

CUSTOM[®] CRIMP



**CC1000 CRIMPER OPERATORS MANUAL
WITH ACT[™] CONTROLLER**



SAFETY PRECAUTIONS



**READ INSTRUCTIONS AND IDENTIFY ALL COMPONENT PARTS
BEFORE USING CRIMPER**

KEEP HANDS AWAY FROM PINCH POINTS

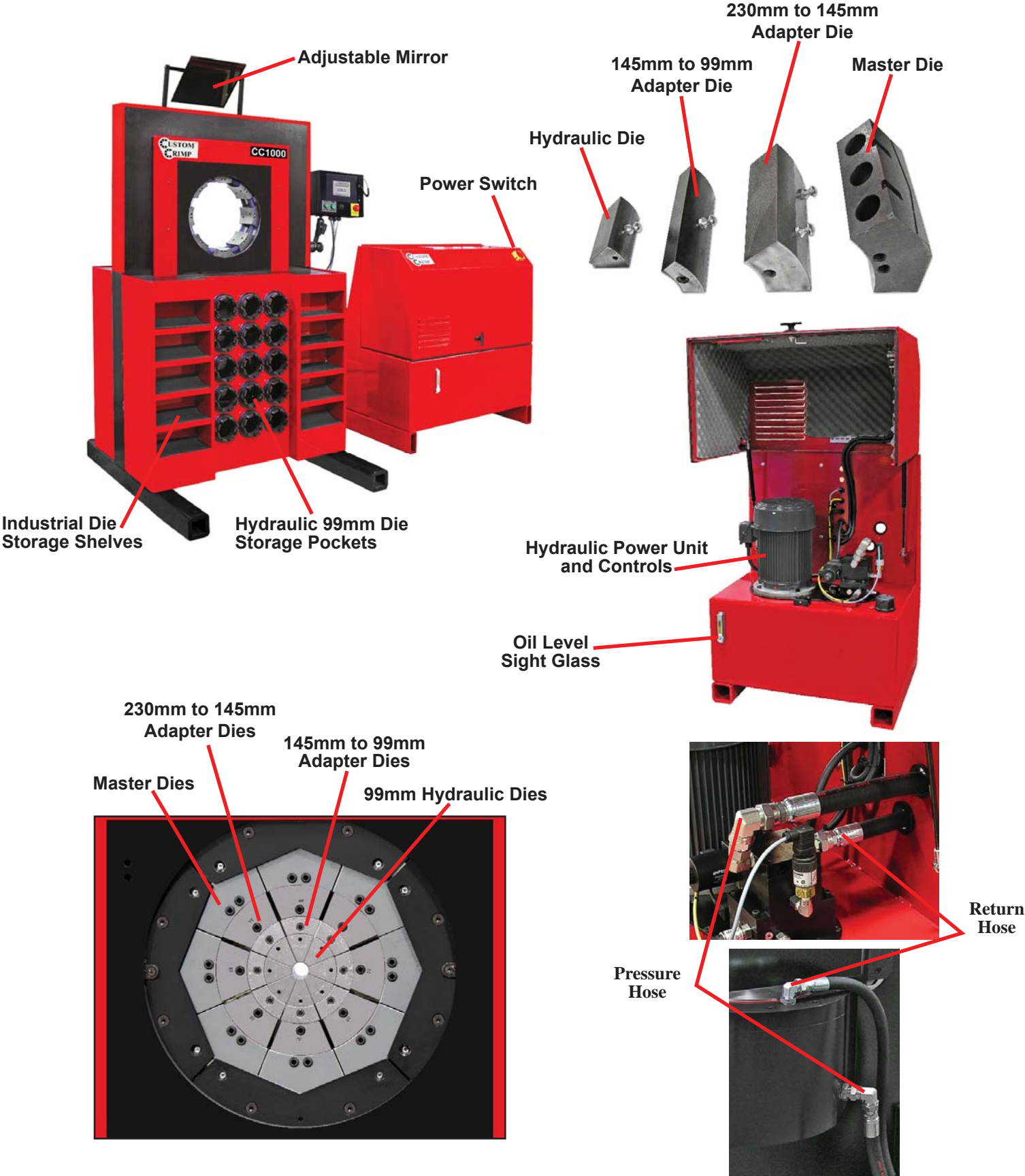
**CONSULT HOSE AND FITTING MANUFACTURER'S
SPECIFICATIONS FOR CORRECT MACHINE SETTINGS AND
CRIMP MEASUREMENTS**

ALWAYS WEAR EYE PROTECTION

COMPONENT PARTS IDENTIFICATION	3
SPECIFICATIONS AND INITIAL SET UP	4
ACT™ CONTROL OPERATION	5
DIE SET UP AND INSTALLATION	13
INITIAL SET UP AND MAINTENANCE	14
TROUBLESHOOTING	15
EXPLODED PARTS BREAKDOWN	16

For Parts and Service, Contact:
Custom Machining Services, Inc.
Valparaiso, In 46383
(219) 462-6128

COMPONENT PART IDENTIFICATION



CRIMPER SPECIFICATIONS AND INITIAL SET UP

SPECIFICATIONS:

MAX HEAD OPENING W/O DIES	-----350 MM (13.7 IN)
MASTER DIE INSIDE DIAMETER	-----230 MM (9.1 IN)
MAXIMUM DIE OPENING	-----DIE CLOSED DIAMETER + 125 MM
CRIMPER SIZE	-----44 IN WIDE X 30 IN DEEP X 74 IN HIGH
WEIGHT	-----6185 LB. (2904 KG)
ELECTRICAL REQUIREMENTS	-----220 VOLT 3 PHASE (STANDARD) ----- 440 VOLT 3 PHASE (OPTIONAL)
MOTOR	-----7.5 HP (2 STAGE PUMP)
RESERVOIR CAPACITY	-----50 US GAL
OIL TYPE	-----ISO 46 HYDRAULIC OIL
ADAPTER DIES	-----230 MM TO 145 MM AND 145 MM TO 99 MM
HOSE CAPACITY	-----2-1/2 INCH 6 SPIRAL -----10 INCH INDUSTRIAL

INITIAL CRIMPER SET UP

- CHECK RESERVOIR OIL LEVEL WITH SIGHT GLASS ON THE FRONT OF THE POWER UNIT.
- CHECK ELECTRICAL CIRCUIT TO BE CERTAIN THAT IT MATCHES THE CRIMPER REQUIREMENTS AS SHOWN ON THE TAG ATTACHED TO THE CRIMPER CORD.
- MAKE CERTAIN THAT MOTOR ROTATES IN THE DIRECTION OF THE ARROW SHOWN ON THE MOTOR HOUSING.
- IF MOTOR ROTATION IS INCORRECT REVERSE ANY TWO HOT WIRES IN THE CRIMPER PLUG.
- CONNECT THE PRESSURE AND RETURN HOSES AS SHOWN AND CONNECT THE YELLOW ELECTRICAL CORD TO THE CONTROL PANEL.
- ALSO SEE ADDITIONAL INFORMATION ON THE INITIAL SET UP AND MAINTENANCE PAGE.

AccuCrimp ACT™ CONTROL PANEL

U.S. Patent No: 7,383,709

TOUCH SCREEN CONTROL PANEL



MANUAL MODE FUNCTION: CLOSE DIES
AUTO MODE FUNCTION: CYCLE START

MANUAL MODE FUNCTION: OPEN DIES
AUTO MODE FUNCTION: CYCLE STOP

EMERGENCY
STOP

NOTE:

IF THE CRIMPER IS IN **MANUAL MODE**, THE GREEN OPEN/CLOSE BUTTONS WILL OPEN AND CLOSE THE CRIMPER HEAD.

IF THE CRIMPER IS IN **AUTO MODE**, THE BUTTONS FUNCTION AS CYCLE START AND CYCLE STOP BUTTONS.

IF THE CRIMPER IS IN **SEMI-AUTO MODE**, PRESSING THE FOOT SWITCH OR THE CLOSE BUTTON WILL CLOSE THE CRIMPER HEAD AND RELEASING WILL HALT THE CLOSING ACTION.

ACT™ CONTROLLER QUICK START

While the ACT™ crimper has the ability to perform a number of fully automatic functions, manual operation is also possible. To make a manual crimp, two numbers are needed:

- **The closed diameter of the die** (in either in or mm)
- **The finished crimp diameter** (in either in or mm)

That's all you need to know. ACT™ does the rest.



TO MAKE A MANUAL CRIMP:

- Press **START MOTOR**.
- Select **CRIMP TO DIAMETER**.
- Enter the closed diameter of the die set in either in or mm and press **ENTER**.

*Note: for a 25mm die, enter 2500. ACT™ will add 2 decimal places.
for a 1.5 inch die, enter 1500, ACT™ will add 3 decimal places.*

- Enter the finished crimp diameter and press **ENTER**.
- From the **ENTER CRIMP** screen, press the **MANUAL** button to put the crimper in manual mode.
- Confirm that the die and finished crimp diameters are correct and that **MANUAL MODE** is displayed.
- Press and hold the green close button until the crimper stops closing.
- Check the final crimp diameter. If a minor correction is required see [HOW TO MAKE MINOR CORRECTIONS](#).

*Tip: Pressing the **CHANGE DIES** button allows the crimper head to be fully opened or closed with the green **OPEN-CLOSE** buttons on the controller front panel. When the **CHANGE DIES** button is blinking the dies can be opened and closed manually without altering any of the crimper settings.*

HOW TO MAKE MINOR CORRECTIONS

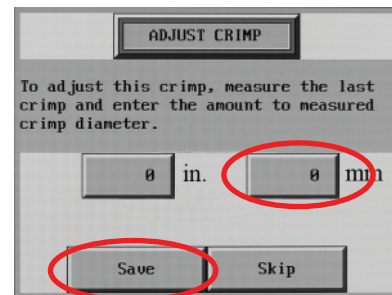
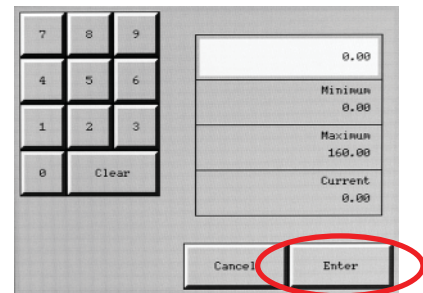
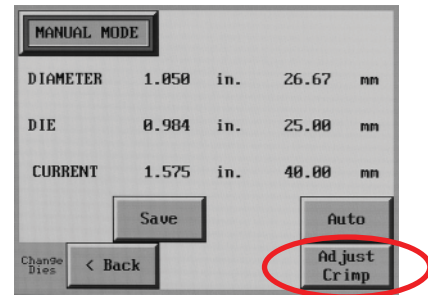
Due to variations in hose and fitting tolerances a minor crimp adjustment may be required if the measured diameter of the final crimp is not within the hose and fitting manufacturer's specifications. ACT™ technology makes minor corrections a simple process which requires no addition or subtraction.

If the finished crimp diameter is not within the required specifications:

- Press the **ADJUST CRIMP** button.
- Enter the measured diameter of the fitting in either inches or mm (**Do not enter the amount of correction**) and press **ENTER**
- Press **SAVE**.
- Make another crimp and verify that the fitting is within specifications.

EXAMPLE: *If the hose and fitting manufacturer specifies that the finished crimp should measure 1.500 to 1.520 and the measured crimp diameter was 1.530, simply enter the measured diameter (1530 - Controller will supply 3 decimal places) and press **SAVE**. The finished crimp diameter can be entered in either in or mm and ACT™ will make the conversion.*

While a single correction will usually bring the hose and fitting into specifications, the process can be repeated as many times as is required.



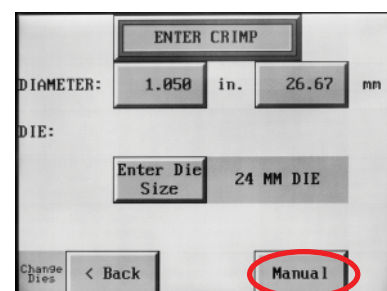
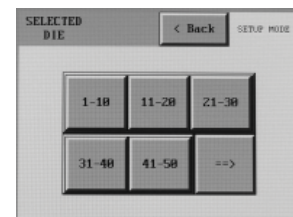
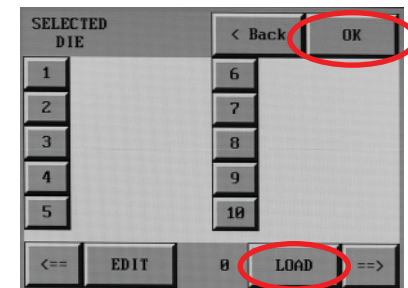
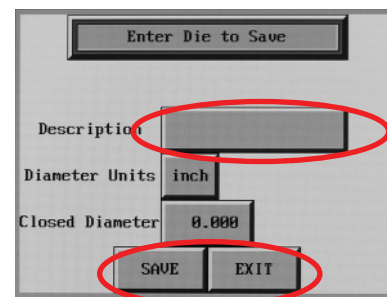
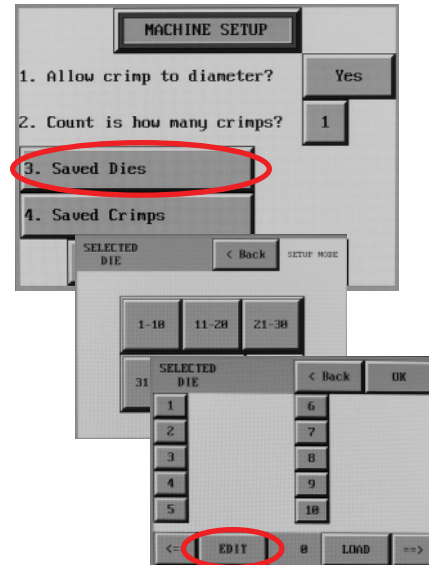
HOW TO ADD A SAVED DIE

Up to 50 different dies can be saved in the computer memory. These dies can be recalled in the set up process eliminating the need to re-enter the die size each time.

To enter a saved die:

- From the **OPTION** screen, press **SETUP MODE**.
- Select **SAVED DIES**.
- Select the save position (1-50) where the die is to be saved and press the **EDIT** button.
- Enter a die description (up to 12 alpha/numeric characters).
- Enter diameter units (inch or metric).
- Enter the closed diameter of the die.
- Press **SAVE** and **EXIT**.

The saved die will now appear on the **SELECTED DIE** screen. From this screen individual dies can be cleared or edited.



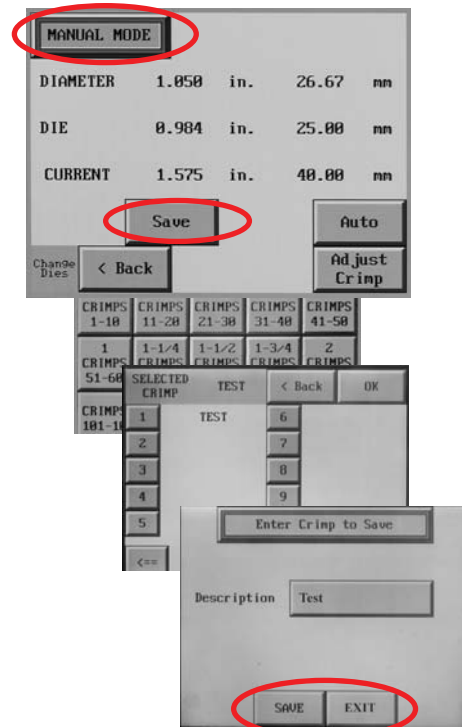
HOW TO RECALL A SAVED DIE

- Select **CRIMP TO DIAMETER**, and from the **OPTION** screen, select **USE SAVED DIE**.
- Select the saved die (1-50) and press **LOAD** and then **OK**. The die parameters will now be used for the crimp process.
- From the **ENTER CRIMP** screen press **MANUAL**.
- The saved die will now be shown on the crimp parameters screen.

HOW TO ADD A SAVED CRIMP

- Adjust the die diameter and crimp diameter as required and place the crimper in **MANUAL** mode.
- Press **SAVE**.
- Select a location (1-150) and press **EDIT**.
- Enter a description (up to 12 characters).
- Press **SAVE** and **EXIT**.

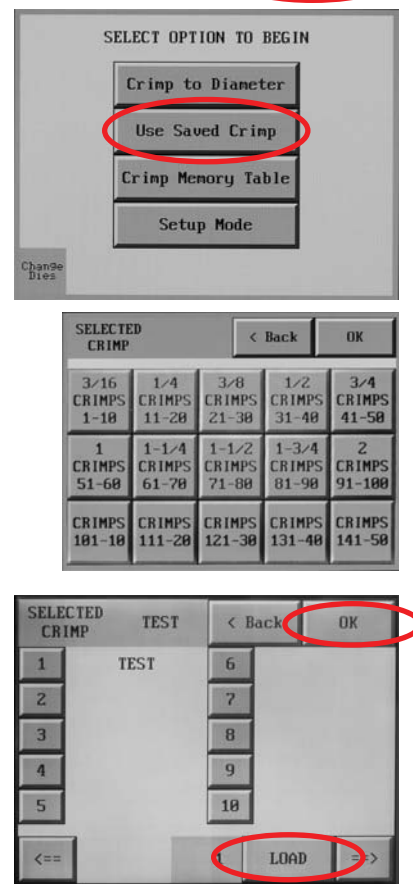
The die and crimp setting can now be recalled from the saved location as required.



TO RECALL SAVED CRIMP

- Select USE SAVED CRIMP from the option screen.
- Select a previously saved crimp from location 1-150.
- Press LOAD.

The saved crimp will appear on the manual screen.



FULL AUTO MODE

With the crimper in **FULL AUTO** mode additional functions are available:

- The crimper will cycle automatically from the **CRIMP** button on the touch screen, the green **CYCLE START** button on the panel, or the foot switch.
- To set the position to which the dies will retract, close the crimper to the desired retract position prior to pressing the **FULL AUTO** button.
- Pressing the **FULL AUTO** button will toggle the crimper into **SEMI-AUTO** mode. In **SEMI-AUTO** mode, pressing the **FOOT SWITCH** or the **CLOSE** button will close the crimper head and releasing it will cause the head to stop closing. This mode allows the crimper to be jogged into position allowing more precise positioning of a fitting in the dies. Pressing the **SEMI AUTO** button will toggle the crimper back to **FULL AUTO** mode.

In **FULL AUTO** mode pressing the foot switch will start the crimp cycle and the dies will stop closing when the crimp cycle is complete

- The **COUNT** function is activated allowing the operator to monitor the number of crimps made.
- A measurement can be required after a preset number of crimps. See **SET REQUIRED MEASUREMENT**.

FULL-AUTO				
DIAMETER	0.000	in.	0.00	mm
DIE	0.000	in.	0.00	mm
CURRENT	0.000	in.	0.00	mm
COUNT	0	Adjust Count	Manual	
Production	Crimp	Adjust Crimp		

SEMI-AUTO				
DIAMETER	0.000	in.	0.00	mm
DIE	0.000	in.	0.00	mm
CURRENT	0.000	in.	0.00	mm
COUNT	0	Adjust Count	Manual	
Production		Adjust Crimp		

SET REQUIRED MEASUREMENT

- Press the **PRODUCTION** button.
- Determine if 1 or 2 crimps will count as a crimp.
- Toggle the **CRIMP ADJUSTMENT REMINDER** to **ON**.
- Set the **COUNTS BETWEEN CRIMP MEASUREMENTS** to the desired number and press **OK**.
- At the set interval, the **ADJUST CRIMP** screen will come up and the operator will be asked to measure the last crimp and enter a correction if required.

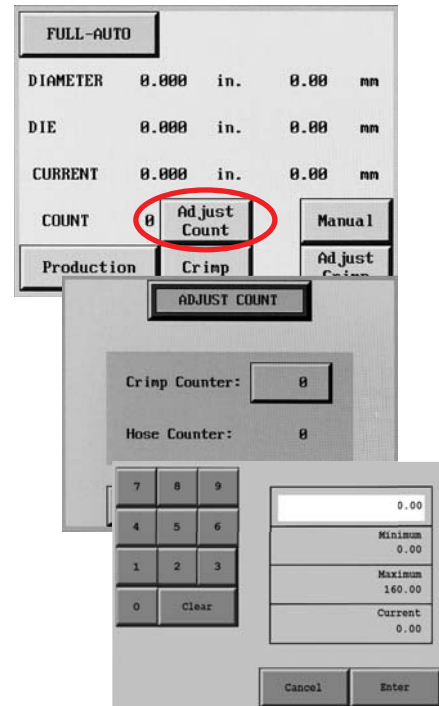
PRODUCTION SETTINGS	
COUNT IS HOW MANY CRIMPS	1
CRIMP ADJUSTMENT REMINDER	On
COUNTS BETWEEN CRIMP MEASUREMENTS	0
CRIMP MEASUREMENT UNITS	in
OK	CANCEL

ADJUST CRIMP			
To adjust this crimp, measure the last crimp and enter the amount to measured crimp diameter.			
0	in.	0	mm
Save		Skip	

ADJUST CRIMP COUNT

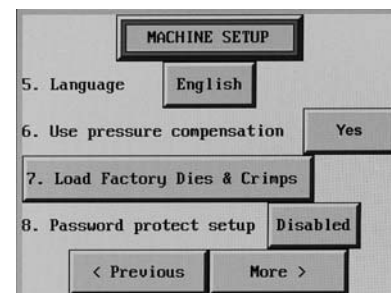
If a production operation is interrupted for some reason, it is possible to reset the counter to where the operation was at the point of interruption.

- Press the **Adjust Count** button from the auto crimp screen.
- Press the **Crimp Counter** and reset the count to the desired point.



ACT™ ADDITIONAL FEATURES

- Additional features and functions of the ACT™ controller can be accessed by pressing the **MORE** button on the **MACHINE SET UP** screen.
- When “Allow Crimp to Diameter” is set to “**YES**”, all of the adjustment functions of the crimper are available. When “Allow Crimp to Diameter” is set to “**NO**” only the settings entered as a saved crimp can be used.
- English or Spanish language options are available.
- The “Use Pressure Compensation” is set to “**YES**” for all crimpers equipped with a pressure transducer. A security code is required to turn this function on or off.

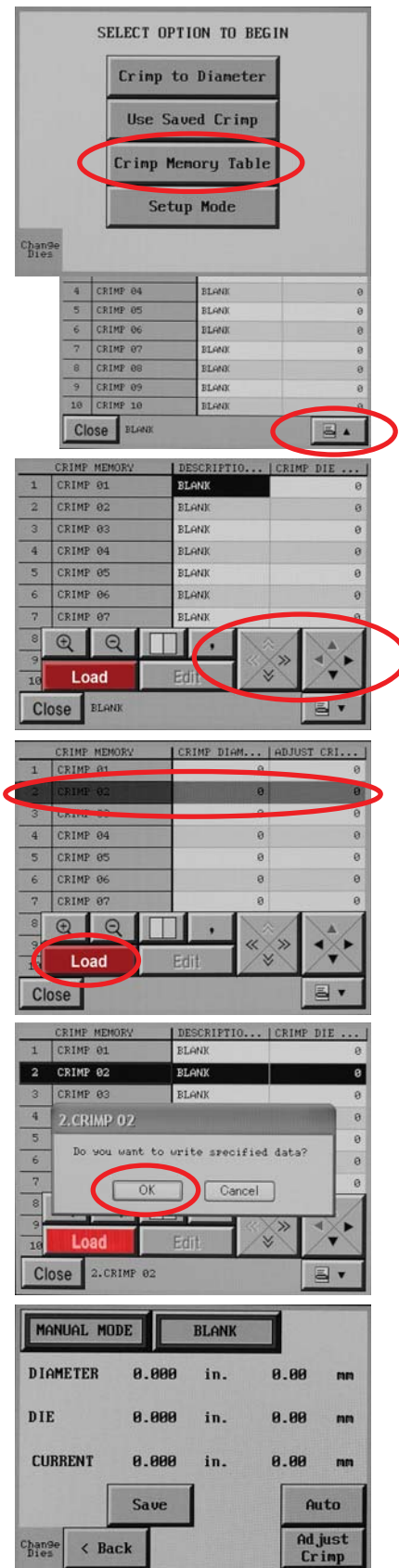


ACT™ ADDITIONAL FEATURES

Pre-Loaded Crimp Specifications

In addition to the ability to store up to 50 user entered dies and 100 user entered crimp settings, the ACT™ Controller has the capability of accepting pre loaded manufacturer's crimp specifications. Custom Crimp® does not maintain these specifications as they are proprietary to the individual hose and fitting manufacturer. If, however, your ACT™ Controller was pre loaded with a manufacturer's crimp specifications or if they are available to you, they are accessed in the following manner:

- Press the **Crimp Memory Table** Button.
- Press the access button to bring up the stored crimp specifications.
- Scroll through the crimp specifications to select the correct one. The right hand rocker button moves through the crimp specs one line at a time and the left hand rocker button moves one screen at a time.
- When the correct crimp specification is selected, press the highlighted selection and then the Load button and select OK to write the data to the ACT™ Controller.
- This will bring up the familiar crimp screen and the crimper can then be operated in the normal manner.



INDUSTRIAL CRIMP CALCULATOR

The Industrial Hose Crimp Calculator is part of the ACT™ controller package on many Custom Crimp® crimpers capable of crimping industrial hoses. With a few simple measurements, it takes the guess work out of industrial hose crimping and eliminates the need for charts and graphs.

Note: Not all ACT™ controllers have the Industrial Crimp Calculator software. Contact your sales specialist for information on a specific crimper.



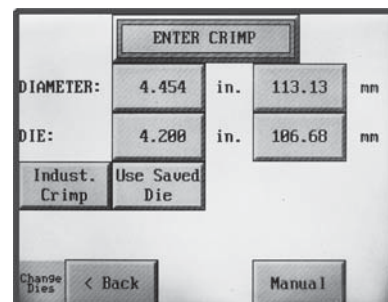
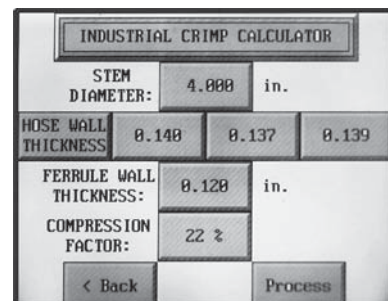
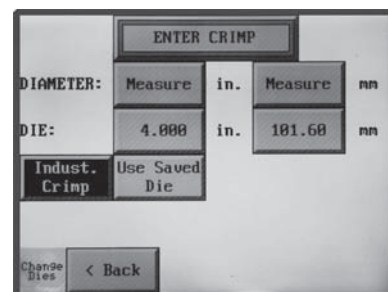
- Press the **CRIMP TO DIAMETER** button
- Press the **INDUSTRIAL CRIMP** Button
- Press **MEASURE**
If the hose diameter is known or a pi tape is being used, enter the hose O.D.
If hose O.D. is not known, press **MEASURE** for wall thickness options
- Measure the wall thickness of the hose. Press the right arrow and take 2 more measurements of the hose wall thickness. The Industrial Crimp Calculator will average the three measurements.
- Enter the stem diameter of the fitting. For example: If the stem diameter is 4 inches, you would enter 4000 and the ACT™ controller would supply the decimal place.
- Measure and enter the wall thickness of the ferrule
- Next enter a compression factor. While this can vary depending upon the specific hose and manufacturer, the following guidelines are a starting point:

Standard Industrial hose (approximately 1/4 inch wall thickness): 22%

Standard lay flat hose: 11%

Note: Contact your hose and fitting manufacturer for the compression factor to use on a specific hose and ferrule,

- Press **PROCESS** and enter the die diameter if you have not already done so.
- Select and install the correct die set for the combination of hose and fitting being crimped.
- Press **MANUAL** and proceed to crimp the hose



DIE INSTALLATION AND REMOVAL

Adapter Die Installation

230 mm to 145 mm and 145 mm to 99 mm Adapter Dies are available with the crimper. Adapter dies are held in place by the locking screws as shown in the illustration. Hydraulic dies can either be installed manually or with the die removal tool as shown.

The I.D. of intermediate adapter dies must match the O.D. of the corresponding adapter die or hydraulic die or accurate crimps can not be made.

Hydraulic Die Installation

- Install the 230mm to 145mm and 145mm to 99mm Intermediate Adapter Dies as shown making certain that the Intermediate Adapter Die I.D. matches the Hydraulic Die O.D.
- Remove the Hydraulic Dies from their holder with the magnetic die insertion tool as shown.
- The die size stamped on the face of the die should face toward the operator.
- Align the studs of the Hydraulic Dies with the holes in the Adapter Dies and with the crimper in manual mode **SLOWLY** close the crimper head on the die set.
- Bring the crimper head to a fully closed position and remove the die insertion tool.

The dies may also be inserted manually with the crimper head in the fully open position.

Proceed to the ACT™ operating instructions to set up the crimper for the hose and fitting being crimped.

For Hydraulic Die removal, place the crimper in manual mode and bring the crimper head to the fully closed position. Insert the die removal tool and open the crimper head releasing the Hydraulic Dies from their spring retention holes.

*Press the **CHANGE DIES** button on the controller to easily open and close the master dies without affecting crimper settings*

Note that on the CC1000, the master dies must be slightly closed in order to completely insert the die removal tool.



INITIAL SET UP AND PLC RESET

Initial Setup

Check to be certain that the motor rotates in the direction of the arrow shown on the motor housing. If motor rotation is opposite of the direction of the arrow, reverse any two hot wires in the electrical plug.

Damage to the pump can result if the motor does not rotate in the correct direction.

Check the oil level in the sight glass on the front of the tank. 50 U.S. gallons of ISO 46 hydraulic oil are required to completely refill the tank.

Oil can be drained from either of the two ports at the bottom of the tank.

An additional oil cooler, while not normally required, can be plumbed into the two ports at the rear of the tank.

Lubrication

Lubricate the crimping head after each 400 crimping cycles or at the start of each shift if the crimper is used in a production setting.

Bring the master dies to the fully closed position, and lubricate the master dies through the 8 holes in the protective plates as illustrated.

With the dies still in the fully closed position lubricate the fittings visible through the 2 bottom lubrication holes in the protective plate of the crimper.

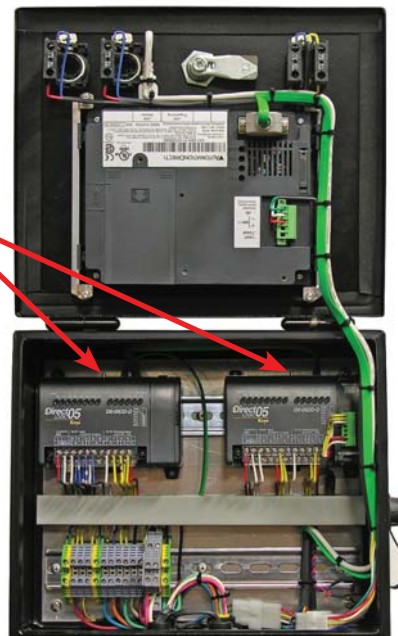
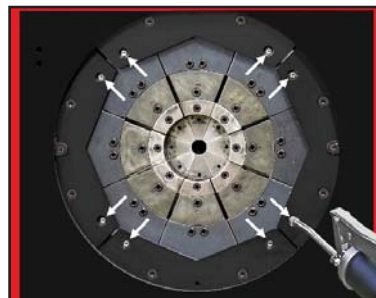
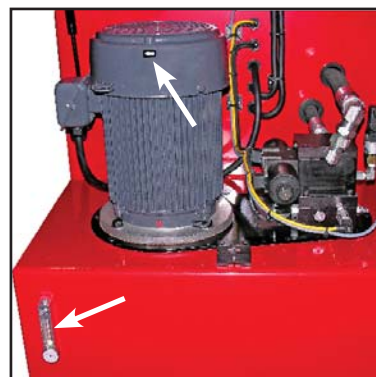
Use only a high quality grease. Failure to do so may result in damage to the wearing surfaces.

PLC Reset Procedure

The PLC (Programmable Logic Controller) requires a relatively constant source of electrical power. Power surges, outages or drops in power can cause the PLC to lose its settings. This may result in missing or misplaced information on the controller screen.

Resetting the PLC to its original settings is a simple procedure

- Turn the main power switch to OFF.
- Open the front of the Control Panel.
- Power up the crimper from the main power switch. The crimper must be powered on during the PLC reset procedure.
- Move the three position toggle switch on top of the PLC right to the STOP position and then left to the RUN position.
- Return the toggle switch to the center TERM position.
- Repeat for the other PLC Unit.
- Turn the main power switch to OFF and replace the front panel.
- The PLC and the crimper should now operate normally.



TROUBLESHOOTING

PROBLEM: CRIMPER WILL NOT RUN AT ALL

- Check the E-Stop switch to be certain that it is not depressed. A slight twist is required to release switch after it has been depressed.
- PLC (Programmable Logic Control) must be reset. See instructions on the previous page.

PROBLEM: CRIMPER RUNS BUT IS SLOW OR NON-FUNCTIONAL

- Check supply voltage to see that it matches the voltage specified on the tag attached to the crimper. Many performance problems are the result of low voltage or inadequate electrical service.
- Check motor rotation and be certain that the motor rotates in the direction of the arrow on the motor housing. For three phase units rotation can be reversed by switching any two wires in the plug.

PROBLEM: CRIMPER WILL CLOSE ON FITTING BUT DOES NOT DEVELOP POWER TO COMPLETE THE CRIMP

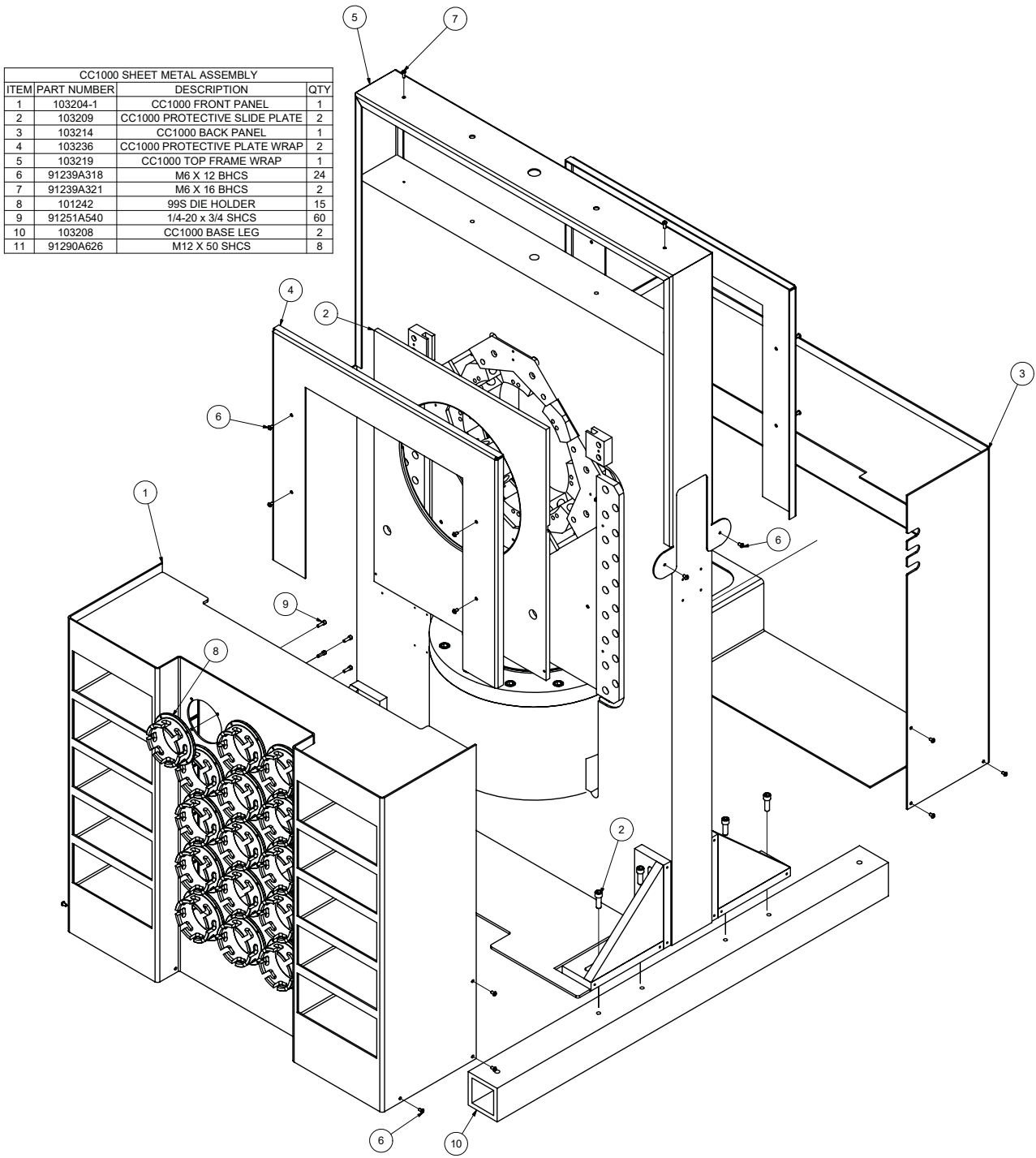
- Check oil level. Position dies to the fully open position and check oil sight gage in rear of machine. Be sure the oil level is in the middle of the sight glass. Use ISO 32 or 46 weight hydraulic oil.

PROBLEM: CRIMPER WILL NOT OPEN TO RETRACT POSITION IN AUTO MODE

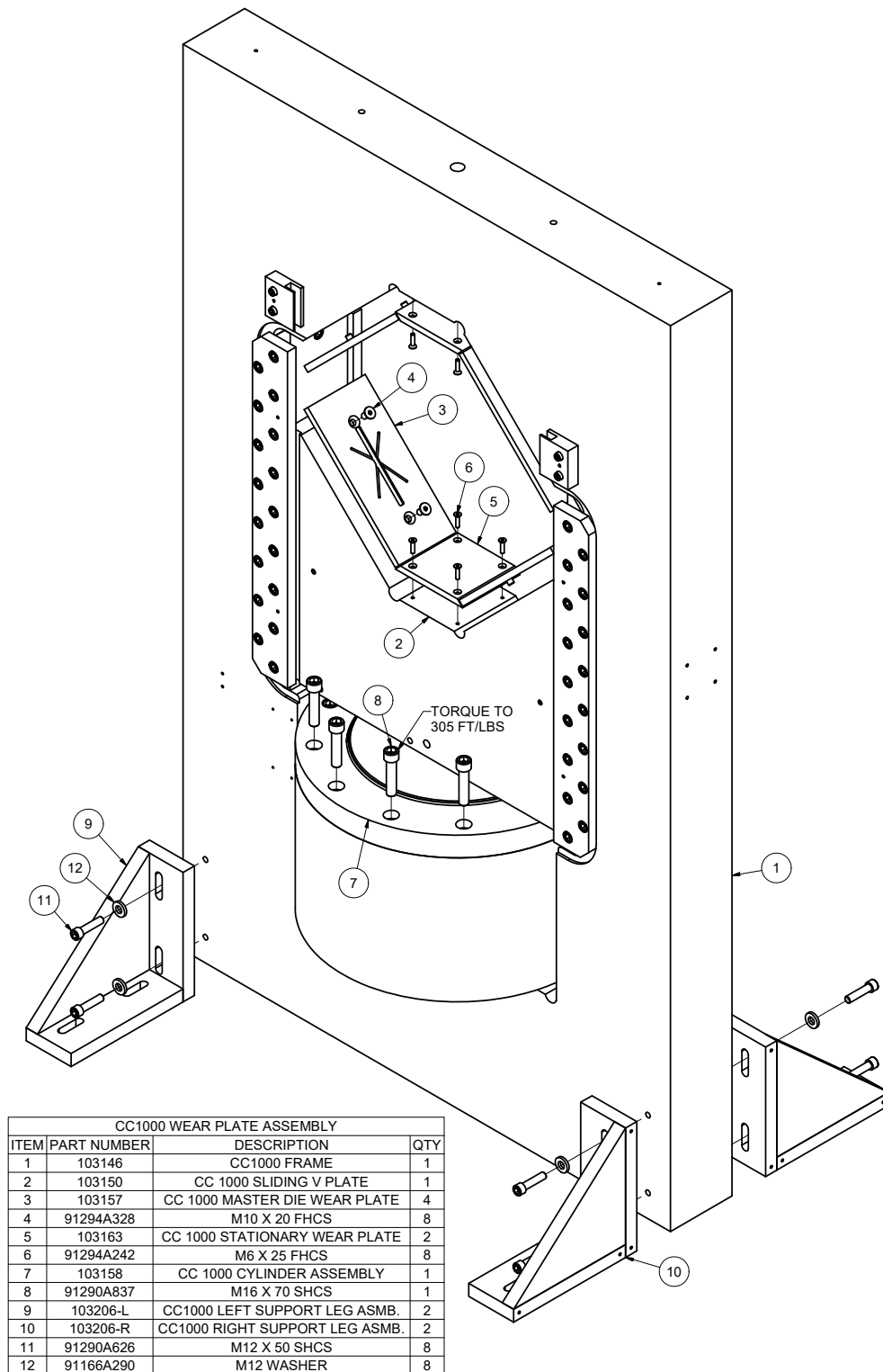
- Retract position must be at least 3 mm larger than the final crimp diameter.

If problems persist contact Customer Service for additional troubleshooting assistance

EXPLODED PARTS VIEW

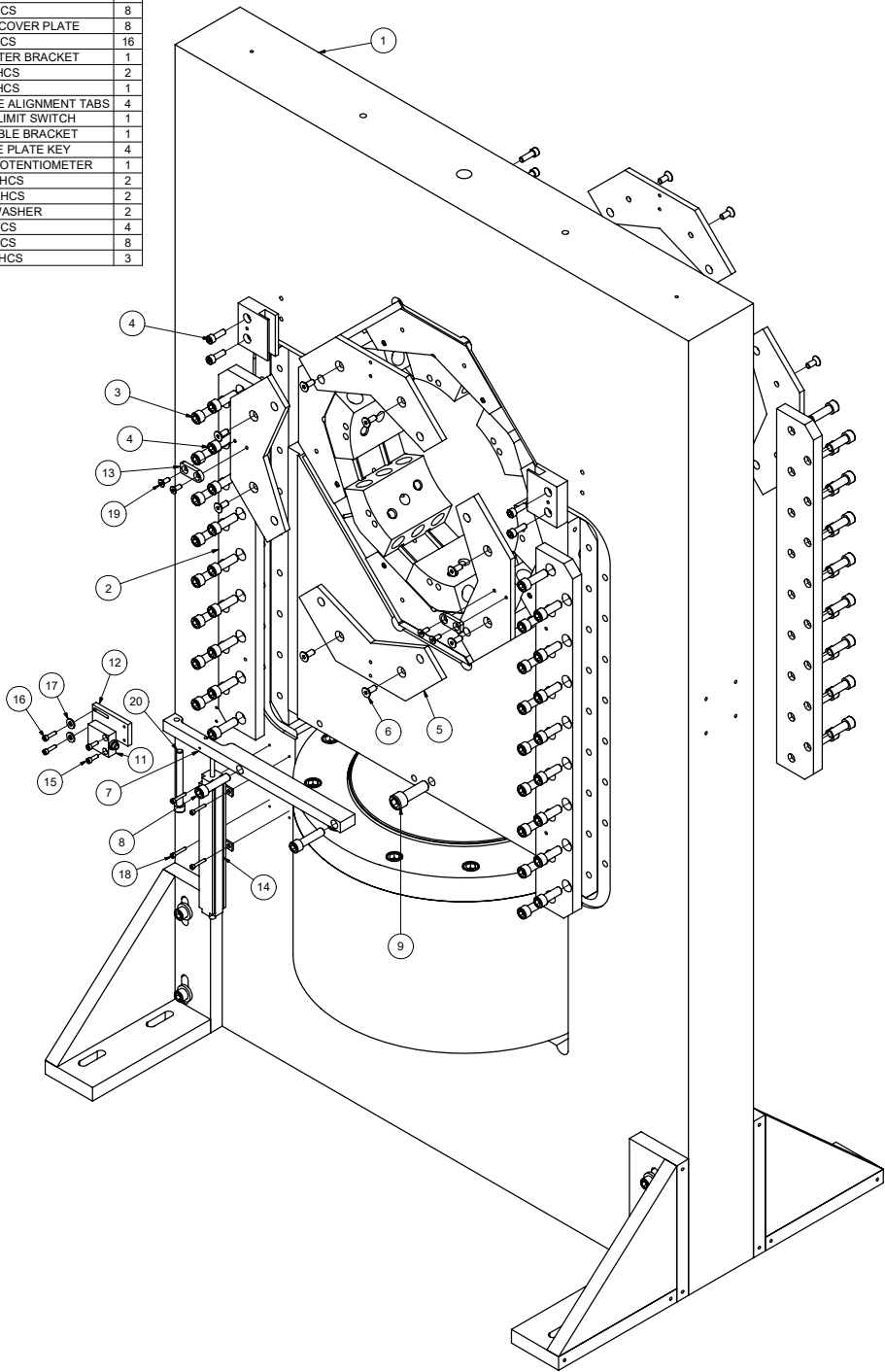


EXPLODED PARTS VIEW

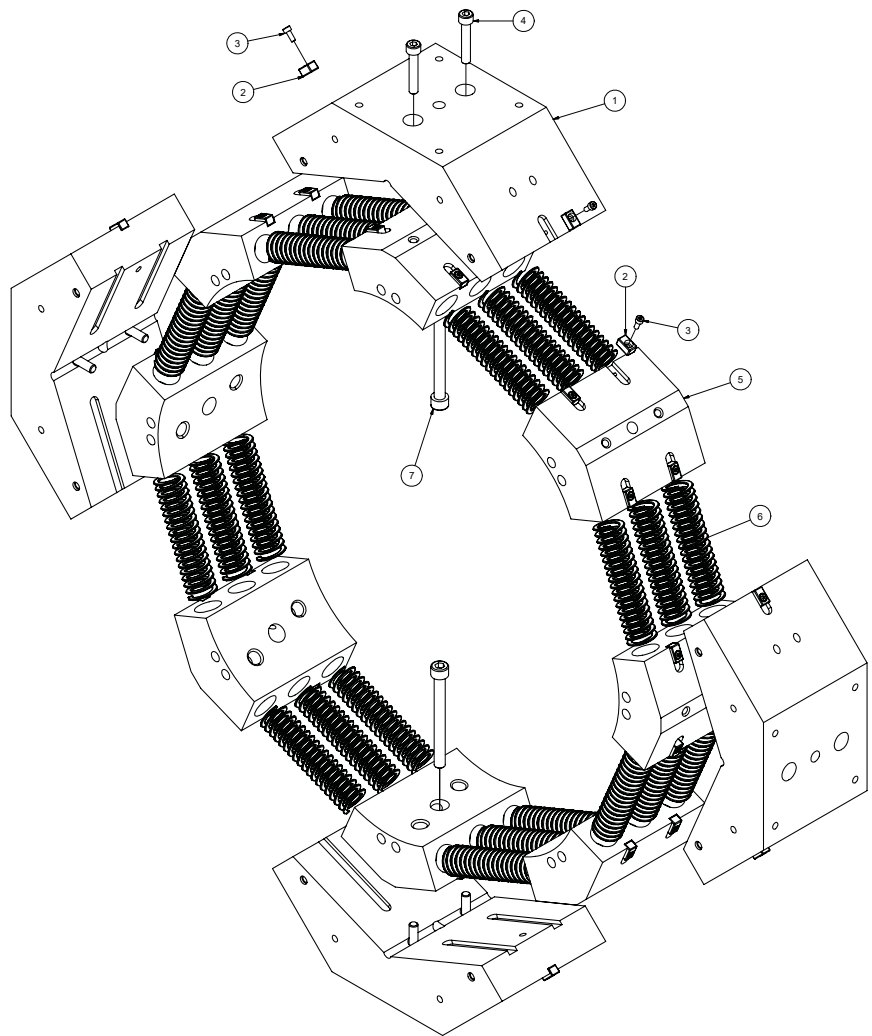


EXPLODED PARTS VIEW

CC1000 PROTECTIVE PLATES AND GUIDES ASSEMBLY			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	103146	CC1000 FRAME	1
2	103193	CC 1000 SIDE GUIDE PLATE	4
3	91290A620	M12 X 35 SHCS	68
4	91290A432	M8 X 25 SHCS	8
5	103196	CC 1000 MASTER DIE COVER PLATE	8
6	91294A284	M8 X 20 FHCS	16
7	103248	CC1000 POTENTIOMETER BRACKET	1
8	91290A626	M12 X 50 SHCS	2
9	91290A820	M16 X 50 SHCS	1
10	103230	CC1000 PROTECTIVE PLATE ALIGNMENT TABS	4
11	103473	CC600/1000 ROLLER LIMIT SWITCH	1
12	103349	CC600/1000 ADJUSTABLE BRACKET	1
13	103448	CC1000 PROTECTIVE PLATE KEY	4
14	103472	CC600/CC1000 LINEAR POTENTIOMETER	1
15	91251A244	10-24 x 5/8 SHCS	2
16	91251A345	10-24 X 3/4 SHCS	2
17	91255A549	10-24 ROUND WASHER	2
18	91290A176	M4 X 25 SHCS	4
19	91294A237	M6 X 14 FHCS	8
20	91290A548	M10 X 100 SHCS	3

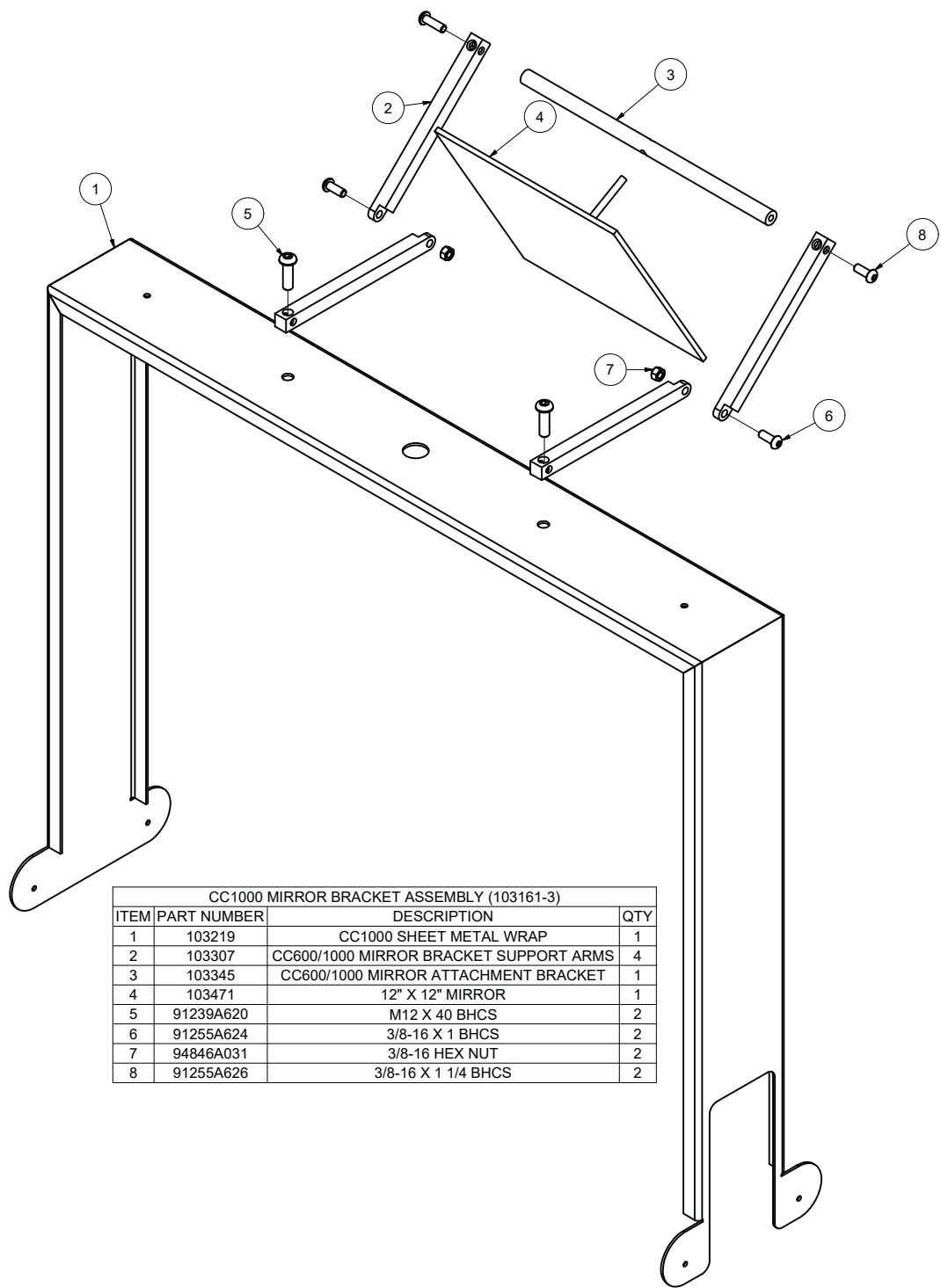


EXPLODED PARTS VIEW



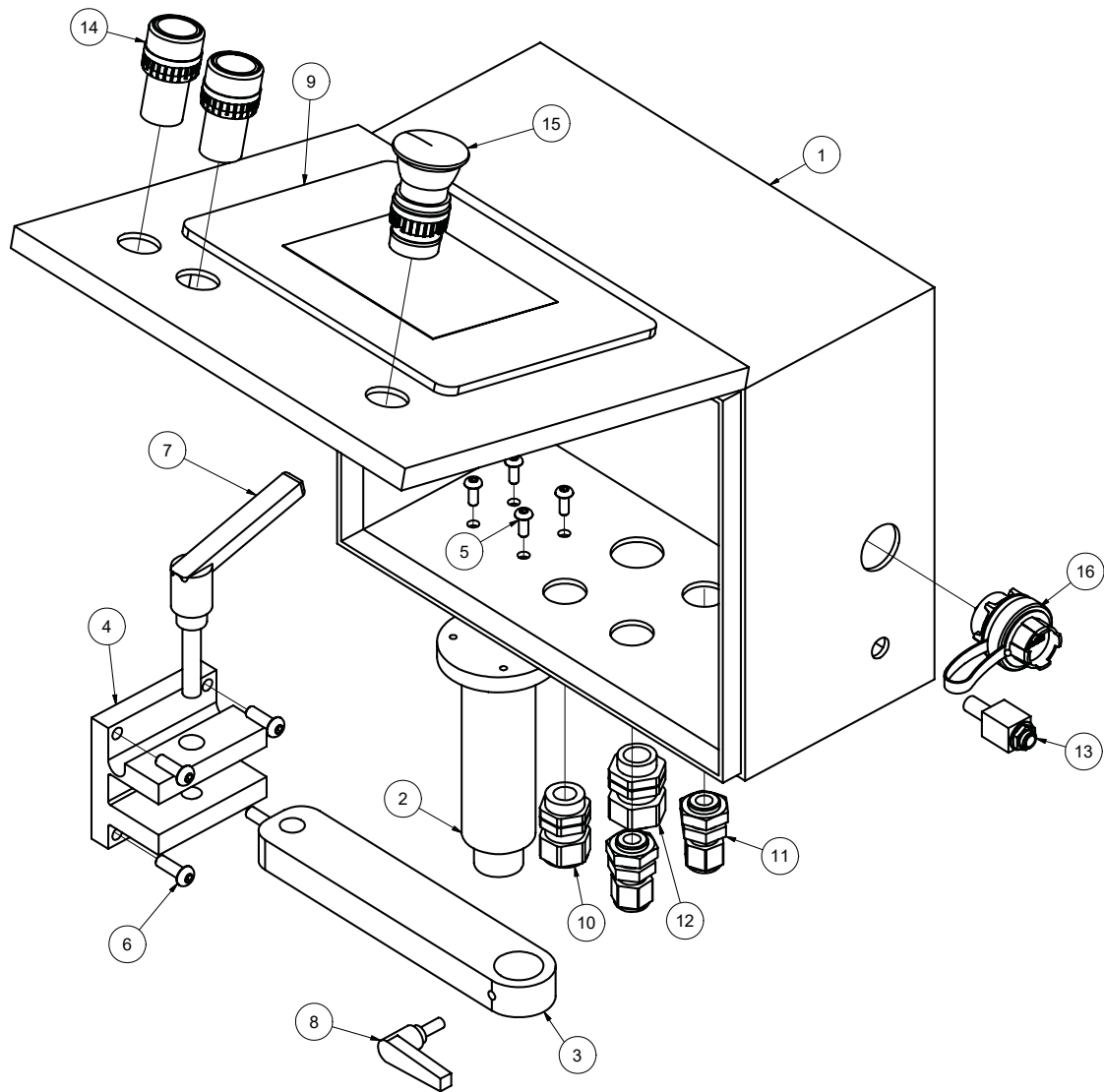
CC1000 MASTER DIE ASSEMBLY			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	103147	CC1000 MASTER DIE CARRIER	4
2	103249	CC1000 MASTER DIE ALIGNMENT NUT	40
3	91290A144	M4 X 10 SHCS	40
4	91290A446	M8 X 45 SHCS	8
5	103156	CC1000 MASTER DIE SHOE	8
6	103470	DIE SPRING	24
7	91290A548	M10 X 100 SHCS	2

EXPLODED PARTS VIEW



CC1000 MIRROR BRACKET ASSEMBLY (103161-3)			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	103219	CC1000 SHEET METAL WRAP	1
2	103307	CC600/1000 MIRROR BRACKET SUPPORT ARMS	4
3	103345	CC600/1000 MIRROR ATTACHMENT BRACKET	1
4	103471	12" X 12" MIRROR	1
5	91239A620	M12 X 40 BHCS	2
6	91255A624	3/8-16 X 1 BHCS	2
7	94846A031	3/8-16 HEX NUT	2
8	91255A626	3/8-16 X 1 1/4 BHCS	2

EXPLODED PARTS VIEW



CC600/1000 TOWER ASSEMBLY			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	7309K342	CC600/1000 TOWER BOX	1
2	103308-1	CC600/1000 TOWER SWIVEL BRACKET	1
3	103308-2	CC600/1000 TOWER SUPPORT ARM	1
4	103308-3	CC600/1000 TOWER MOUNTING BRACKET	1
5	91255A242	10-24 X 1/2" BHCS	4
6	91255A540	1/4 - 20 x 3/4" BHCS	4
7	KHA-150	1/2-13 LOCKING HANDLE	1
8	KHA-108	1/4-20 LOCKING HANDLE	1
9	102600	6" TOUCH SCREEN TEXT PANEL	1
10	69915K53	1/2" NPT DOME CORD GRIP	1
11	69915K51	ROMEX CORD GRIP	2
12	69915K57	3/4" NPT DOME CORD GRIP	1
13	502-N-111	FOOT PEDAL JACK W/NUT	1
14	E22PB3A	CLOSE/OPEN BUTTON	2
15	E22LLB2B	EMERGENCY STOP BUTTON	1
16	PX0842/A	USB CONNECTOR	1



Custom Crimp “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.
326 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®
Custom Machining Services, Inc.
326 N. County Rd. 400 East
Valparaiso, IN 46383
Ph: (219) 462-6128
Fax: (219) 464-2773
www.customcrimp.com



CustomCrimp®

See the complete line of CustomCrimp® Crimpers and Accessories at:
www.customcrimp.com

(219) 462-6128
