

L1678 Rev. O 03/03

Repair Parts Sheets for this product are available from the Enerpac web site at [www.enerpac.com](http://www.enerpac.com), or from your nearest Authorized Enerpac Service Center or Enerpac Sales office.

#### 1.0 IMPORTANT RECEIVING INSTRUCTIONS

Visually inspect all components for shipping damage. Shipping damage is not covered by warranty. If shipping damage is found, notify carrier at once. The carrier is responsible for all repair and replacement costs resulting from damage in shipment.

#### SAFETY FIRST

#### 2.0 SAFETY ISSUES



Read all instructions, warnings and cautions carefully. Follow all safety precautions to avoid personal injury or property damage during system operation. Enerpac cannot be responsible for damage or injury resulting from unsafe product use, lack of maintenance or incorrect product and/or system operation. Contact Enerpac when in doubt as to the safety precautions and operations. If you have never been trained on high-pressure hydraulic safety, consult your distribution or service center for a free Enerpac Hydraulic safety course.

Failure to comply with the following cautions and warnings could cause equipment damage and personal injury.

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.



**WARNING:** Wear proper personal protective gear when operating hydraulic equipment.



**WARNING: 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 blocked mechanically.



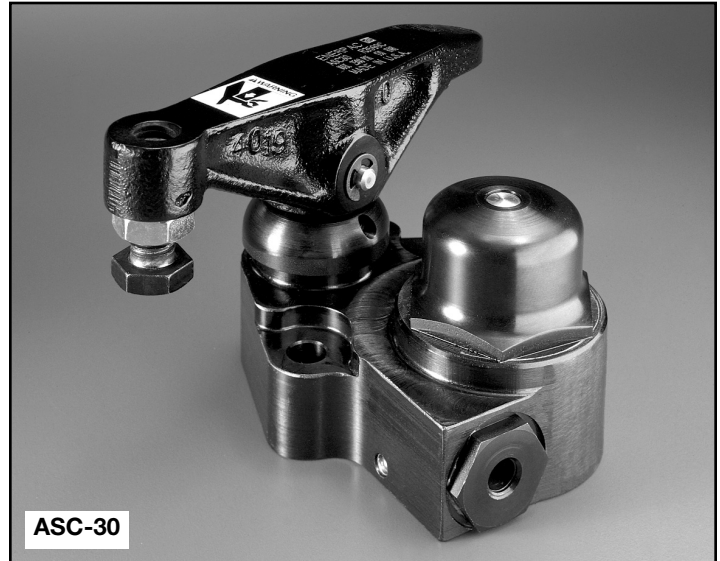
**DANGER:** To avoid personal injury keep hands and feet away from cylinder and workpiece during operation.



**WARNING:** 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 350 bar [5,000 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.



ASC-30



**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.



**CAUTION:** Avoid damaging hydraulic hose. Avoid sharp bends and kinks when routing hydraulic hoses. Using a bent or kinked hose will cause severe back-pressure. Sharp bends and kinks will internally damage the hose leading to premature hose failure.



**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.



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



**CAUTION: Keep hydraulic equipment away from flames and heat.** 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 hoses and cylinders from weld spatter.



**DANGER: 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.



**WARNING:** 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.



**IMPORTANT:** Hydraulic equipment must only be serviced by a qualified hydraulic technician. For repair service, contact the Authorized ENERPAC Service Center in your area. To protect your warranty, use only ENERPAC oil.



**WARNING:** Immediately replace worn or damaged parts by genuine ENERPAC parts. Standard grade parts will break causing personal injury and property damage. ENERPAC parts are designed to fit properly and withstand high loads.

### 3.0 DESCRIPTION

Enerpac ASC Swing Clamps have a clamping arm that swings in a clockwise (R.H.) rotation 97° to position itself over the workpiece. Then, a vertical plunger exerts an upward thrust on the back end of the swing arm providing a powerful downward pressure to clamp the workpiece. Swing clamp arm direction can be changed to counter-clockwise (L.H.) rotation. See section 4.1.

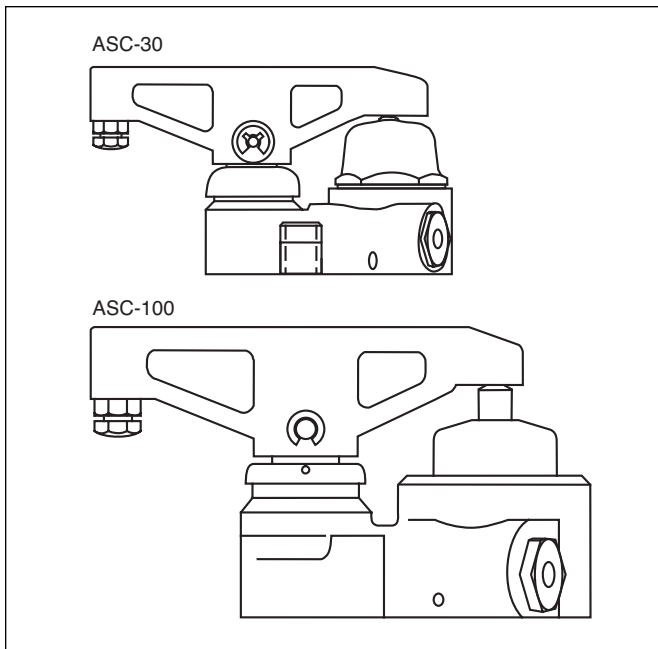


Figure 1

### 4.0 INSTALLATION

#### 4.1 Changing Rotation Direction

All Enerpac ASC Swing Clamps are assembled to swing clockwise (R.H.). Follow instructions below to change rotation to counter-clockwise (L.H.) and refer to Figure 2.

1. Remove retaining ring (1) and fulcrum pin (2) and lift off clamping arm (3).

2. Remove arm spring (4). Mark the position of the spring on the fulcrum (5).
3. Unscrew set screw (6) and remove cover (7).
4. Remove R.H. torsion spring (8) and replace with L.H. torsion spring (supplied with cylinder).
5. Replace cover (7) making sure the top tongue of the torsion spring (8) locates in the hole in the cover.
6. Turn cover (7) counter-clockwise 90° to load spring (8).
7. Tighten set screw (6) making sure the point engages the hole in the swivel fulcrum (5).
8. Loosen inlet plug three turns (9). Insert a screwdriver through the inlet bushing (9) and rotate the plunger (10) 180°.
9. Retighten inlet plug (9).
10. Use screwdriver to push plunger (10) to bottom to rotate the swivel fulcrum (5) and check for proper rotation direction.
11. Replace arm spring (4) in clamping hole at 90° from original position.
12. Place clamping arm (3) in opposite "at rest" position.
13. Insert fulcrum pin (2) and replace retaining ring (1).

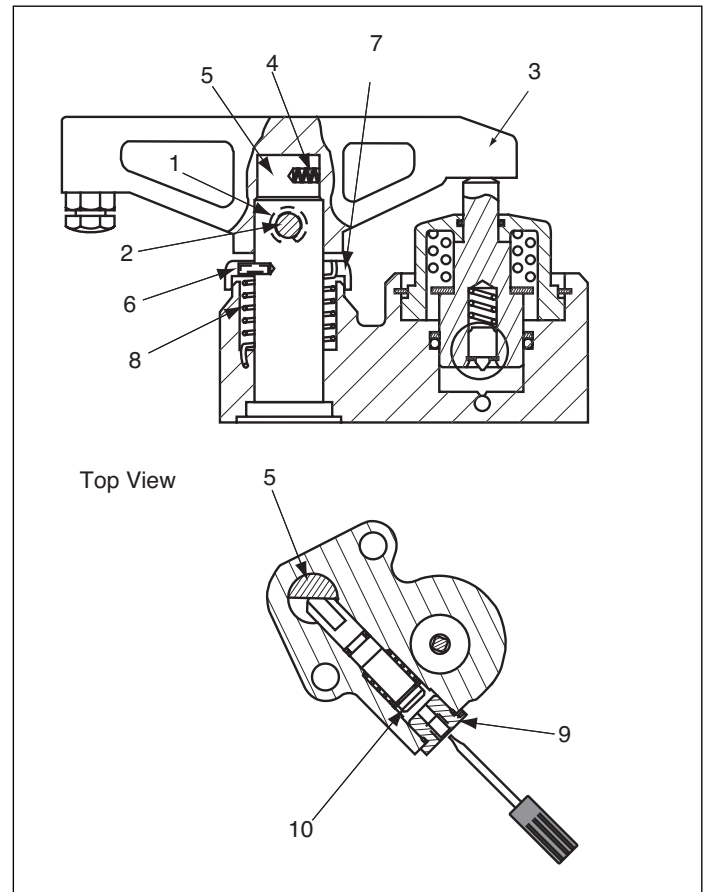


Figure 2

Specifications	ASC-30	ASC-100
Rated capacity (lbs.)	1,375	4,375
Rated operating pressure (psi)	1,200 to 2,500 max.	1,200 to 2,500 max.
Hydraulic port	0.125-27 NPT	0.125-27 NPT
Hydraulic Plunger Stroke (in)	0.25	0.43
Clamping bolt length (in)	0.75 min.*	0.73 min.*

\* Clamping bolt length can be changed to accommodate lower clamping height.

## 4.2 Changing Clamping Bolt

1. To replace clamping bolt, loosen jam nut and unscrew bolt from clamping arm.
2. Replace with new bolt or toggle pad having 1/2-13 UNC 2A threads.
3. Tighten jam nut.

## 4.3 Mounting the Swing Cylinder

Mount cylinder to fixture using two bolts. Attach hydraulic supply line to hydraulic pressure port.

**NOTE:** Avoid contaminants in your hydraulic system. Tubing should be flushed prior to assembly. Solvent may be used as long as each piece is dry prior to assembly. After system has been assembled, flush with hydraulic oil – not solvent. Solvents can and will cause premature seal failure.

## 5.0 OPERATION

Trapped air will result in erratic swing clamp operation. Remove air from system for smooth operation.

1. Apply low hydraulic pressure to system (approximately 5 to 10 psi).
2. Loosen the attachment fitting at pressure port.
3. Tighten fitting after air is expelled and only hydraulic fluid is expelled from fitting.
4. Swing clamp can now be operated up to full rated pressure of 2,500 psi.



**Never exceed 2,500 psi hydraulic pressure or rated load capacity. Exceeding the rated limits of your swing clamp will result in personal injury and/or equipment damage.**

## 6.0 MAINTENANCE

Perform maintenance regularly to keep swing clamps in good operating condition.

1. Keep all moving parts free of debris and coolant. Coolant may damage seals.
2. Keep system full of Enerpac hydraulic oil. Be sure cylinders are fully retracted when adding oil to system. Use of other fluids is not recommended. Other fluids may damage seals and void the warranty.
3. Check that fittings and mountings are tight. Loose fittings permit dirt to enter your system as well as allowing oil to leak out. Loose mountings can cause damage to parts or fixtures.
4. Check for oil leaking from swing clamp. Leaks are usually caused by damaged or worn seals. Seals are available in the Repair Parts Kit for your swing clamp.
5. Refer to Repair Parts Sheet L1679 to order parts and perform service work.

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10/30/02