

### HYDRAULIC COMPRESSION SYSTEMS OPERATION and MAINTENANCE INSTRUCTIONS

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Original Instructions



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**WARNING:** Read all safety warnings, instructions, illustrations and specifications provided with this power tool. *Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.* Save all warnings and instructions for future reference.

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Technical Support  
Tel: 1-800-777-3300



**PRECAUTIONS****DANGER**

**THE USER SHOULD BE PROPERLY TRAINED  
IN THE CORRECT PROCEDURES REQUIRED  
FOR WORK AROUND ELECTRICAL LINES**



**WARNING:** When performing any service on this pump or any of its' components, the unit **MUST** be disconnected from the power supply outlet.



**WARNING:** Safety glasses must be worn at all times when using the tool.

**CAUTION:** Be aware of the ejection of cable tie scrap from tool.



**WARNING: DO NOT USE THIS TOOL ON LIVE ELECTRICAL CIRCUITS**



**WARNING:** Keep fingers clear of crimping tool head area during tool operation.



**WARNING: DO NOT use tool in an explosive atmosphere.**



**CAUTION:** Ear protection should be worn when operating the tool.



**CAUTION – When using CT-930LPCH Crimp Head**

**DO NOT OPERATE WITHOUT DIES**

## INTRODUCTION

The CT-902HP-5K family of hydraulic pumps:

CT-902HP-5K	110 V Low Pressure Hydraulic Pump with Hand Pendant Switch
CT-902HP-5KRFS	110 V Low Pressure Hydraulic Pump with Remote Foot Switch
CT-902-5K220RFS	220 V Low Pressure Hydraulic Pump with Remote Foot Switch

The CT-902HP-5K family of hydraulic pumps are capable of providing 5,000 PSI (350 bar). Panduit recommends using their CT-902HP-5K family of hydraulic pumps with the CT-900LPHPH Hydraulic Pump Hose, which can crimp #8 AWG thru 600 MCM Panduit Copper Compression Connectors. Refer to the product packaging for wire size and crimp designations.

This manual will guide you step-by-step in operation and maintenance of your Hydraulic Pump.  
If you have problems not covered, call:  
**1-800-777-3300**

The information contained in this literature is based on our experience to date and is believed to be reliable. It is intended as a guide for use by persons having technical skill at their own discretion and risk. We do not guarantee favorable results or assume any liability in connection with its use. Dimensions contained herein are for reference purposes only. For specific dimensional requirements consult the factory. This publication is not to be taken as a license to operate under, or a recommendation to infringe any existing patents. This supersedes and voids all previous literature, etc.



**NOTE:** In the interest of higher quality and value, Panduit products are continually being improved and updated. Consequently, pictures may vary from the enclosed product.

### 1) Work area safety

- a) **Keep work area clean and well lit.** *Cluttered or dark areas invite accidents.*
- b) **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** *Power tools create sparks which may ignite the dust or fumes.*
- c) **Keep children and bystanders away while operating a power tool.** *Distractions can cause you to lose control.*

### 2) Electrical safety

- a) **Always disconnect plug from outlet before performing any service on the pump.**
- b) **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** *Unmodified plugs and matching outlets will reduce risk of electric shock.*
- c) **Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators.** *There is an increased risk of electric shock if your body is earthed or grounded.*
- d) **Do not expose power tools to rain or wet conditions.** *Water entering a power tool will increase the risk of electric shock.*
- e) **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** *Damaged or entangled cords increase the risk of electric shock.*
- f) **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** *Use of a cord suitable for outdoor use reduces the risk of electric shock.*
- g) **If operating a power tool in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply.** *Use of an GFCI reduces the risk of electric shock.*

### 3) Personal safety

- a) **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** *A moment of inattention while operating power tools may result in serious personal injury.*
- b) **Use personal protective equipment. Always wear eye protection.** *Protective equipment such as a dust mask, non-skid safety shoes, hard hat or hearing protection used for appropriate conditions will reduce personal injuries.*

- c) **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** *Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.*
- d) **Remove any adjusting key or wrench before turning the power tool on.** *A wrench or a key left attached to a rotating part of the power tool may result in personal injury.*
- e) **Do not overreach. Keep proper footing and balance at all times.** *This enables better control of the power tool in unexpected situations.*
- f) **Dress properly. Do not wear loose clothing or jewelry. Keep your hair and clothing away from moving parts.** *Loose clothes, jewelry or long hair can be caught in moving parts.*
- g) **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** *Use of dust collection can reduce dust-related hazards.*
- h) **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** *A careless action can cause severe injury within a fraction of a second.*

#### 4) Power tool use and care

- a) **Do not force the power tool. Use the correct power tool for your application.** *The correct power tool will do the job better and safer at the rate for which it was designed.*
- b) **Do not use the power tool if the switch does not turn it on and off.** *Any power tool that cannot be controlled with the switch is dangerous and must be repaired.*
- c) **Disconnect the plug from the power source, before making any adjustments, changing accessories, or storing power tools.** *Such preventive safety measures reduce the risk of starting the power tool accidentally.*
- d) **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** *Power tools are dangerous in the hands of untrained users.*
- e) **Maintain power tools and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** *Many accidents are caused by poorly maintained power tools.*
- f) **Keep cutting tools sharp and clean.** *Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.*
- g) **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** *Use of the power tool for operations different from those intended could result in a hazardous situation.*
- h) **Keep handles and grasping surfaces dry, clean and free from oil and grease.** *Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.*

#### 5) Service

- a) **Have your power tool serviced by a qualified repair person using only identical replacement parts.** *This will ensure that the safety of the power tool is maintained.*

**For technical support or repair, see Contact Information on Page 6.**

#### Periodic Maintenance:

Make sure tool is clean before each use.

**SYSTEM SPECIFICATIONS****CT-902HP-5K Family  
Hydraulic Pumps**

Hydraulic Pump pressure is factory preset at 5,000 PSI  $\pm$  200 PSI (350 bar), and is to be used with the CT-930LPCH Remote Hydraulic Crimp Head. Pump shuts off when cycle is complete. Will not release until down button is activated.

Dimensions: 9.5 L x 10.5 W x 15.5 H in.  
241 L x 267 W x 393 H (mm)

Weight: 15.4 (kg) / 34.0 lbs.

Housing:	Color – <u>TOP</u>	<u>BASE</u>
	110V Blue	Black
	220V Yellow	White/Gray

**Pump**

Tank Capacity: 2 Liters  
Fluid Type: Shell Tellus Hydraulic Oil S2 V 15

<b><u>Motor</u></b>	<u>110V</u>	<u>220V</u>
Type:	Commutator	Commutator
R.P.M.:	1200	1200
Voltage:	110 V	220 V
Watts:	715 W	340 W
Frequency:	50/60 Hz	50/60 Hz
Current:	6.5 A	3.2 A
Horsepower:	1/2	1/2

Delivery @ 200 psi	157 cubic inches/minute
Delivery @ 5,000 psi	40 cubic inches/minute

**CT-902HP-5KRFS  
and CT-902-5K220RFS**

**Hydraulic Pump with Remote Foot Switch (hardwired at factory)**

RFS Dimensions:	243 L x 173 H x 180 W (mm)
	9.6 L x 6.8 H x 7.1 W in.
Weight:	3.5 (kg) / 7.7 lbs.



**CT-902HP-5KRFS Pump Shown**

**OPTIONAL ACCESSORIES****CD-920 / CD-940  
Compression Dies**

Refer to product packaging for wire size and crimp designations; or contact Panduit Customer Service for specific die application information.

**CT-900LPHPH  
Low Pressure  
Hydraulic Pump Hose**

Electrically non-conductive 10 ft. hose. Supplied pre-filled with hydraulic fluid for fast start up.

**PG-1  
Pressure Gauge**

Verifies the PSI reading of the CT-902HP-5K Family of Hydraulic Pumps.  
Dimensions: 228 L x 114 H x 38 W (64 dial face) (mm)  
9.0 L x 4.5 H x 1.5 W (2.5 dial face) in.  
Weight: 1.4 (kg) / 3.0 lbs.

**CG-920 / CG-940 / CG-980  
Compression Gauges**

Verifies the compression force of Panduit compression tools and remote crimp heads.  
Dimensions: 228 L x 102 H x 38 W (102 dial face) (mm)  
9.0 L x 4.0 H x 1.5 W (4.0 dial face) in.  
Weight: 1.6 (kg) / 3.5 lbs.

## **GENERAL GUIDELINES FOR MAINTENANCE OF TOOLS**

1. Always verify the proper size connector for the conductor, by checking the color code and the printing on the connector.
2. **NOTE: CONNECTIONS UTILIZING THIS TOOL ARE U.L. LISTED AND C.S.A. CERTIFIED ONLY WHEN PANDUIT COMPRESSION CONNECTORS ARE USED. USE OF ANY OTHER BRAND OF COMPRESSION CONNECTORS IS NOT RECOMMENDED.**

Consult product packaging, Panduit catalog or website for information on recommended connectors.

3. Daily maintenance is important to keep the tool in good working condition. Keep the tool head portion clean and free from debris. Excessive dirt and grit can contribute to the premature wear of the tool's internal parts. Always replace the dust cap on the coupler, and store the tool in its clean, dry carrying case when not in use. Particular attention should be made in keeping the tool head openings free of foreign matter and debris. When using the tool, regularly check that no foreign matter or debris exists in the open areas between the piston and tool head. Solvent can be used on the tool head to remove any foreign matter or debris. A tool that is dirty with excessive foreign matter may jam and become damaged during operation.
4. The hydraulic system has been calibrated and sealed at the factory. Consult our Customer Service Department or your local distributor if hydraulic problems are experienced.
5. As long as the daily maintenance procedures are adequately carried out, the tool will provide quality service for years. However, if problems are experienced, please contact our Customer Service Department at: 1-800-777-3300.
5. Avoid dropping the tool. Extreme shock may damage the hydraulic circuit or tool head, and result in malfunction of the tool.
6. If the tool is kept in cold temperatures below 23°F/-5°C for any extended time, it is advisable to return the tool to room temperature for 1 hour before using.

## **PUMP OPERATION**

1. Connect male hose fitting to female tool fitting. (Panduit Part No. for hose is: CT-900LPHPH.) Vent tank by turning air vent lever (A) [see photo on Page 2] to upright position (replace cotter pin). Leave vent open during tool operation.
2. Insert electric cord (3 prong plug) into appropriate power outlet for unit being used.
3. Depress the "DOWN" button on remote control switch to determine if solenoid is operational. (A "clicking" sound will be heard.)
4. The "UP" button activates motor to generate hydraulic pressure. Depress and hold for ram advance.
5. To stop ram advance, release "UP" button. Oil pressure will remain constant until "DOWN" button is depressed to relieve pressure. The pump will automatically shut off when the maximum pressure is reached.
6. To retract ram, depress and hold in the "DOWN" button. Oil in tool cylinder will return to tank and tool will be ready to begin next cycle. Retraction of the ram may be stopped by releasing the "DOWN" button.

**PREVENTIVE MAINTENANCE**

Maintenance should be performed monthly, whenever possible damage has occurred, or as often as operating conditions warrant.

1. Operate CT-902HP-5K pump on 110 volts AC only, or voltages between 95 and 120. Do not operate pump on voltages less than 95 volts, or on DC current.  
Operate CT-902HP-5K220 pump on 220 volts AC only, or voltages between 200 and 242. Do not operate pump on voltages less than 200 volts, or on DC current.
2. Level of oil is to be maintained above the red dot in center of port window. To add oil, unscrew entire oil vent fitting from tank with a wrench. Using a funnel, pour oil into the tank opening. Recommended hydraulic oil: Shell Tellus Hydraulic Oil S2 V 15 or approved equivalent. Replace fitting.
3. When attaching hoses, be sure all couplers are securely fastened. Always keep couplers clean by wiping oil and debris from surfaces before connecting hoses to pump or tool.
4. Never move pump by pulling on the electrical cords.
5. Always store pump with the air vent in the closed position.

**TROUBLESHOOTING**

**If system locks up under pressure, perform the following steps:**

- Verify that the solenoid on pump is making an audible “click”.
- If above step checks out, determine which fitting needs to be tightened.
- When pump is released, does the hose stay rigid or flex back down?
- If the hose stays rigid, the problem is in the connection from pump to hose.
- If the hose flexes down, the problem is in the connection from hose to tool head.
- To tighten couplers, use channel lock pliers or pipe wrench; (wrap couplers to avoid causing damage).
- When you feel the couplers tighten, depress the release on the pump; (pressure should be released).
- Tool head should retract. Finish tightening couplers by hand.

**CONTACT INFORMATION • For Technical Support:**

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