



D100S-T420 PORTABLE SERIES HYDRAULIC CRIMPER WITH LED INDICATOR LIGHT OPERATORS MANUAL



SAFETY PRECAUTIONS



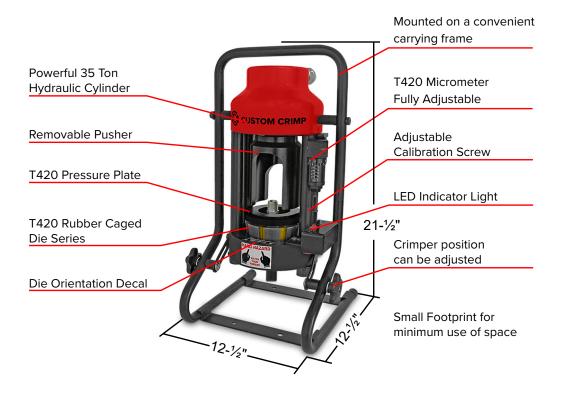
- READ INSTRUCTIONS AND IDENTIFY ALL COMPONENT PARTS BEFORE USING CRIMPER.
- D100S-T420 SERIES CRIMPERS CAN PRODUCE 35 TONS OF CRIMPING FORCE.
- KEEP BOTH HANDS AWAY FROM PINCH POINTS.
- CONSULT HOSE AND FITTING MANUFACTURER FOR CORRECT MACHINE SETTINGS AND CRIMP MEASUREMENTS.
- ALWAYS WEAR EYE PROTECTION.

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D100S-T420 COMPONENT PARTS & TECHNICAL DATA

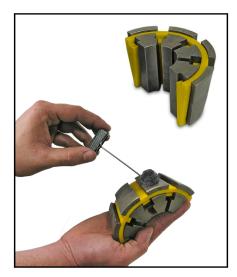




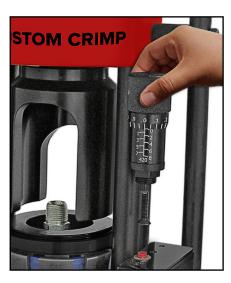
D100S-T420 FEATURES



Light Weight Portable Unit Truly "portable" crimper can be carried to almost any location where service is required.



Two piece rubber caged die set for heavy duty environments, and to facilitate the lubrication on the critical surfaces, since it is an important part of the crimping process.



T420 Micrometer "Micro-Crimp Adjuster" is fully adjustable to make precise and repeatable crimps.



Crimper position can be adjusted for optimum crimping position or dropped to vertical position for better balance when the crimper is being carried.



LED indicator light will turn on to indicate that the crimp is complete.



Easy calibration adjustment to increase or decrease crimp OD.

VALPOWER® SERIES PUMPS The D100S-T420 Portable Series hydraulic hose crimper paired with either a ValPower® Hand Pump, Pneumatic Pump or Multi-Electric Pump make the perfect combination for portable crimping requirements.



PERFORMANCE SPECIFICATIONS					
Pump Model	VHP-10-25				
Reservoir Capacity	25 in³ (410cc)				
Weight	8 Lb (3.6 Kg)				
Max Hydraulic Pressure	10,000 psi (680 bar)				
Low Pressure Flow	.35 in³ per stroke				
High Pressure Flow	.07 in³ per stroke				
Maximum Handle Effort	100 Lb (45 Kg)				



PERFORMANCE SPECIFICATIONS				
Pump Model	VHP-10-43			
Reservoir Capacity	43 in³ (705cc)			
Weight	9 Lb (4.1 Kg)			
Max Hydraulic Pressure	10,000 psi (680 bar)			
Low Pressure Flow	.35 in ³ per stroke			
High Pressure Flow	.07 in ³ per stroke			
Maximum Handle Effort	65 Lb (30 Kg)			





PERFORMANCE SPECIFICATIONS					
Pump Model	VAP-10-100				
Reservoir Capacity	100 cu in (1,639 cc)				
Weight	20 Lb (9 Kg)				
Flow @ 0 psi	70 in³/min				
Flow @ 5,000 psi	23 in³/min				
Flow @ 10,000 psi	6 in³/min				
Required air pressure @ 10,000 psi	85 psi				

PERFORMANCE SPECIFICATIONS				
Pump Model	1HP Pump			
Power	110 Volts / Single Phase/15 Amp			
Oil Type	ISO 46 Hydraulic Oil			
Reservoir Capacity	1 Gallon			



INITIAL SET UP

FOLLOW THESE STEPS <u>BEFORE</u> YOU USE THE CRIMPER FOR THE FIRST TIME.

The D100S-T420 Portable Series hydraulic hose crimpers paired with either a ValPower® Hand Pump, Pneumatic Pump or Electric Pump make the perfect combination for portable crimping requirements.

Light weight portable units and mounted on a convenient carrying frame, can be carried to almost any location where service is required.

- If the D100S-T420 series crimpers is going to be used in the shop is recommended to mount the crimper on a sturdy workbench in a well-lit area. Workbench should be able to support the crimper, pump, and components weight.
- 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.
- Manual Pump 10,000 psi, Pneumatic Pump 10,000 psi or Electric Pump 1HP motor 110V single phase 15 AMP, ValPower® offers rugged industrial duty hydraulic power units that will meet the demanding requirements of industrial users. Both manual and air pumps have aluminum reservoirs and all electric models have steel reservoirs to withstand the temperature and service conditions of industrial use.
- A 10,000 psi hose and quick disconnect fitting has been included with the crimper to connect to any of the optional power units to the D100S-T420 cylinder port.





10,000 psi Hose Assembly W/ 3/8 Quick Connect Male Tip



3/8 Quick Disconnect Female Installed



LUBRICATION PROCEDURE

Grease Point #1

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



Photo #1



Grease Point # 2

Before sliding the standard pressure plate or the notched pressure plate over the correct dies, place a thin layer of CrimpX oil (supplied with crimper) or a high pressure molybdenum high pressure grease on the entire area that dies come in contact with (as shown in photo # 2).

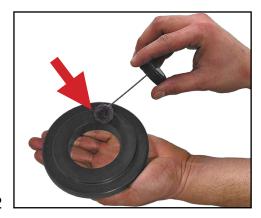


Photo #2

Notched Pressure Plate:

For use with 90 degree fitting only.



If Dies are sticking in the surface of the bottom flange:

Continue to lubricate / grease as explained above in addition to lubricating each die finger individually. (as shown in photo # 3).

Note: The die fingers must be lubricated at both positions that come in contact with the pressure plate and the bottom flange.

Note: Lubrication is not required before each crimp.

Typical lubrication is after 100 crimps.

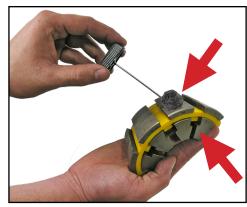


Photo #3

Note: Follow the lubrication procedure prior to crimping procedure.

CAUTION: Failure to lubricate the die set and T420 pressure plate could result in the die seizing in the cone base.

Step 1: Make certain that the **Cone Base** is clean and lubricated prior to inserting the die set.



Step 2: Select the **Correct Die Set** for the combination of hose and fitting being crimped.

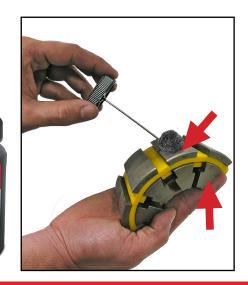
Note: Consult your hose and fitting manufacturer for the correct die size for the combination of hose and fitting being crimped.

Note: The number etched on the OD of the die ring represents the fully closed diameter of the die set in millimeters. In addition, die sets are rubber caged color-coded for easier identification.



Step 3: Lubricate the contact surfaces, both top and outside edges of the die fingers, with CrimpX oil (supplied with crimper) or a high pressure molybdenum high pressure grease.

Failure to lubricate the contact surfaces with the correct lubricant will cause the dies to seize in the cone base, causing damage to the die set as well as possibly damaging the crimper.



Step 4: Place the Lubricated Die Set squarely in the cone base.

Note: Make sure the split of the die cages is facing the operator. (as shown).





Step 5: Align the fitting in the die set according to the hose and fitting manufacturer's recommendation.

Note: Compress the die set by hand to hold the hose and fitting in place.



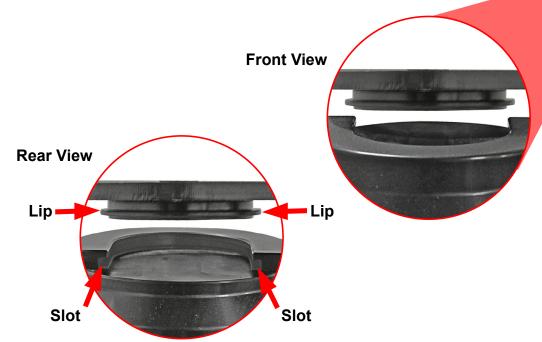
Step 6: Place the Lubricated Standard Pressure Plate over the die set.



Step 7: Slide the **Pusher** onto the pusher retaining ring on the hydraulic cylinder.

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

CAUTION: Damage to pusher and retaining ring can occur if misaligned.





Note: Make sure the pusher is positioned correctly as shown.



Step 8: Set the Micro-Crimp Adjuster to the setting recommended by the hose and fitting manufacturer for the combination of hose and fitting being crimped.

For example: With a 23mm die set and the Micro-Crimp Adjuster set at 3.0, the finished crimp diameter would be 26.0 mm (23mm + 3.0mm).

Note: Each die set has a limited range of diameters for which a satisfactory crimp can be obtained. Always consult your hose and fitting manufacturer for the correct die set for the hose and fitting being crimped.

Step 9: Apply pressure to the (Hand or Pneumatic Pump), to bring the pusher in contact with the compression ring until the hose and fitting are held in position with very light pressure.

- Check to make sure the notched compression ring is evenly placed on the die set and the die set is correctly aligned.
- Recheck the fitting for alignment.

Step 10: Continue to apply pressure as pusher travels downward, compressing the compression ring onto the die set to crimp the coupling.

As the micrometer moves down, it will touch the red button and the LED indicator light will turn on to indicate that the crimp is complete.

Release pressure so the pusher will retract.



Step 11: Check the final crimp diameter with calipers to confirm that it is within manufacturer's specifications.

Note: Always consult with your hose and fitting manufacturer to obtain the must current crimp specifications.







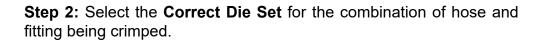


WHEN USING THE NOTCHED T420 PRESSURE PLATE, FOR USE WITH 90 DEGREE FITTING ONLY, FOLLOW THESE PROCEDURES:

Note: Follow the lubrication procedure prior to crimping procedure.

CAUTION: Failure to lubricate the die set and pressure plate could result in the die seizing in the cone base.

Step 1: Make certain that the **Cone Base** is clean and lubricated prior to inserting the die set.



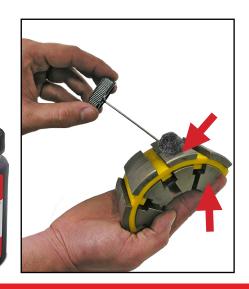
Note: Consult your hose and fitting manufacturer for the correct die size for the combination of hose and fitting being crimped.

Note: The number etched on the OD of the die ring represents the fully closed diameter of the die set in millimeters. In addition, die sets are rubber caged color-coded for easier identification.



Step 3: Lubricate the contact surfaces, both top and outside edges of the die fingers, with CrimpX oil (supplied with crimper) or a high pressure molybdenum high pressure grease.

Failure to lubricate the contact surfaces with the correct lubricant will cause the dies to seize in the cone base, causing damage to the die set as well as possibly damaging the crimper.



Step 4: Place the Lubricated Die Set squarely in the cone base.

Note: Make sure the split of the die cages is facing the operator. (as shown).





Step 5: Align the **90 degree fitting** in the die set according to the hose and fitting manufacturer's recommendation.

Note: Compress the die set by hand to hold the hose and fitting in place.



Step 6: Place the Lubricated Notched Pressure Plate over the die set.

Note: The notched pressure plate <u>MUST</u> be covering all 8 die fingers as shown.







Step 7: CAUTION: DO NOT MISALIGN NOTCHED PRESSURE PLATE OR DAMAGE WILL OCCUR.

Note: You MUST follow these steps when crimping with the notched pressure plate.

A. Die split must face operator.

B. Notched Pressure Plate <u>MUST</u> to cover all 8 die fingers.

Or damage can occur to die fingers if parts aren't aligned properly.



Wrong Alignment





Broken Die Finger



Step 8: After placing the notched pressure plate covering all 8 die fingers as shown, slide the **Pusher** onto the pusher retaining ring on the hydraulic cylinder.

Note: Make sure slot in pusher goes over lip on pusher retaining ring. Refer to page 11 for details if needed.

CAUTION: Damage to pusher and retaining ring can occur if misaligned.

Note: Recheck that the notched pressure plate is covering all 8 die fingers.



Step 9: Set the Micro-Crimp Adjuster to the setting recommended by the hose and fitting manufacturer for the combination of hose and fitting being crimped.

For example: With a 23mm die set and the Micro-Crimp Adjuster set at 3.0, the finished crimp diameter would be 26.0 mm (23mm + 3.0mm).

Note: Each die set has a limited range of diameters for which a satisfactory crimp can be obtained. Always consult your hose and fitting manufacturer for the correct die set for the hose and fitting being crimped.

Step 10: Apply pressure to the (Hand or Pneumatic Pump), to bring the pusher in contact with the compression ring until the hose and fitting are held in position with very light pressure.

- Check to make sure the notched compression ring is evenly placed on the die set and the die set is correctly aligned.
- · Recheck the fitting for alignment.

Step 11: Continue to apply pressure as pusher travels downward, compressing the compression ring onto the die set to crimp the coupling.

As the micrometer moves down, it will touch the red button and the LED indicator light will turn on to indicate that the crimp is complete.

Release pressure so the pusher will retract.



Step 12: Check the final crimp diameter with calipers to confirm that it is within manufacturer's specifications.

Note: Always consult with your hose and fitting manufacturer to obtain the must current crimp specifications.









CALIBRATION CHECK PROCEDURE

THE CRIMPER IS CALIBRATED PRIOR TO SHIPMENT, BUT A CALIBRATION CHECK IS RECOMMENDED PRIOR TO USING THE CRIMPER FOR THE FIRST TIME.

Note: Follow the lubrication procedure prior to calibration check.

CAUTION: Failure to lubricate the die set and pressure plate could result in the die seizing in the cone base.

Step 1: Make certain that the **Cone Base** is clean and lubricated prior to inserting the die set.



Step 2: Place **Any Lubricated Die Set** squarely in the cone base.

Note: Make sure the split of the die cages is facing the operator. (as shown).





Step 3: Place the **Lubricated T420 Pressure Plate** over the die set.

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



CALIBRATION CHECK PROCEDURE

Step 4: Slide the **Pusher** onto the pusher retaining ring on the hydraulic cylinder.

Note: Make sure slot in pusher goes over lip on pusher retaining ring Refer to page 11 for details if needed.

CAUTION: Damage to pusher and retaining ring can occur if misaligned.



Step 5: Set the T420 Micro-Crimp Adjuster at "0".



Step 6: Apply pressure to the (Hand or Pneumatic Pump), to bring the pusher in contact with the compression ring.



CALIBRATION CHECK PROCEDURE

Step 7: Continue to apply pressure, If the ram extends, the dies are completely closed, the micrometer touched the red button, and the LED indicator light is turned on as shown, the crimper is correctly calibrated. Release pressure so the pusher will retract.

Note: If the LED Indicator Light becomes faint, replace the (2) AA batteries as needed. (Refer to instructions on page 20).





Step 8: 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.

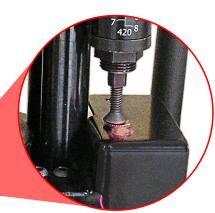
Note: 1/4 turn of screw will change crimp diameter approximately 0.008".

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



HOW TO REPLACE THE LED INDICATOR LIGHT BATTERIES





The LED Indicator Light beginning to diminish.









Note: If the LED Indicator Light becomes diminish/weak/and or if the LED indicator does not light up, replace the (2) AA batteries as needed.

- 1. Use a # 0 Phillip-head screwdriver, to remove the screw.
- 2. Slide the cover towards the back to remove it.
- 3. Replace the (2) AA batteries.
- 4. Slide the cover towards the front until it locks into place, and secure it with the screw.

INCLUDED ACCESSORIES



T420 Micrometer P/N:103085



Pusher P/N:100825



Standard T420 Pressure Plate P/N:104651



Die Removal Magnet P/N:104679



3/8 Quick Disconnect Female Installed



10,000 psi Hose Assembly W/ 3/8 Quick Connect Male Tip



CRIMPX Die Lubricant Oil: 4 oz bottle with dauber cap P/N:103886

AVAILABLE ACCESSORIES



ValPower® Hand Pump 10,000 psi (Optional) P/N:VHP-10-25



ValPower® Hand Pump 10,000 psi P/N:VHP-10-43



ValPower® Pneumatic Pump 10,000 psi P/N:VAP-10-100



ValPower® Multi-Electric Pump



Notched T420 Pressure Plate P/N:104919



Die Storage Shelf P/N:101431



T420 Rubber Die Cages



CRIMPX Die Lubricant: Grease 4 oz can with brush P/N:104162



CustomCrimp® Notched Digital Caliper IN/MM P/N:CC-Caliper

TROUBLESHOOTING

PROBLEM: CRIMPER WILL NOT RUN AT ALL (THIS IS ONLY WHEN USING AN ELECTRIC PUMP)

- The white rocker switch is also a circuit breaker. Check to see that the circuit breaker has not been tripped.
- Check the wall outlet. The crimper comes from the factory wired for a 115 volt single phase circuit. Use of extension cords or outlets with inadequate power can damage the motor. Do not run the crimper from a portable power source.
- Check the stop switch mounted to the switch bracket under the Micro-Crimp Adjuster. This is a normally closed switch
 and if it does not close the crimper will not operate.
 CAUTION: Do not operate the crimper with this switch jumpered as the pump will not shut off and the brackets can be
- Check the pneumatically actuated switch in the electrical box mounted on the motor. This switch controls power to the motor and is actuated with air pressure from the pendant switch bulb.

PROBLEM: CRIMP DIAMETER TOO LARGE

- Incorrect setting of the Micro-Crimp Adjuster. Check crimp specifications.
 (NOTE: All published machine settings are approximate. To correct for slight variances, the gauge settings may need to be adjusted for the specific hose, fitting and size combination).
- Incorrect die being used. Each die has a useable range of approximately 3mm (.120 in) above the closed diameter of the die. The closed diameter is the die size stamped on the die ring.
- Check crimper calibration and re-calibrate if required.
- Inadequate pump pressure, only for electric pump check oil level in the pump. It should be 1-1/2 to 2 inches below the fill plug.
- For hand pump check the oil level to make sure it is building accurate pressure.
- · Replenish with ISO Viscosity Grade 46 hydraulic oil.
- Inadequate lubrication of the dies and compression ring causing the pump to work harder than normal to reach the required diameter. Use only the crimpx oil / grease shipped with the machine or a high pressure molybdenum high pressure grease (equivalent).
- Inadequate pressure being generated by the pump. This is most likely if the crimper can crimp the smaller size hoses and not the larger hoses. When correctly adjusted, the pump should generate approximately 10,000 psi.

 Do Not adjust pump to produce in excess of 10,000 psi as damage to components or personal injury may result.
- No pressure being generated by the pump. There should be a definite change in pitch of the pump as it cycles into high pressure mode and begins to "work" harder.

PROBLEM: CRIMP DIAMETER TOO SMALL

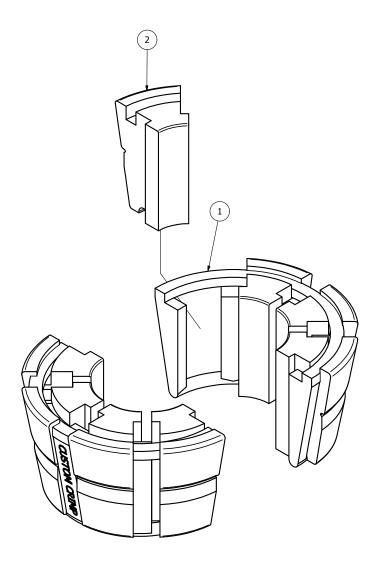
- Incorrect setting of the Micro-Crimp Adjuster. Check crimp specifications.
 (NOTE: All published machine settings are approximate. To correct for slight variances, the gauge settings may be adjusted for the specific hose, fitting and size combination).
- Incorrect die being used (See die range under Crimp Diameter Too Large).
- · Check crimp diameter and re-calibrate if necessary.

PROBLEM: DIES STICKING IN COMPRESSION RING

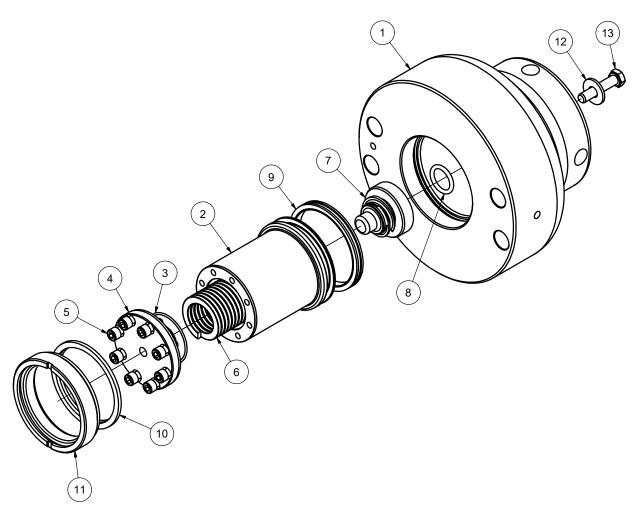
- Inadequate lubrication of the compression ring and die surfaces. Use only the crimpx oil / grease shipped with the machine or a high pressure molybdenum high pressure grease (equivalent).
- Refer to Lubrication Procedure for more details.

COMPONENT PARTS BREAKDOWN

		T420 SERIES DIE	PARTS (AI-102254)						
ITEM	I	PART NUMBER	DESCRIPTION	QTY					
1		102997-XX	CUSTOM CRIMP DIE CAGE	2		_	_	A.	
2	VARIES	WITH THE DIE SIZE	8 PC DIE FINGER SET	8					
					•				
	CUST	OM CRIMP DIE CAGE H	ALF T420 SERIES						
PART N	UMBER	Di	SCRIPTION	,					THE STATE OF THE S
102997-BL	ACK	T420 CUSTOM CRIMP I	DIE CAGE HALF-BLACK						
102997-BL	.UE	T420 CUSTOM CRIMP I	DIE CAGE HALF-BLUE						
102997-BR	ROWN	T420 CUSTOM CRIMP I	DIE CAGE HALF-BROWN					A TO	
102997-GF	REEN	T420 CUSTOM CRIMP I	DIE CAGE HALF-GREEN						
102997-OF	RANGE	T420 CUSTOM CRIMP I	DIE CAGE HALF-ORANGE						
102997-SII	LVER	T420 CUSTOM CRIMP I	DIE CAGE HALF-SILVER						
102997-RE	D	T420 CUSTOM CRIMP I	DIE CAGE HALF-RED				1		
102997-YE	LLOW	T420 CUSTOM CRIMP I	DIE CAGE HALF-YELLOW						
102997-PU	JRPLE	T420 CUSTOM CRIMP I	DIE CAGE HALF-PURPLE						

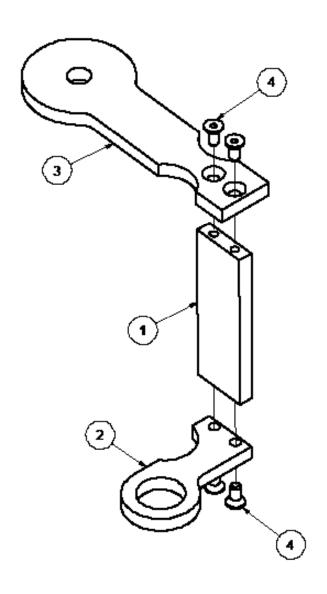


COMPONENT PARTS BREAKDOWN



35 Ton Cylinder / Flange Assembly (103122)				
ITEM	ITEM PART NUMBER DESCRIPTION		QTY	
1	102511	Cylinder Body	1	
2	101515	Cylinder Piston	1	
3	030D90	030 Disogrin O-Ring	1	
4	100689	Cylinder Piston Cap	1	
5	91251A539	1/4-20 X 5/8 SHCS	8	
6	101282	Cylinder Spring	1	
7	101516	Spring Plug	1	
8	210D90	210 Disogrin O-Ring	1	
9	TP032	T-Seal	1	
10	SH959-26	Ram Wiper	1	
11	101514	Cylinder Retaining Ring	1	
12	90108A415	5/16 Flat Washer	1	
13	92865A587	5/16-18 x 1.50 HHCS	1	

COMPONENT PARTS BREAKDOWN



D105 Micrometer Mount Assembly (101788)			
tem	Part Number	Description	Qty
1	100898-01	Micrometer Arm	1
2	100898-02	Micrometer Base	1
3	100898-03	Micrometer Suspension Flange	1
4	91253A189	8-32 x 1/4 HSFHS	4

CUSTOMCRIMP® "NO-NONSENSE" WARRANTY STATEMENT

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

Any Custom Crimp® Product proven to be defective in workmanship or material will be repaired or replaced at no charge. To obtain benefits of this warranty, first, contact Warranty Repair Department at Custom Machining Services at **(219) 462-6128** and then deliver via prepaid transportation the complete hydraulic product to:

ATTN: WARRANTY REPAIR DEPT. Custom Machining Services, Inc. 318 North Co. Rd 400 East Valparaiso IN 46383

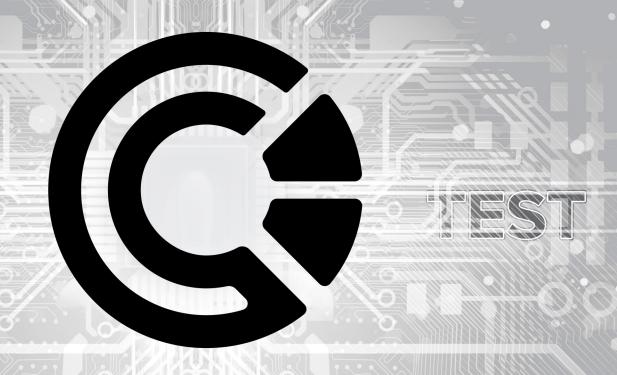
If any product or part manufactured by Custom Crimp® is found to be defective by Custom Crimp®, at its option, Custom Crimp® will either repair or replace the defective part or product and return via ground transportation, freight prepaid.

Custom Crimp® will not cover any incoming or outgoing freight charges for machines sold outside The United States.

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.





CUSTOM CRIMP®, YOUR SINGLE SOURCE FOR HOSE ASSEMBLY PRODUCTS.

CUSTOM CRIMP® I Custom Machining Services, Inc. 326 North 400 East Valparaiso, IN 46383



Visit us at: www.customcrimp.com



For sales: ccsales@customcrimp.us



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