep hands and feet away from the tool and work piece during operation.
- Take precautions so that the pump is not switched on accidentally.
- Use only rigid pieces to hold loads. Carefully select steel or wood blocks that are capable of supporting the load. Never use a hydraulic cylinder as a shim or spacer in any lifting or pressing application.
- Do not exceed equipment ratings. Never attempt to lift a load weighing more than the capacity of the cylinder. Overloading causes equipment failure and possible personal injury. The cylinders are designed for a max. pressure of 340 bar [5000 psi]. Do not connect a jack or cylinder to a pump with a higher pressure rating.
- Never set the relief valve to a higher pressure than the maximum rated pressure of the pump. Higher settings may result in equipment damage and/or personal injury. Do not remove relief valve.
- 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.
- Only use hydraulic cylinders in a coupled system. Never use a cylinder with unconnected couplers. If the cylinder becomes extremely overloaded, components can fail catastrophically causing severe personal injury.
- Be sure setup is stable before lifting load. Cylinders should be placed on a flat surface that can support the load. Where applicable, use a cylinder base for added stability. Do not weld or otherwise modify the cylinder to attach a base or other support.
- Avoid situations where loads are not directly centered on the cylinder plunger. Off-center loads produce considerable strain on cylinders and plungers. In addition, the load may slip or fall, causing potentially dangerous results.

⚠ CAUTION

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

- Ensure components are protected from external sources of damage, such as moving machine parts, sharp edges, weld spatter, corrosive chemicals and excessive heat or flame. 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.
- Do not drop heavy objects on hose. A sharp impact may cause internal damage to hose wire strands. Applying pressure to a damaged hose may cause it to rupture.
- Take care to avoid sharp bends and kinks in hydraulic hoses. Bends and kinks can cause severe back-up pressure and cause hose failure. Protect hoses from dropping objects; a sharp impact may cause hoses internal damage. Protect hoses from crush risks, such as heavy objects or vehicles; crush damage can cause hose failure.
- Do not lift hydraulic equipment by the parts which are not designated to that purpose. Use only designated carrying handles.

- Avoid situations where loads are not directly centered across the entire saddle surface. Offcenter loads produce considerable strain on cylinders and plungers. In addition, the load may slip or fall, causing potentially dangerous results.
- Lubricate tools as directed in this manual prior to operation. Use only approved lubricants of high quality, following the lubricant manufacturers instructions.
- Do not handle pressurized hoses. Escaping oil under pressure can penetrate the skin, causing serious injury. If oil is injected under the skin, see a doctor immediately.

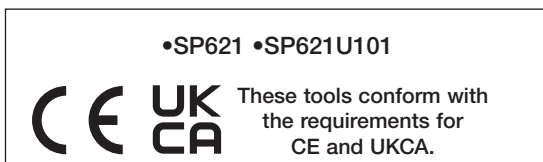
NOTICE

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

- Hydraulic equipment must only be serviced by a qualified hydraulic technician. For repair service, contact the nearest Enerpac Authorized Service Centre.
- To help ensure proper operation and best performance, the use of Enerpac oil is strongly recommended.

2. Compliance Statement(s)

2.1 Conformance to National and International Standards

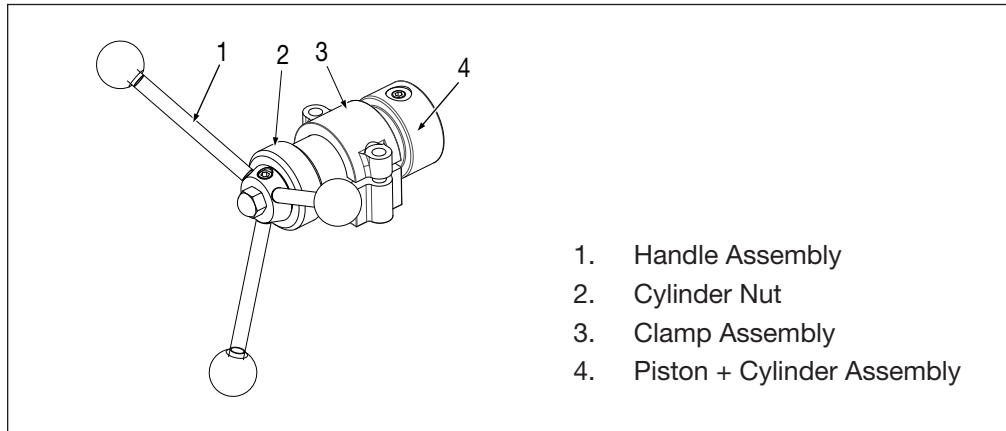


Enerpac declares that the product(s) have been tested and conforms to applicable standards and the product(s) are compatible to all EU and UK Requirements.

Copies of the EU Declaration as well as the UK Self-Declaration are enclosed with each shipment.

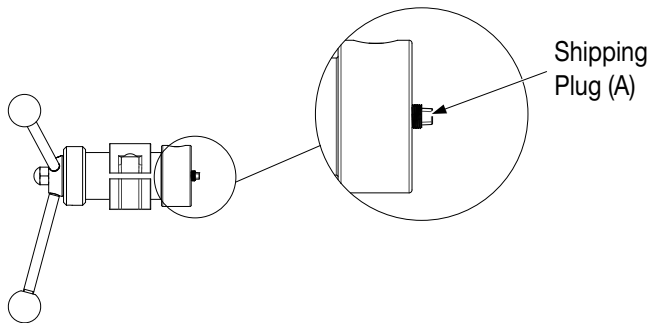
3. Features & Components

3.1 Feature Diagram



4. Assembly/ Preparatory Instructions

- 4.1. Attach handle assembly by slipping it over the threaded end of piston rod with the set screw of the handle in line with the flat of the piston. Screw the cap nut onto the piston rod, and make sure the taper matches. Tighten the set screw on the handle to prevent slipping.
- 4.2. To attach the bracket, place top mounting clamp assembly above and the bottom mounting clamp assembly below the cylinder. Secure to fixture with two 3/8" bolts.
- 4.3. Connect Screw Pump to hydraulic system at shipping plug (A).



- 4.4. Fill reservoir. The Screw Pump reservoir is located in the body of the pump.
 - a. Remove shipping plug and add Enerpac HF Series hydraulic oil until fluid level reaches the top.

⚠ WARNING Under no circumstances should castor oils or motor oils be used. Warranty is automatically voided should improper fluid be used.

4.5. Filling and Bleeding the Screw Pump:

1. Remove fill plug.
 2. Rotate handle fully, counter-clockwise.
 3. Fill pump body with Hydraulic Fluid using a funnel, basting tool, or a paper cup.
 4. Replace fill plug. Install pump into hydraulic circuit using properly rated fittings and follow all manufacturers installation requirements. Circuit should include an air bleed valve located at the highest point in the circuit.
 5. Screw handle clockwise to pressurize the system.
 6. Loosen air bleed valve. Allow air to escape. Continue to rotate the handle clockwise until fluid flows clearly. If Pump “bottoms out” and air is still escaping, repeat steps 1 through 6. When fluid runs clear (bubble-free), tighten the air bleed valve.
 7. Test for trapped air in the system by using a wooden block and attempting to push back the clamping cylinder piston. If the piston moves, air is still trapped. Repeat bleeding procedure.
- 4.6. Periodic maintenance includes changing O-Rings and replacing hydraulic oil. Maintenance kits with repair/ replacement instructions are available.

5. Parts List

5.1 Exploded Views

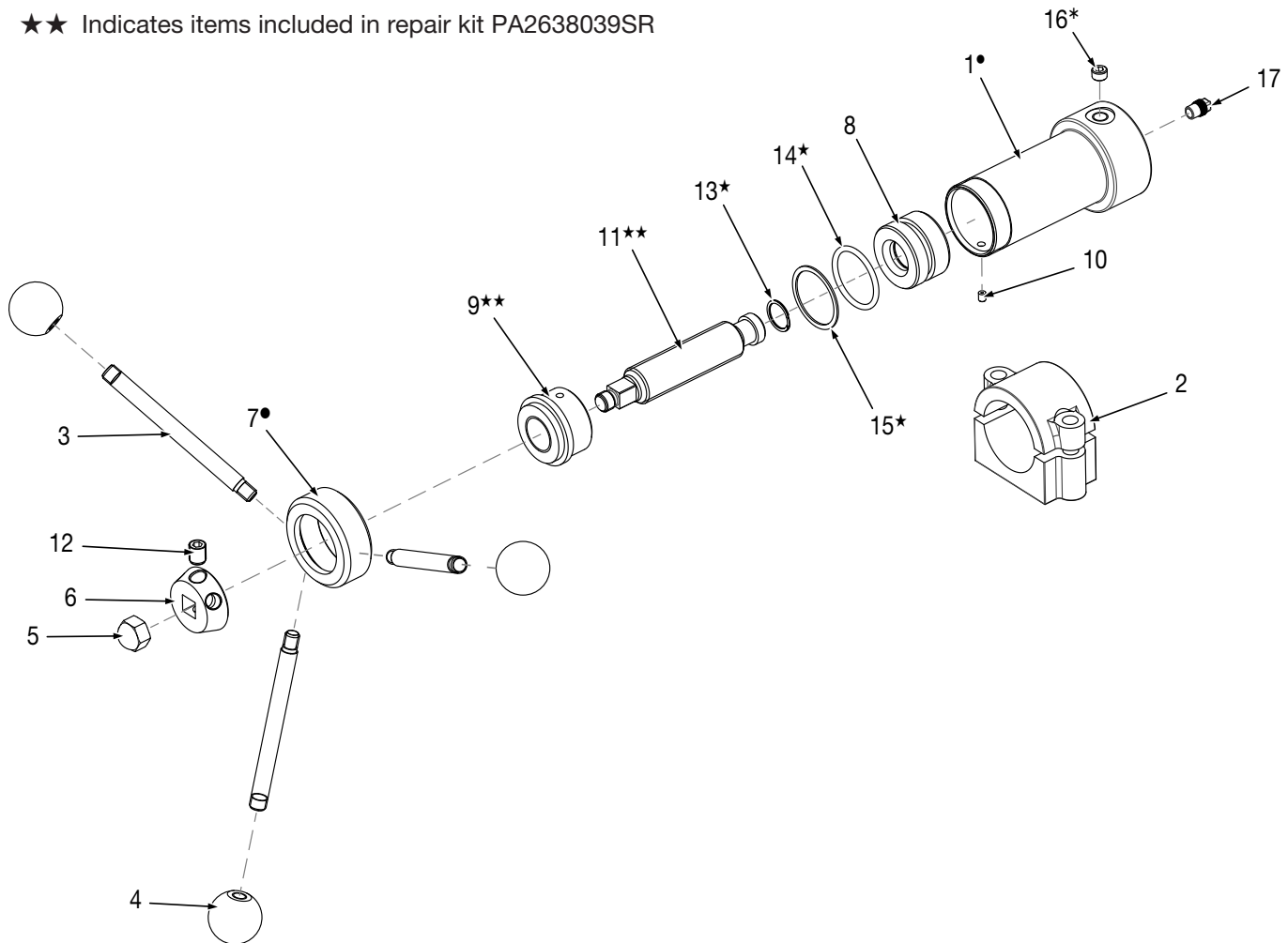
Note :

● Apply Loctite 242

* Torque to 16-19 ft.lbs [22-26Nm]

★ Indicates items included in repair kit SP621K

★★ Indicates items included in repair kit PA2638039SR



5.2 Table of Parts

Item	Description	Qty	Part Numbers
1	Cylinder	1	401943
2	Clamp Half	2	U200056299
3	Handle	3	401941
4	Handle Knob	3	402082
5	Cap Nut	1	401234
6	Handle Boss	1	401942
7	Nut, Cylinder	1	401901
8	Piston	1	401837
9	Screw Bushing	1	★★PA2638039
10	Retaining Tube	1	401938
11	Piston Rod	1	★★PA2639107
12	Screw, Set Cup 7/16 x 1/2	1	111121
13	Retaining Ring	1	★401838
14	O-Ring	1	★B1027503
15	Back Up Washer, Teflon	1	★B1222564
16	Plug	1	A1007245
17	Shipping Plug 1/8-27	1	A8004271
18	Caution Decal (Not Shown)	1	CH272026
★ Indicates items included in repair kit SP621K ★★ Indicates items included in repair kit PA2638039SR			

