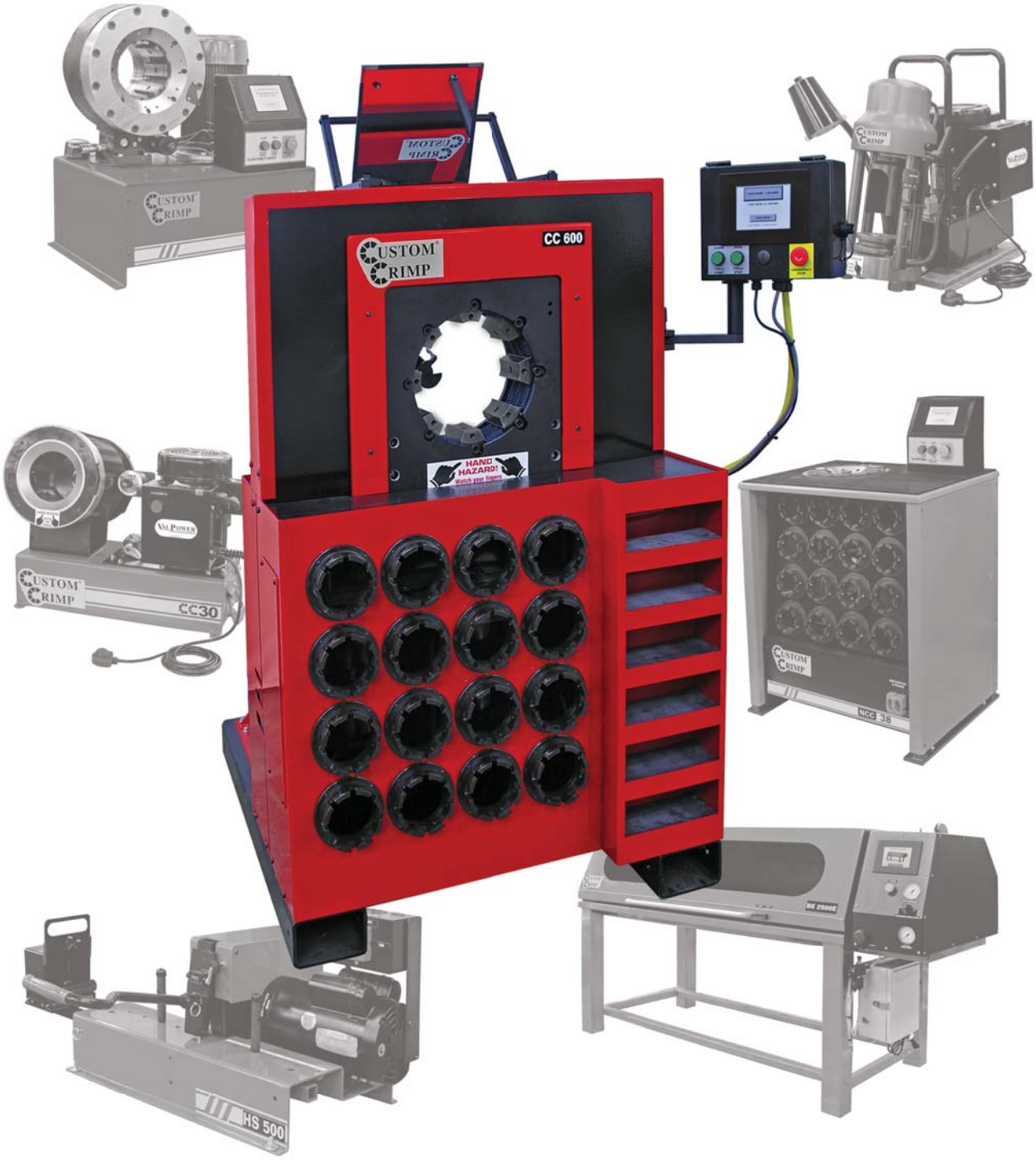
CUSTOM® CRIMP



CC600 CRIMPER OPERATORS MANUAL

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

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EXPLODED PARTS BREAKDOWN ----------17

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

COMPONENT PART IDENTIFICATION

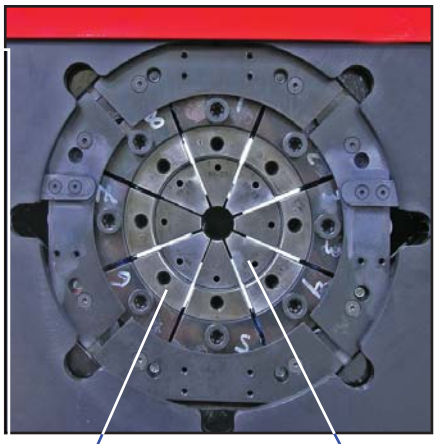
Optional Manual Adjust Micrometer

ACT™ Control Module

Power Switch

99 mm Die Storage Pockets

Die Storage Shelves



145 mm to 99 mm Adapter Dies

99 mm Dies

AccuStop™ Coupling Stop

Tank View showing oil fill port and fluid level sight glass

Motor Rotation Arrow

Protected by U.S. Patent 7,383,709
European Patent 06759019.0
Additional Patent(s) pending

CRIMPER SPECIFICATIONS AND INITIAL SET UP

SPECIFICATIONS:

MAX HEAD OPENING W/O DIES ---------- 273 MM (10.75 IN)

MASTER DIE INSIDE DIAMETER ----------145 MM (5.71 IN)

MAXIMUM DIE OPENING ----------DIE CLOSED DIAMETER + 128 MM

CRIMPER SIZE ----------36 IN WIDE X 22 IN DEEP X 57 IN HIGH

WEIGHT ----------3500 LB. (1591 KG)

ELECTRICAL REQUIREMENTS ----------220 VOLT 3 PHASE (STANDARD)

---------- 440 VOLT 3 PHASE (OPTIONAL)

MOTOR ----------7.5 HP (2 STAGE PUMP)

RESERVOIR CAPACITY ----------24 US GAL

OIL TYPE ----------ISO 46 HYDRAULIC OIL

ADAPTER DIES ----------145 MM TO 99 MM

HOSE CAPACITY ----------2 INCH 6 SPIRAL

----------6 INCH INDUSTRIAL

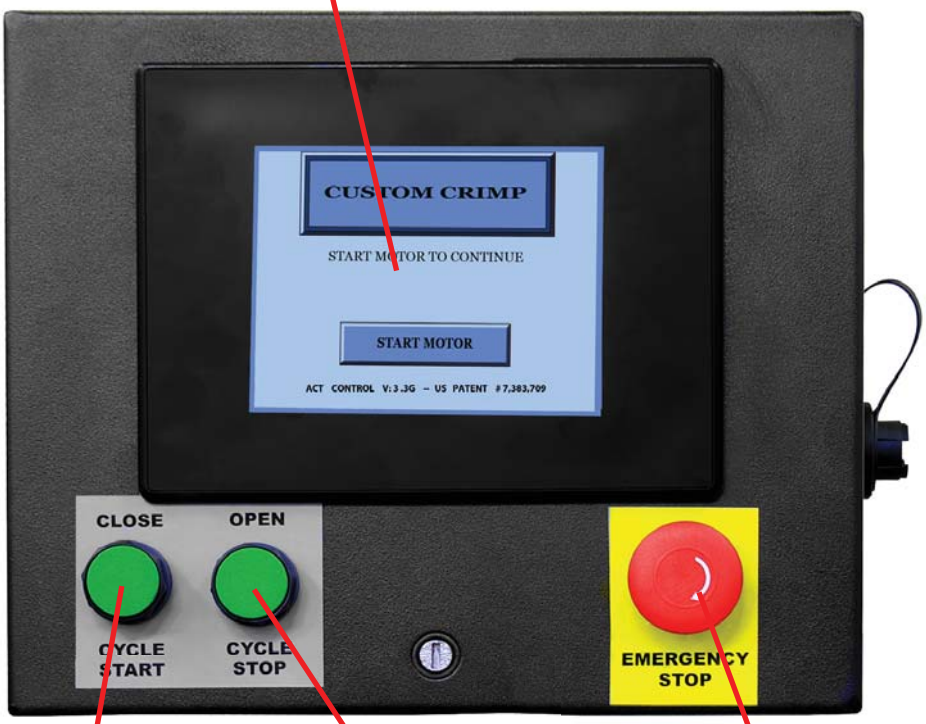
INITIAL CRIMPER SET UP

- CHECK RESERVOIR OIL LEVEL WITH SIGHT GLASS ON 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.
- 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



EMERGENCY STOP

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

MANUAL MODE FUNCTION: OPEN DIES
AUTO MODE FUNCTION: CYCLE 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**.

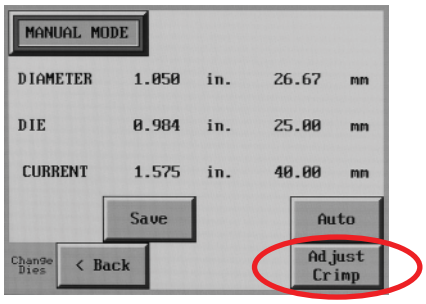
Note: for a 25 mm die, enter 2500. ACT™ will add 2 decimal places.
for a 1.5 inch die, enter 1500, ACT™ will add 3 decimal places.

- 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.*

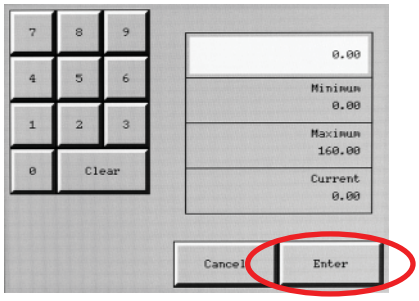
HOW TO MAKE MINOR CORRECTIONS

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.

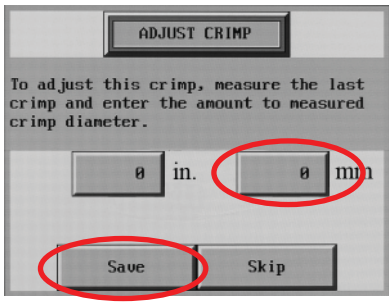


If the finished crimp diameter is not within the required specifications:

- 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.

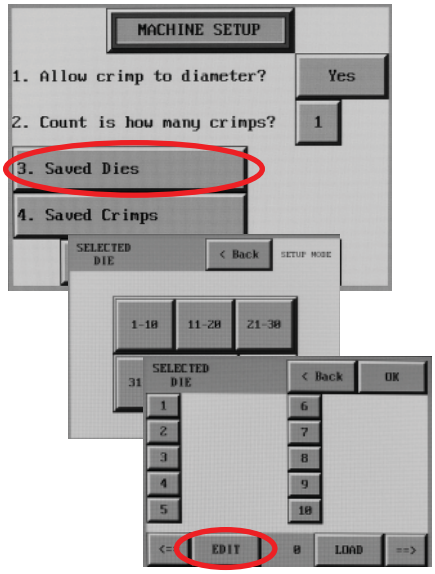
HOW TO ADD A SAVED DIE

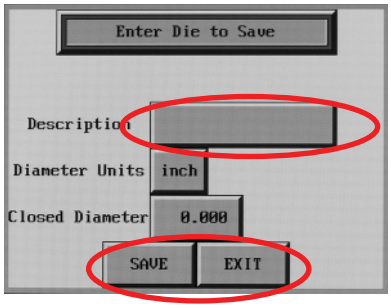
Up to 50 different dies can be saved in the computer memory. These dies can be recalled in the set up process eliminating the need to re-enter the die size each time.

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.**

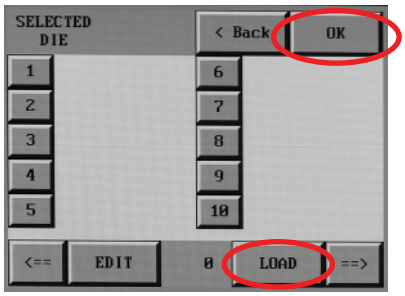
The saved die will now appear on the **SELECTED DIE** screen. From this screen individual dies can be cleared or edited.

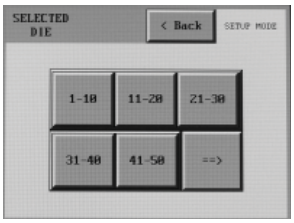


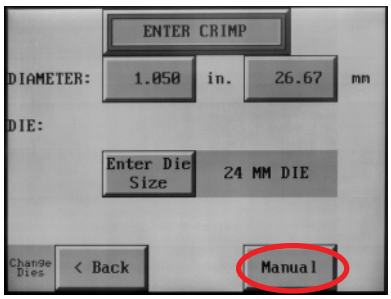


HOW TO RECALL A SAVED DIE

- 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.



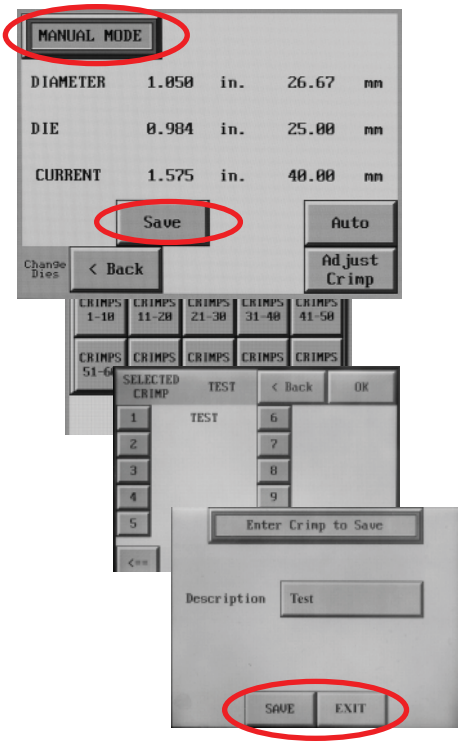




HOW TO ADD A SAVED CRIMP

- Adjust the die diameter and crimp diameter as required and place the crimper in **MANUAL** mode.
- Press **SAVE.**
- Select a location (1-100) and press **EDIT.**
- Enter a description (up to 12 characters).
- Press **SAVE** and **EXIT.**

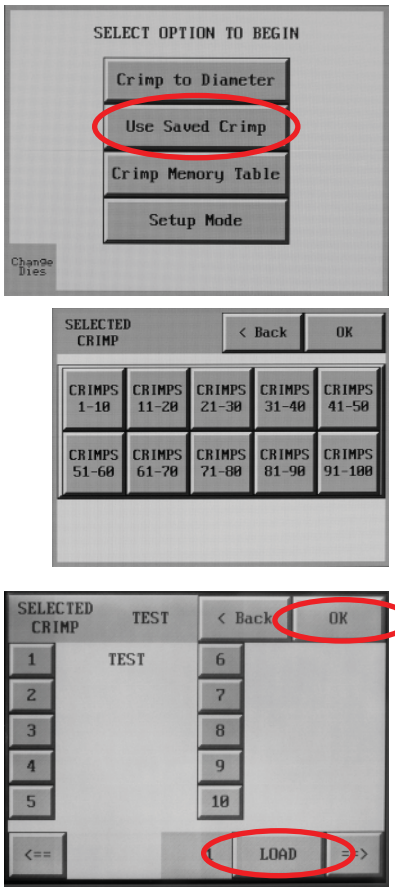
The die and crimp setting can now be recalled from the saved location as required



TO RECALL SAVED CRIMP

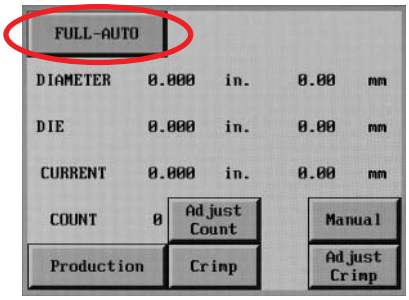
- Select **USE SAVED CRIMP** from the option screen.
- Select a previously saved crimp from location 1-100.
- Press **LOAD.**

The saved crimp will appear on the manual screen.

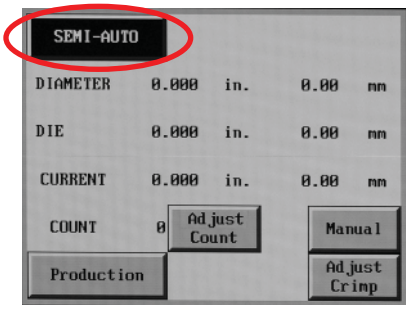


FULL AUTO MODE

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



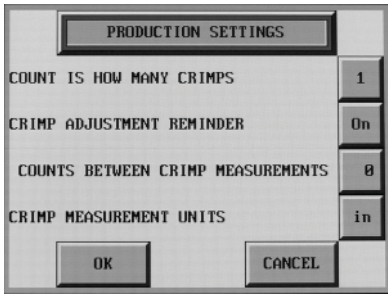
- The crimper will cycle automatically from the **CRIMP** button on the touch screen, the green **CYCLE START** button on the panel, or the foot switch.
- To set the position to which the dies will retract, close the crimper to the desired retract position prior to pressing the **FULL AUTO** button.
- 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.**

SET REQUIRED MEASUREMENT

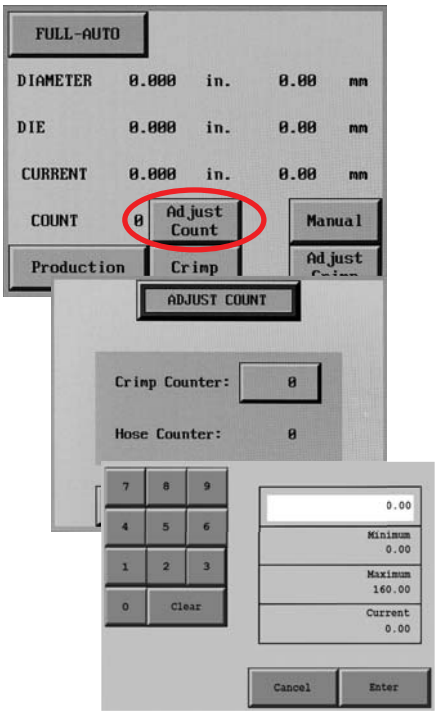


- Press the **PRODUCTION** button.
- Determine if 1 or 2 crimps will count as a crimp.
- Toggle the **CRIMP ADJUSTMENT REMINDER** to **ON**.
- Set the **COUNTS BETWEEN CRIMP MEASUREMENTS** to the desired number and press **OK**.
- At the set interval, the **ADJUST CRIMP** screen will come up and the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

ADJUST CRIMP COUNT

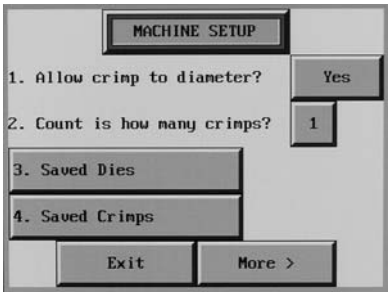
If a production operation is interrupted for some reason, it is possible to reset the counter to where the operation was at the point of interruption.

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

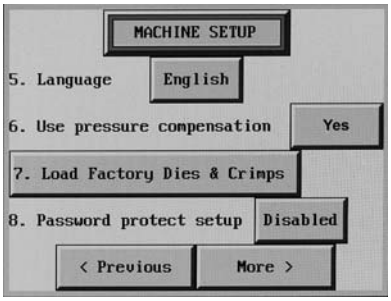


ACT™ ADDITIONAL FEATURES

- Additional features and functions of the ACT™ controller can be accessed by pressing the **MORE** button on the **MACHINE SETUP** 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.

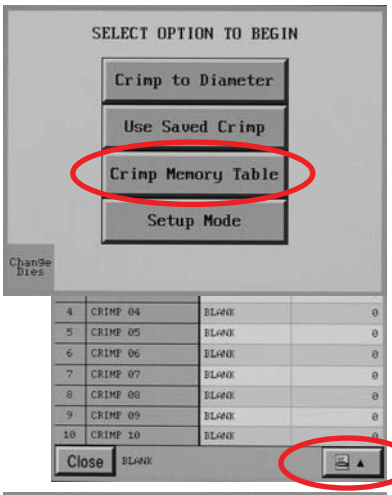


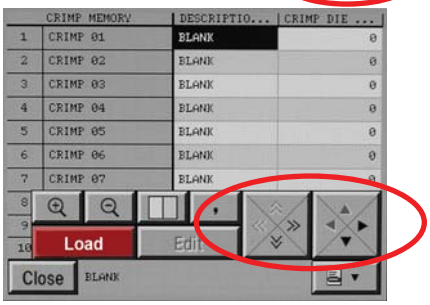
ACT™ ADDITIONAL FEATURES

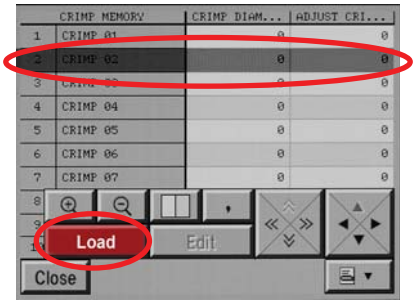
Pre-Loaded Crimp Specifications

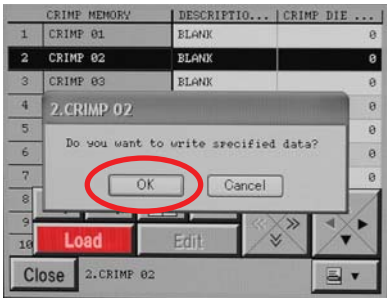
In addition to the ability to store up to 50 user entered dies and 100 user entered crimp settings, the ACT™ Controller has the capability of accepting pre loaded manufacturer's crimp specifications. CustomCrimp® does not maintain these specifications as they are proprietary to the individual hose and 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:

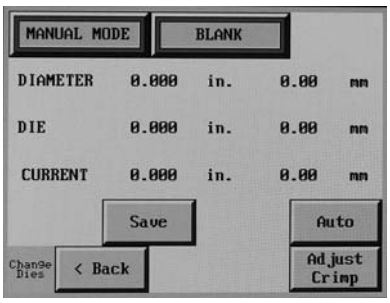
- Press the **Crimp Memory Table** Button.
- Press the access button to bring up the stored crimp specifications.
- Scroll through the crimp specifications to select the correct one. The right hand rocker button moves through the crimp specs one line at a time and the left hand rocker button moves one 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.











CC600 MIC MANUAL MICROMETER

The CC600 MIC is available with a manual micrometer in place of the ACT™ controller. Set up and adapter and die installation are identical to the CC600 ACT model.

The micrometer is a direct reading metric micrometer. With the micrometer set at zero, the die set will close to the fully closed diameter stamped on the face of the die. The number set on the micrometer will be the amount ***ABOVE*** the closed diameter of the die at which the dies will stop closing.

Example:

If the required final crimp diameter for the hose and fitting being crimped is 65.5 mm, the correct die set to use would be a 63 mm die set. The micrometer would be set at 2.5 mm as shown, and the final crimp diameter would be 65.5 mm (63 mm-closed die diameter plus 2.5 mm)

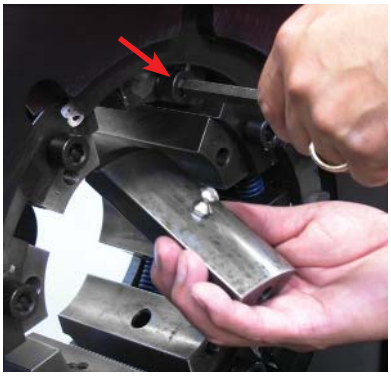
Opening and closing of the crimper head is controlled with the foot switch. Press and hold the foot switch until the crimp is complete and the dies stop closing.

Always check the hose and fitting with a caliper to be certain that the final crimp diameter is in accordance with the hose and fitting manufacturers specifications.

DIE INSTALLATION AND REMOVAL

Adapter Die Installation
145 mm to 99 mm Adapter Dies are furnished 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. (84 mm adapter dies are also available)

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

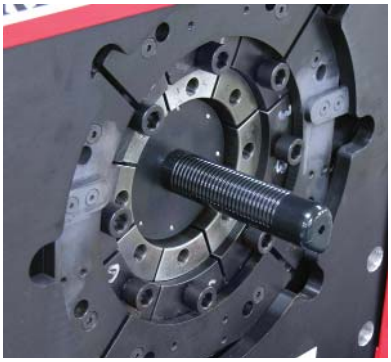
- Install the 145 mm to 99 mm Intermediate Adapter Dies as shown making certain that the Intermediate Adapter Die I.D. matches the Hydraulic Die O.D.

- 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.

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

- Align the studs of the Hydraulic Dies with the holes in the Adapter Dies and with the crimper in die change mode ***SLOWLY*** close the crimper head on the die set.



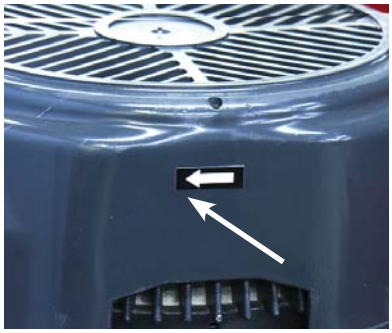
- Bring the crimper head to a fully closed position and remove the die insertion tool.

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, or adjust the manual micrometer to the correct crimp diameter.

For Hydraulic Die removal, place the crimper in die change 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.

INITIAL SET UP AND PLC RESET



Initial Setup

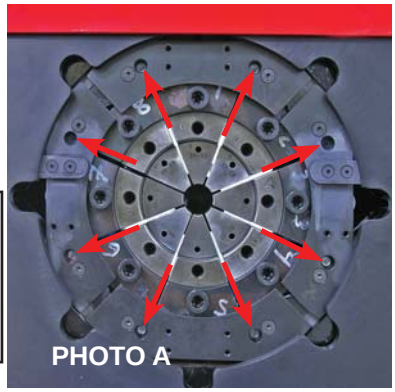
Check to be certain that the motor rotates in the direction of the arrow shown on the motor housing and that the voltage is correct as indicated on the tag attached to the plug. If motor rotation is opposite of the direction of the arrow, reverse any two hot wires in the electrical plug.

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 tank. 24 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.



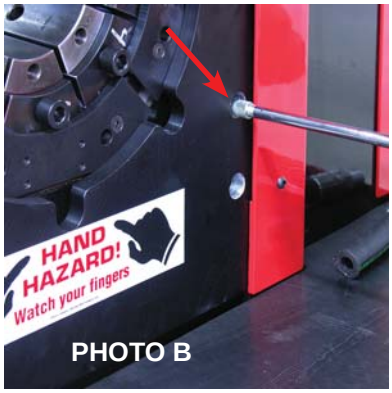
Flush Fitting Adapter

Lubrication

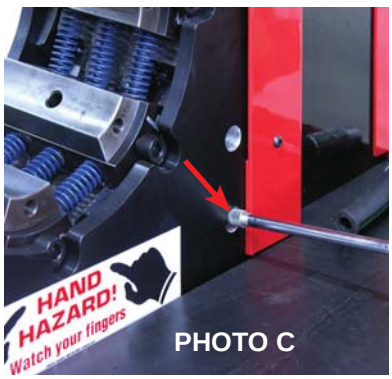
Lubricate the crimping head after each 100 crimping cycles or at the start of each shift if the crimper is used in a production setting. Use only a high pressure moly-di-sulfide grease and a grease gun with a flush fitting adapter.

Failure to lubricate the crimper can cause premature failure, loss of accuracy and may result in costly repairs to the crimper.

Bring the master dies to the fully closed position, and lubricate the master dies through the 8 holes in the protective plates as illustrated in Photo “A”. With the dies still in the fully closed position grease the fittings visible through the two top grease holes in the face of the crimper as shown in Photo “B”.

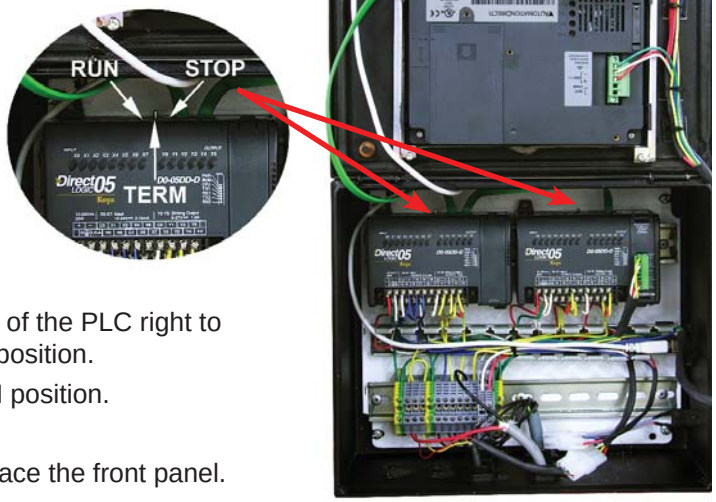


Bring the master dies to the fully open position and lubricate the crimper through the fittings visible through the two bottom grease holes in the face of the crimper as shown in Photo “C”.



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

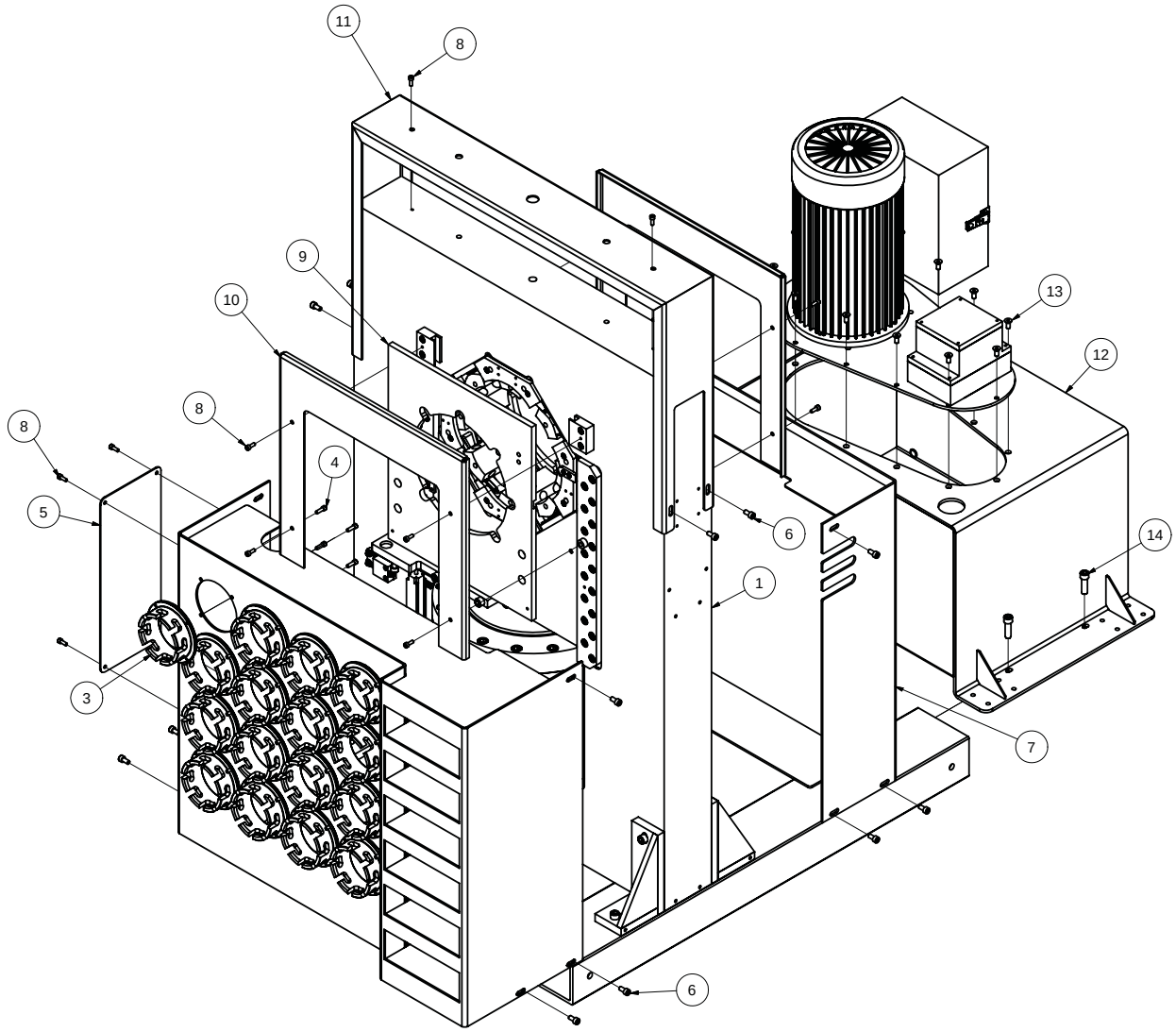
- Check oil level. Position dies to the fully open position and check oil sight gage in rear of machine. Be sure the oil level is in the middle of the sight glass. Use ISO 32 or 46 weight hydraulic oil.

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.

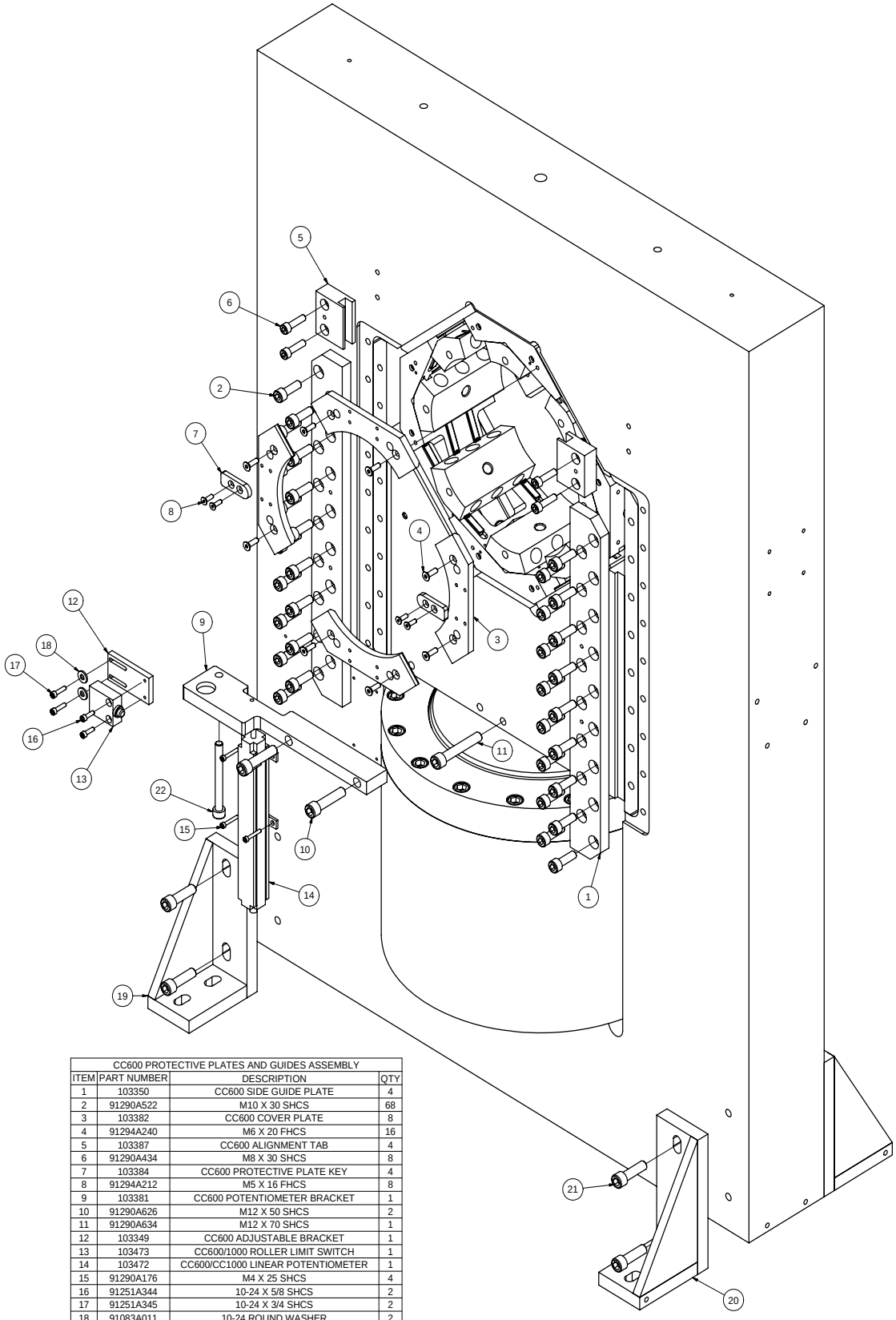
If problems persist contact Customer Service for additional troubleshooting assistance.

EXPLODED PARTS VIEW



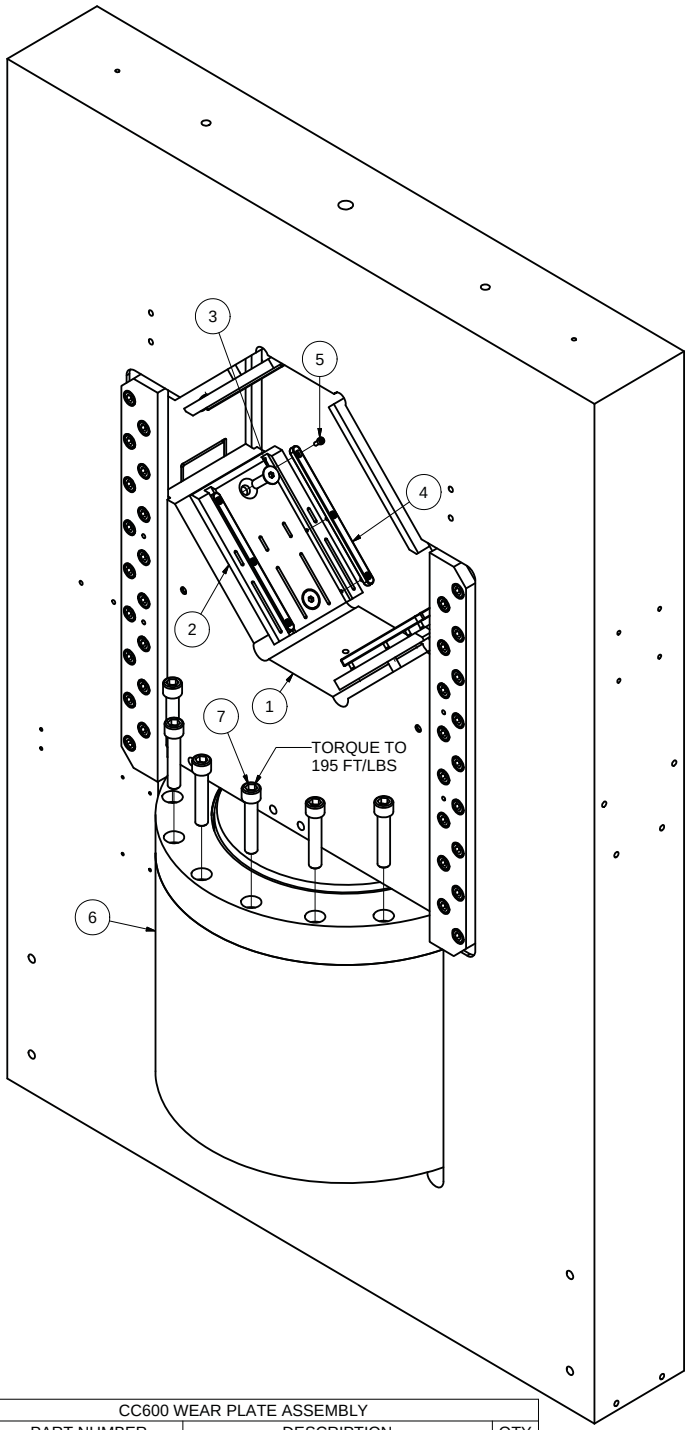
CC600 PANEL ASSEMBLY			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	103323	CC600 FRAME	1
2	103351	CC600 FRONT PANEL	1
3	101242	99S DIE HOLDER	16
4	91251A540	1/4-20 x 3/4 SHCS	67
5	103386	CC600 ACCESS PANEL	1
6	91290A426	M8 X 20 SHCS	16
7	103352	CC600 BACK PANEL	1
8	91290A326	M6 X 20 SHCS	15
9	103383	CC600 PROTECTIVE PLATE	2
10	103397	CC600 PROTECTIVE PLATE COVER	2
11	103353	CC600 TOP FRAME WRAP	1
12	103278	CC600 24 GAL. OIL RESEVOIR	1
13	91253A581	5/16-18 X 3/4" FHCS	12
14	91290A622	M12 X 40 SHCS	12

EXPLODED PARTS VIEW



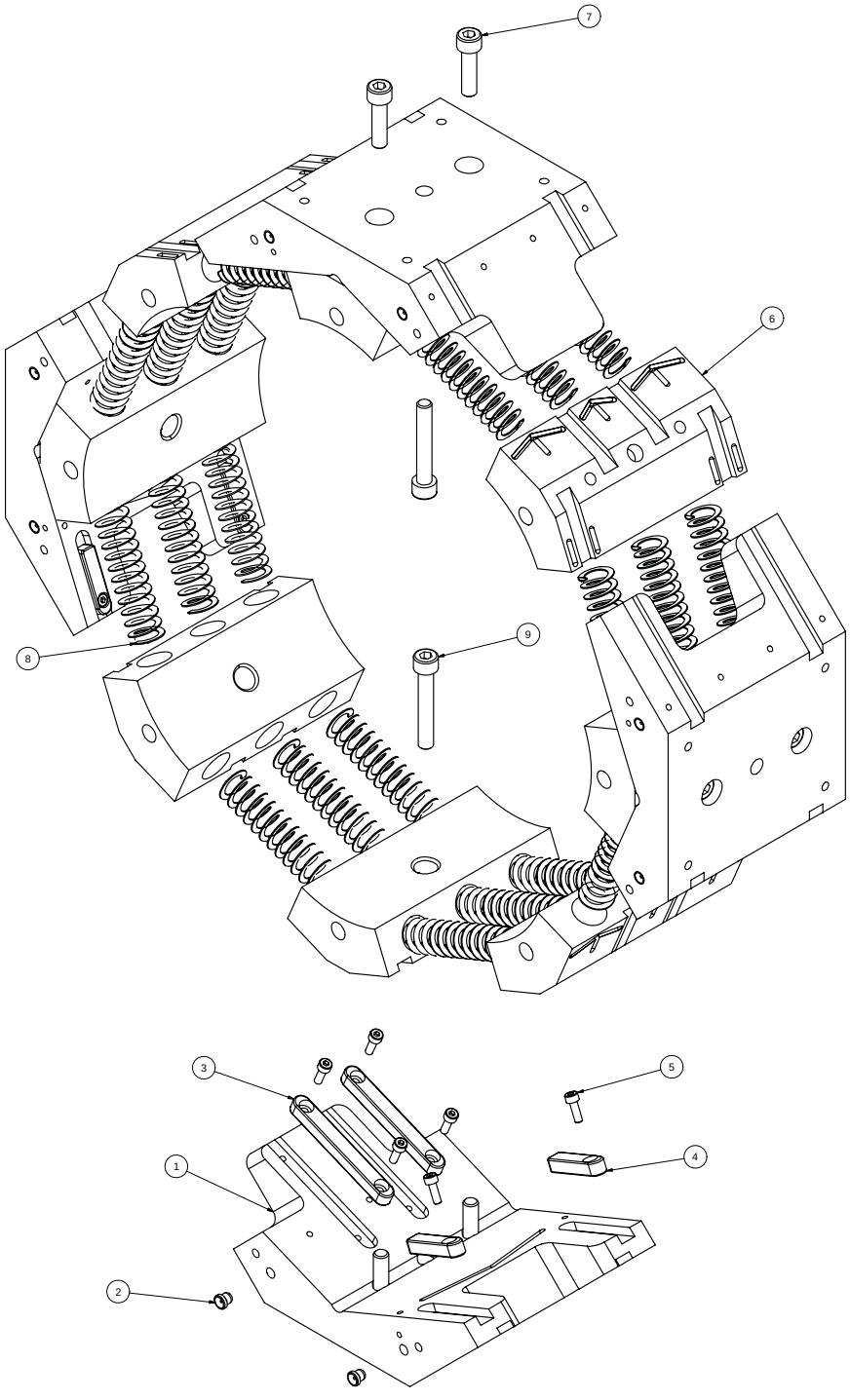
CC600 PROTECTIVE PLATES AND GUIDES ASSEMBLY			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	103350	CC600 SIDE GUIDE PLATE	4
2	91290A522	M10 X 30 SHCS	68
3	103382	CC600 COVER PLATE	8
4	91294A240	M6 X 20 FHCS	16
5	103387	CC600 ALIGNMENT TAB	4
6	91290A434	M8 X 30 SHCS	8
7	103384	CC600 PROTECTIVE PLATE KEY	4
8	91294A212	M5 X 16 FHCS	8
9	103381	CC600 POTENTIOMETER BRACKET	1
10	91290A626	M12 X 50 SHCS	2
11	91290A634	M12 X 70 SHCS	1
12	103349	CC600 ADJUSTABLE BRACKET	1
13	103473	CC600/1000 ROLLER LIMIT SWITCH	1
14	103472	CC600/CC1000 LINEAR POTENTIOMETER	1
15	91290A176	M4 X 25 SHCS	4
16	91251A344	10-24 X 5/8 SHCS	2
17	91251A345	10-24 X 3/4 SHCS	2
18	91083A011	10-24 ROUND WASHER	2
19	103376-L	CC600 LEFT LEG ASSEMBLY	2
20	103376-R	CC600 RIGHT LEG ASSEMBLY	2
21	91290A622	M12 X40 SHCS	8
22	91290A548	M10 X 100 SHCS	1

EXPLODED PARTS VIEW



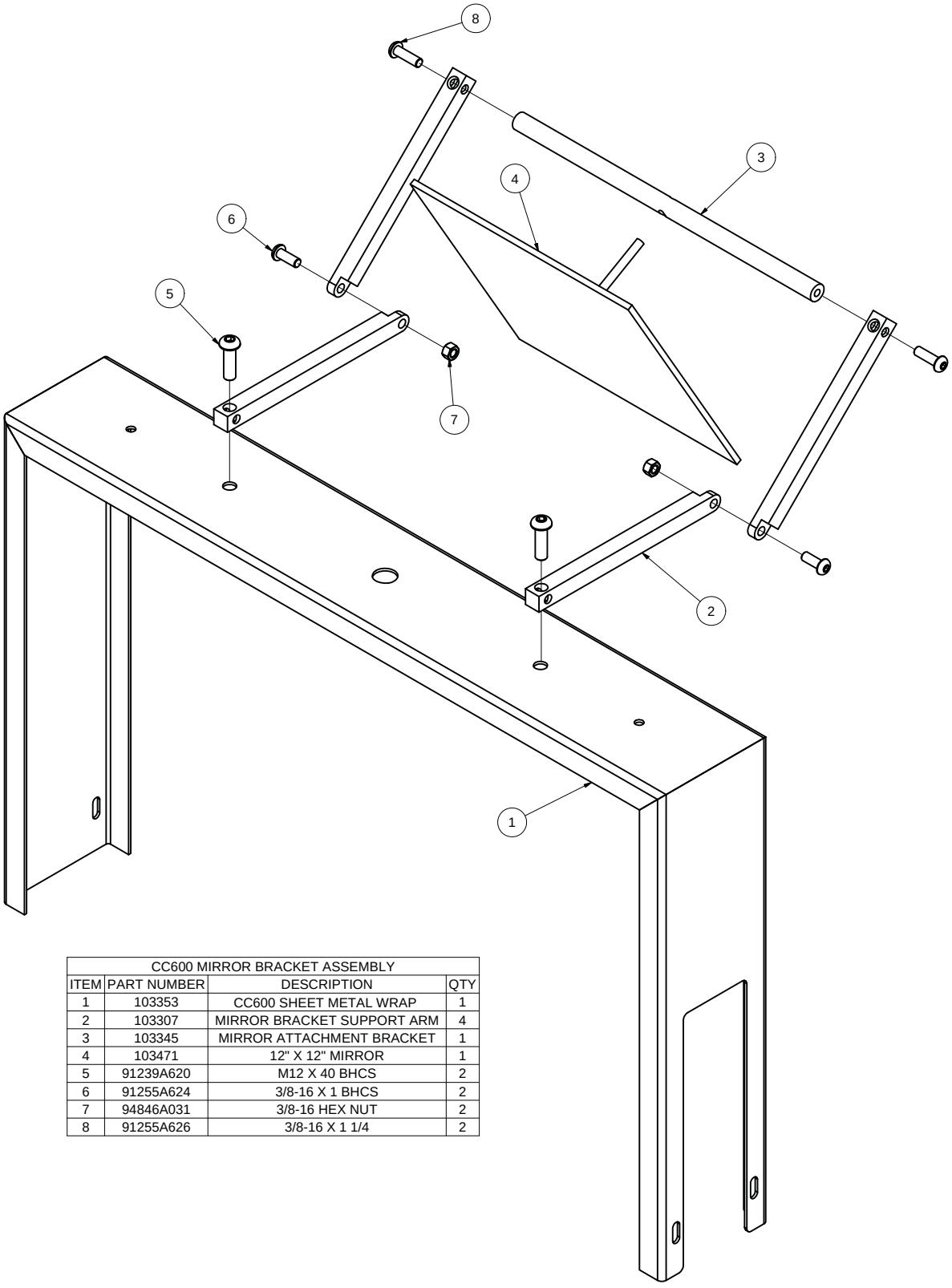
CC600 WEAR PLATE ASSEMBLY			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	103324	CC600 SLIDING V PLATE	1
2	103348	CC600 MASTER DIE WEAR PLATE	4
3	91294A334	M10 X 35 FHCS	8
4	103366	CC600 WEAR PLATE T-NUT	8
5	91290A144	M4 X 10 SHCS	24
6	103338	CC600 CYLINDER ASSEMBLY	1
7	91290A749	M14 X 70 SHCS	16

EXPLODED PARTS VIEW



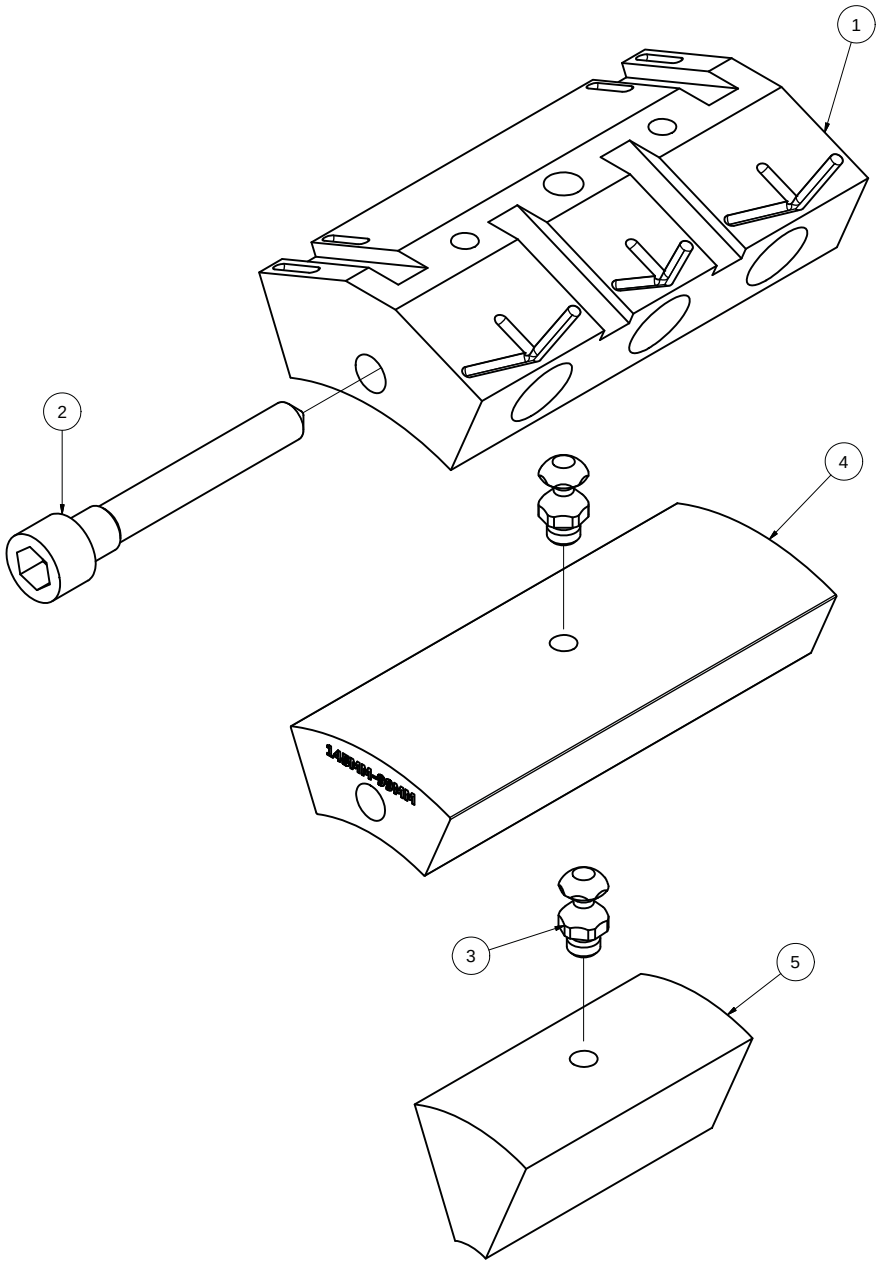
CC600 MASTER DIE ASSEMBLY			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	103321	CC600 MASTER DIE CARRIERS	4
2	102793	6mm PRESS-FIT GREASE NIPPLE	16
3	103367	CC600 MASTER DIE SHOE LONG T-NUT	8
4	103464	CC600 MASTER DIE SHOE SHORT T-NUT	8
5	103316	CC600 MASTER DIE SHOES	8
5	91290A148	M4 X 12 SHCS	24
7	91290A434	M8 X 30 SHCS	8
8	103469	CC600 DIE SPRING	24
9	91290A448	M8 X 50 SHCS	2

EXPLODED PARTS VIEW



CC600 MIRROR BRACKET ASSEMBLY			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	103353	CC600 SHEET METAL WRAP	1
2	103307	MIRROR BRACKET SUPPORT ARM	4
3	103345	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	2

EXPLODED PARTS VIEW



CC600 DIE STACK ASSEMBLY			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	103316	CC600 MASTER DIE SHOES	1
2	103250-80	CC1000 MASTER DIE LOCKING STUD	1
3	101582	DIE LOCK PIN	2
4	103276	145mm to 99mm ADAPTER DIE FINGER	1
5	99S SERIES DIE	99S DIE FINGER	1

CustomCrimp “No-Nonsense” Warranty Statement

All CustomCrimp 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 CustomCrimp 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 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. **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.

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