



Perma-Crimp™ Hydraulic Hose Crimpers

PC150 Series Operators Manual

PC150 Safety Precautions



SAFETY PRECAUTIONS



- READ INSTRUCTIONS AND IDENTIFY ALL COMPONENT PARTS BEFORE USING CRIMPER.
- CRIMPER CAN PRODUCE 80 TONS OF FORCE. KEEP BOTH HANDS AWAY FROM PINCH POINTS.
- CONSULT THE CONTINENTAL CONTITECH CRIMP SPECIFICATION MANUAL FOR CORRECT CRIMPER SETTINGS AND CRIMP MEASUREMENTS.
- ALWAYS WEAR EYE PROTECTION.

Equipment Warning

Proper assembly of Continental ContiTech hose and fittings

Continental ContiTech hose, fittings and crimping equipment work together to provide an efficient and reliable hose connection. Continental ContiTech hose and fittings are part of an engineered system and are to be used in accordance with Continental ContiTech specifications. Using non-Continental ContiTech components may produce an assembly that does not meet rated performance. **Continental ContiTech does not warrant, expressly or by implication, hose assemblies that do not incorporate Continental ContiTech hose and fittings, or are not crimped in accordance with Continental ContiTech process specifications.**

Buyers may elect to attach additional or non-standard parts or equipment, or to use different manufacturing specifications as necessary to meet the requirements of the buyer or the customer's application. In such cases, the buyer has sole responsibility to qualify the hose for the applications as necessary to ensure performance capability.

For guidance in the assembly of Continental ContiTech hose and couplings, please refer to the Continental ContiTech Crimp Specifications Manual. Information in this manual is believed to be accurate, but is not warranted and is subject to change without prior notice. For the most current product information, check the Continental ContiTech website at www.contitech.us.

For technical assistance, call customer service at **1-800-235-4632**.

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PC150 Component Identification

Powerful 80 Ton Hydraulic Cylinder

Lifting Eye Bolts

Built-in Work Lamp

Metric Micrometer

Removable Pusher

Coupling Stop

Compression Ring

PC150 Die Series

Electronic Shut Off

Small Footprint for minimum use of space



Electric Motor

Retraction Stop

On/Off Power Switch

Electrical Enclosure

Continental QR code

Voltage Tag

1 Gallon Reservoir

Electrical Cord

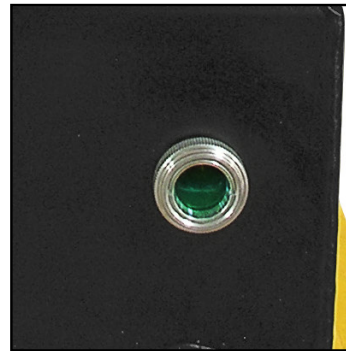
Pneumatic Switch



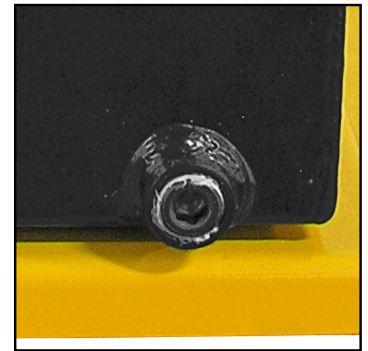
Adjustable Retraction Stop



Oil Fill & Vent Plug



Oil Level Sight Glass



Reservoir Drain Port

Do not operate the PC150 until you have read and fully understand this manual and the proper use of the crimper. This manual is applicable to the PC150-1HP-1P and PC150-2HP-1P crimpers. Crimpers are identical in component and crimping procedures. Note that the PC150-1HP-1P and PC150-2HP-1P require different electrical hookups as power requirements differ from 110V to 220V, respectively.

PC150 Crimper Specifications

Crimping Force.....	80 Tons
Hose Capacity with PC150 Standard Dies.....	1-1/4" 2 wire, 1-1/4" 4 wire, 1-1/4" 6 wire
Hose Capacity with PC150 Double Angle Dies..	2" 2 wire, 2" 4 wire, 2" 6 wire
Crimper Dimensions.....	L: 32" x W: 17" x H: 29"
Crimper Weight.....	305 lbs.
Electrical Requirements.....	220V - 1PH (Standard) 110V - 1PH (Optional)
Die Series.....	PC150 and Double Angle Dies
Micrometer.....	Metric
Motor.....	1HP (110V-1PH / 220V-1PH)
Reservoir Capacity.....	1 US Gallons
Oil Type.....	ISO 46 Hydraulic Oil



PC150 Standard Dies		
Part #	Description	ID
20244949	PC150-8.5 MM	8.5 MM
20244950	PC150-12 MM	12 MM
20244951	PC150-14 MM	14 MM
20244952	PC150-16 MM	16 MM
20244953	PC150-19 MM	19 MM
20244954	PC150-23 MM	23 MM
20244955	PC150-27 MM	27 MM
20244956	PC150-31 MM	31 MM
20244957	PC150-34 MM	34 MM
20244958	PC150-41 MM	41 MM
20244959	PC150-45 MM	45 MM
20244960	PC150-50 MM	50 MM
20244961	PC150-56 MM	56 MM



PC150 Double Angle Dies		
Part #	Description	ID
20294365	49MM X 85MM	49 mm
20294366	53MM X 108MM	53 mm
20294367	58MM X 108MM	58 mm
20294368	62MM X 108MM	62 mm
20294369	69MM X 85MM	69 mm
20294480	74MM X 108MM	74 mm
20294481	78MM X 108MM	78 mm
20951074	52MM X 108MM	52 mm
21061269	56MM X 108MM	56 mm



PC150 Initial Crimper Setup

Follow these steps before using the crimper for the first time

Mount the crimper on a sturdy workbench in a well-lit area. The workbench should be able to support the crimper weight of 305 lbs.

The crimper should be mounted close enough to the edge of the work surface so that hose will not contact the bench or work surface while crimping. There must be enough clearance for the hose to align perpendicular with the cone base, or the dies will not seat properly and the crimps will not be accurate



Check the electrical circuit to be certain that it matches the crimper requirements shown on the voltage tag.

Caution: Do not run the PC150 crimper on an extension cord, as low voltage can damage the motor and / or electrical components.



Check to be certain that the shipping plug in the pump reservoir has been replaced with the **vent plug** shipped with the PC150 crimper.



Always check the oil level in the PC150 pump, when the cylinder is in the retracted position. It should be 1-1/2" below the vent plug and it should be visible in the sight glass window of the pump reservoir.

- If oil needs to be added use ISO 46 weight hydraulic oil.
- Oil can be drained from the rear oil port of the reservoir.



PC150 Standard and Double Angle Dies Lubrication Procedure



Standard Dies Lubrication



Double Angle Dies Lubrication

Note: This lubrication procedure applies for the Standard Dies and Double Angle Dies.

Grease Point # 1

The Pressure Plate or the DBL BASE bottom compression ring must be lubricated after installed into the bottom flange of the crimper.

Place a thin layer of CrimpX oil (supplied with the crimper) or a molybdenum disulfide high pressure grease on the surface the dies sit on (as shown in photo # 1).

Note: The Pressure Plate or the DBL BASE bottom compression ring is held in place by a set screw. This screw can be loosened through the access hole in the front of the machine through the "Hand Hazard" decal.

1



2



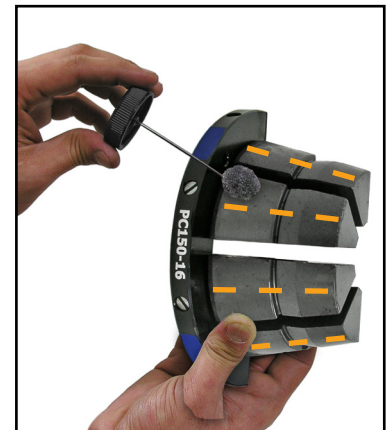
Grease Point # 2

Before placing the compression ring or the DBL TOP over the correct die set, apply a thin layer of CrimpX grease (supplied with the crimper), or a molybdenum disulfide high pressure grease on the entire area that the die set come in contact with (as shown in photo # 2).

If Breaking Die Screws Often: Continue to lubricate / grease as explained above in addition to lubricating each die finger individually (as shown in photo # 3).

Note: Lubrication is not required before each crimp. Typical lubrication is after 100 crimps.

3



PC150 Crimping with Standard Dies

Caution: Follow the lubrication procedure prior to crimping, failure to lubricate the dies, pressure plate, and compressing ring could result in the die set seizing in the base flange.

Step 1. Install the **Standard Pressure Plate** in the bottom flange making certain that the Pressure Plate is seated squarely in the bottom flange.

Note: The bottom **Standard Pressure Plate** is held in place by a set screw. This screw can be loosened through the access hole in the front of the machine through the “Hand Hazard” decal.



Step 2. Select the correct **Die Set** for the combination of hose and fitting being crimped. The correct die set can be found in the Continental ContiTech Crimp Specification Manual.

Note: The number etched on the die ring represents the fully closed diameter of the die set in either inches or millimeters depending upon the die set.



Step 3. Place the **Die Set** squarely in the standard pressure plate, make sure that the die set goes into the groove of the standard pressure plate.



Step 4. Place the **Compression Ring** over the die set.

Step 5. Position the **Hose and Fitting** into the die set.

Note: Refer to the Continental ContiTech Crimp Specifications Manual for the proper hose assembly alignment.

Note: Manually depress the compression ring, closing the die set until the hose and fitting are held loosely in the die set.



PC150 Crimping with Standard Dies

Step 6. Slide the **Pusher** onto the pusher retaining ring on the hydraulic cylinder.

Note: Make sure the slot in the pusher goes over the lip on the pusher retaining ring.

Caution: Damage to the pusher and retaining ring can occur if they are misaligned.

Step 7. Set the **Metric Micrometer** to the setting as shown in the most current Continental ContiTech Crimp Specifications Manual for the combination of hose and fitting being crimped.

Micrometer Setting Example:

The metric micrometer (Readings of 0 to 10) is a direct reading micrometer. The setting on the micrometer is added to the number in mm etched on the die ring to obtain the final crimp diameter.

For example: With a 39mm die and the metric micrometer set at 3.0 the finished crimp diameter would be 42.0 mm (39mm + 3.0mm).

Note: Each die set has a limited range of diameters for which a satisfactory crimp can be obtained. As a “rule of thumb” a standard die set can crimp 3mm (.120 inches) above the closed diameter etched on the die ring.

Always consult the most current Continental ContiTech Crimp Specifications Manual for the recommendation of the correct die set to use, for the combination of hose and fitting being crimped.

Step 8. Depress and hold the start/stop switch until the ram is fully extended compressing the compression ring onto the die set to crimp the fitting.

The automatic stop switch will then shut the pump off. Release the start/stop switch and allow the pusher to return to the retracted position.

Step 9. Check the crimp diameter of the finished assembly with calipers or micrometers, to be certain that it is within the specifications as outlined in the Continental ContiTech Crimp Specifications Manual.



PC150 Crimping with Double Angle Dies



Double Angle dies double the radial crimping force of the die set allowing heavier fittings to be crimped. Due to the doubling of the radial crimp force, they are effective for a smaller range of diameters than a standard die set. Also, the fitting must be approximately centered axially along the crimping face to avoid taper in the final crimp.

Step 1. Remove the standard Pressure Plate and replace it with the **DBL BASE bottom compression ring** (as shown in photo).

Note: The Standard Pressure Plate may be held in place with a set screw. Access to this set screw is through the hole in the hand hazard decal.

Note: Lubricate the inner surfaces of the DBL BASE bottom compressing ring.

Step 2. Select the correct **Double Angle Die Set** for the combination of hose and fitting being crimped.

Note: Lubricate the double angle dies with the CRIMPX Die Lubricant Grease supplied with the crimper.

Step 3. Seat the appropriate size **Double Angle Die** in the conical recess of the DBL BASE lower compression ring.

Step 4. Position the **Hose and Fitting** into the double angle die set, according to the specifications as outlined in the Continental ContiTech Crimp Specifications Manual.

Step 5. Place the **DBL TOP Compression Ring** on top of the die set and manually depress the DBL TOP compression ring, closing the die set until the hose and fitting are held loosely in the die set.

Step 6. Slide the Pusher onto the pusher retaining ring on the hydraulic cylinder.

Step 7. Set the micrometer to the setting as shown in the most current Continental ContiTech Crimp Specifications Manual for the combination of hose and fitting being crimped.

- Depress and hold the start/stop switch until the ram is fully extended compressing the DBL TOP compression ring onto the double angle die set to crimp the fitting. The automatic stop switch will then shut the pump off.
- Release the start/stop switch and allow the pusher to return to the retracted position.
- Check the crimp diameter of the finished assembly with calipers or micrometers, to be certain that it is within the specifications as outlined in the Continental ContiTech Crimp Specifications Manual.



PC150 Calibration Check

Note: All settings are approximate, for minor adjustment adjust the dial as needed. Due to variations in hose and fitting tolerances, some “offset” may be required to achieve the correct crimp diameter for specific hose and fitting combinations across the range of hose and fittings being crimped. If crimp diameters are consistently too large or consistently too small, the crimper should be recalibrated.

Step 1. Install any **PC150 Standard Die Set**.

Note: Use the standard crimping tooling as shown.



Step 2. Place the **Standard Compression Ring** over the die set, install the **Pusher**, and set the **Micrometer** to “0”.

Note: A hose and fitting are not required for a calibration check.

Step 3. Depress and hold the Start/Stop switch until the ram is fully extended and the die set is completely closed (the sound of the pump will change). At this point the micrometer should touch the electronic red button “count one mississippi” the automatic stop switch will shut the pump off, and the ram will return to the retracted position. If this happens the crimper is correctly calibrated.

Step 4. If the above conditions are not met, the crimper requires recalibration, hold the micrometer barrel with a 5/16 inch open end wrench and rotate the stem either in or out with a 5/32 inch hex key wrench.

Note: 1/4 inch turn of the screw will change crimp diameter approximately 0.008”.

- Rotating the stem out of the barrel decreases the ram to retract.
- Recheck calibration.



Troubleshooting

PROBLEM: CRIMPER WILL NOT RUN AT ALL

- › The white rocker switch is also a circuit breaker. Check to see that the circuit breaker has not been tripped.
- › Check the wall outlet. Use of extension cords or outlets with inadequate power can damage the motor. Do not run the crimper from a portable power source.

PROBLEM: CRIMPER IS SLOW OR NON-FUNCTIONAL

- › Check supply voltage to see that it matches the voltage specified on the tag attached to the crimper. Many problems of this type are associated with inadequate voltage or power. The voltage and power measurements must be made while the crimper is running and under load.
- › Check motor rotation and be certain the motor rotates in the direction of the arrow on the motor housing.

PROBLEM: CRIMP DIAMETER TOO LARGE

- › Check crimper calibration and recalibrate if required.
- › Incorrect setting of the micrometer. Check the Continental crimp specifications manual.
- › Incorrect die being used. Each die has a range of approximately 3mm (.120 in) above the closed diameter of the die. The closed diameter is the die size stamped on the die face.
- › Inadequate pump pressure. Check oil level in the pump. It should be 1-1/2 to 2 inches below the fill plug. Replenish with ISO Viscosity Grade 46 hydraulic oil if necessary.
- › Check oil level. Position dies to the fully open position and check oil sight glass on the side of the machine. Be sure the oil level is in the middle of the sight glass. Use ISO 32 or 46 weight hydraulic oil.

Do Not adjust pump to produce in excess of 11,000 psi as damage to components or personal injury could result.

PROBLEM: CRIMP DIAMETER TOO SMALL

- › Check crimper calibration and recalibrate if required.
- › Incorrect setting of the micrometer. Check the Continental crimp specifications manual.

PROBLEM: DIES STICKING IN THE SURFACE OF THE STANDARD COMPRESSION RING OR DBL TOP COMPRESSION RING

Inadequate lubrication on the surface of the standard pressure plate, die surfaces, and/or DBL BASE, DBL TOP compression ring. Use only CrimpX grease (supplied with the crimper) or a molybdenum disulfide high pressure grease.

If problem(s) persist, contact customer service for additional troubleshooting assistance.

Warranty

For technical assistance, call customer service at **1-800-235-4632**. The Continental ContiTech branded crimper is covered under the warranty below.

CustomCrimp® “No Nonsense” warranty

All CustomCrimp® products are warranted to be free of defects in workmanship and materials for one year from the date of invoice. This warranty ends when the product becomes unusable for reasons other than defects in workmanship or material.

If any product or part manufactured by CustomCrimp® is found to be defective by CustomCrimp®, at its option CustomCrimp® will either repair or replace the defective part or product and return via ground transportation, freight prepaid.

This warranty does not cover any product or part which is worn out, abused, altered, used for a purpose other than for which it was intended or used in a manner which was inconsistent with any instructions regarding its use.

Electric motors are separately warranted by their manufacturer under the conditions stated in their separate warranty.

Industrial Fluid Solutions

Market segment
Hydraulic Hose

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Your local contact
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Canada
1-888-275-4397

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1-800-439-7373

Continental. Smart Solutions Beyond Rubber

The ContiTech division of the Continental Corporation is one of the world's leading industry specialists. As a technology partner, our name is synonymous with expertise in development and materials for components made of natural rubber and plastics and also in combination with other materials such as metal, fabrics or silicone. By integrating electronic components, we are also generating solutions for the future.

Beyond products, systems and services, we also provide holistic solutions and have a formative influence on the industrial infrastructure. We see digitalization and current trends as an opportunity to work with our customers to add sustainable value – for both sides and for good.

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