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› Enerpac SCH-603H Hydraulic Cylinder Pump Set User Manual

## Enerpac SCH-603H

# Enerpac SCH-603H Hydraulic Cylinder Pump Set User Manual

Model: SCH-603H

## 1. INTRODUCTION

This manual provides essential instructions for the safe and effective operation, setup, and maintenance of the Enerpac SCH-603H Hydraulic Cylinder Pump Set. This set comprises an Enerpac RCH-603 single-acting, hollow plunger hydraulic cylinder and an Enerpac P-80 two-speed hydraulic hand pump, along with a safety hose, pressure gauge, and gauge adapter. It is designed for pushing and pulling applications in various industrial settings.

Please read this manual thoroughly before using the equipment to ensure proper understanding and to prevent injury or damage to the product.

## 2. SAFETY INFORMATION

Your safety and the safety of others are paramount. Always follow these safety precautions when operating the Enerpac SCH-603H Hydraulic Cylinder Pump Set.

### **WARNING**

- DO NOT DISASSEMBLE without first reading the instruction sheet.
- The stop ring is spring-loaded. Exercise caution during any maintenance or disassembly.
- Always wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
- Ensure the work area is clear and stable before operating the hydraulic system.
- Never exceed the rated capacity of the cylinder or pump.
- Inspect all components (cylinder, pump, hose, connections) for damage before each use. Do not use damaged equipment.
- Keep hands and body parts clear of pinch points and moving parts during operation.
- Use only genuine Enerpac hydraulic fluid. Mixing fluids can cause system damage.
- Relieve all hydraulic pressure before disconnecting any components.

## 3. PRODUCT OVERVIEW

The Enerpac SCH-603H set is a robust hydraulic system designed for heavy-duty applications. It includes the following key components:

- **RCH-603 Hydraulic Cylinder:** A 60-ton capacity, single-acting, hollow plunger cylinder. Ideal for pushing and pulling applications.
- **P-80 Hydraulic Hand Pump:** A two-speed hand pump with an internal pressure relief valve, designed for efficient operation and overload protection.
- **HC-7206 Safety Hose:** A 6-foot long hydraulic hose for connecting the pump to the cylinder.
- **GF-813P Force and Pressure Gauge:** A 65-ton capacity gauge for monitoring hydraulic pressure.
- **GA-3 Gauge Adapter:** A 1/4" adapter for connecting the gauge to the pump's 3/8" NPT port.



**Figure 1: Enerpac SCH-603H Hydraulic Cylinder Pump Set Components.** This image displays the complete Enerpac SCH-603H set. On the left is the yellow RCH-603 hollow plunger hydraulic cylinder with black handles and a warning label. To the right, the yellow P-80 hydraulic hand pump with a black handle is visible. In the foreground, a yellow hydraulic hose is coiled, connected to a silver pressure gauge and a silver gauge adapter.

## 4. SETUP AND ASSEMBLY

1. **Unpacking:** Carefully remove all components from the packaging. Inspect for any shipping damage.
2. **Connect Gauge:** Thread the GA-3 gauge adapter onto the 3/8" NPT port of the P-80 hand pump. Then, thread the GF-813P pressure gauge onto the GA-3 adapter. Ensure all connections are tight to prevent leaks.
3. **Connect Hose:** Connect one end of the HC-7206 safety hose to the quick-connect coupler on the P-80 hand pump. Connect the other end of the hose to the quick-connect coupler on the RCH-603 hydraulic cylinder. Ensure both connections are fully engaged and locked.
4. **Fluid Level Check:** Before first use, ensure the P-80 hand pump reservoir contains sufficient hydraulic fluid. The vent-free reservoir helps prevent spills, but regular checks are important. Refer to the pump's specific instructions for fluid level indicators.
5. **Bleeding Air (if necessary):** If the system operates erratically or with spongy action, air may be present. With the cylinder retracted and the release valve open, pump the handle several times to circulate fluid and expel air. Close the release valve and operate the cylinder a few times to ensure smooth operation.

## 5. OPERATING INSTRUCTIONS

The P-80 hand pump features a two-speed operation for efficient load movement.

1. **Positioning:** Place the RCH-603 cylinder securely under or against the load to be moved. Ensure the load is stable and properly supported.
2. **Close Release Valve:** Ensure the release valve on the P-80 hand pump is fully closed by turning it clockwise.
3. **Pumping (First Stage):** Begin pumping the handle of the P-80 hand pump. The pump will operate in its high-flow, low-pressure (first) stage, rapidly advancing the cylinder plunger until it contacts the load or encounters significant resistance.
4. **Pumping (Second Stage):** Once the cylinder plunger meets resistance, the pump will automatically shift to its low-flow, high-pressure (second) stage. Continue pumping to apply force and move the load. Monitor the pressure gauge to ensure you do not exceed the system's maximum operating pressure (10,000 psi).
5. **Holding a Load:** To hold a load in position, simply stop pumping. The closed release valve will maintain pressure in the system.
6. **Retracting the Cylinder:** To retract the cylinder plunger, slowly turn the release valve counter-clockwise. This will allow hydraulic fluid to return to the pump reservoir, and the plunger will retract. Control the retraction speed by adjusting how much the valve is opened.
7. **Overload Protection:** The P-80 hand pump is equipped with an internal pressure relief valve that will activate if the system pressure exceeds its maximum rating, protecting the pump from damage.

## 6. MAINTENANCE

Regular maintenance ensures the longevity and safe operation of your Enerpac hydraulic equipment.

- **Fluid Level:** Periodically check the hydraulic fluid level in the P-80 pump. Refill with genuine Enerpac hydraulic fluid as needed.
- **Fluid Replacement:** Replace hydraulic fluid annually or more frequently under heavy use conditions. Consult the pump's specific manual for detailed instructions on fluid replacement.
- **Cleaning:** Keep all components clean and free of dirt, dust, and debris. Wipe down the cylinder plunger and pump exterior after each use.
- **Inspection:** Regularly inspect the hose for cuts, abrasions, or kinks. Check all connections for leaks. Inspect the cylinder plunger for scratches or damage.
- **Storage:** Store the pump set in a clean, dry environment. Ensure the cylinder plunger is fully retracted before storage.

## 7. TROUBLESHOOTING

This section addresses common issues you might encounter with your hydraulic pump set.

<b>Problem</b>	<b>Possible Cause</b>	<b>Solution</b>
Cylinder plunger does not extend or extends slowly.	Low hydraulic fluid level, air in the system, release valve open, internal pump issue.	Check fluid level and refill. Bleed air from the system. Ensure release valve is fully closed. If problem persists, contact Enerpac service.
Loss of pressure or load drifts down.	Leaking connections, faulty release valve, internal cylinder seal damage.	Inspect all connections for leaks and tighten. If leaks persist or load still drifts, contact Enerpac service.
Pump handle feels spongy.	Air in the hydraulic system.	Bleed air from the system as described in the Setup section.
Pump does not shift to second stage.	Load not sufficient to trigger shift, internal pump malfunction.	Ensure cylinder is under load. If problem persists, contact Enerpac service.

For issues not listed here or if solutions do not resolve the problem, contact Enerpac customer support or an authorized service center.

## 8. SPECIFICATIONS

Detailed specifications for the Enerpac SCH-603H Hydraulic Cylinder Pump Set:

<b>Component</b>	<b>Specification</b>
Set Capacity	60 ton
Cylinder Stroke (RCH-603)	3 inches
Cylinder Collapsed Height (RCH-603)	9.75 inches
Pump First Stage Max Operating Pressure (P-80)	500 psi
Pump Second Stage Max Operating Pressure (P-80)	10,000 psi
Pump First Stage Max Oil Displacement (P-80)	1.0 cubic inch per stroke
Pump Second Stage Max Oil Displacement (P-80)	0.15 cubic inch per stroke
Pump Usable Oil Capacity (P-80)	134 cubic inches
Pump Piston Stroke (P-80)	1.0 inch
Pump Max Handle Effort (P-80)	77 lb.
Pump Weight (P-80)	23.6 lb.
Pump Dimensions (H x W x D) (P-80)	7.65 x 20.12 x 5.91 inches
Safety Hose Length (HC-7206)	6 feet
Gauge Capacity (GF-813P)	65 ton
Gauge Adapter Size (GA-3)	1/4" to 3/8" NPT

## 9. WARRANTY AND SUPPORT

Enerpac products are manufactured to high standards and are backed by a manufacturer's warranty. For specific warranty details, please refer to the documentation included with your product or visit the official Enerpac website.

For technical assistance, parts, or service, please contact Enerpac customer support or an authorized Enerpac service center. Ensure you have your model number (SCH-603H) and serial number (if applicable) ready when contacting support.

**Manufacturer:** Enerpac

**Website:** [www.enerpac.com](http://www.enerpac.com)