



MOVE FORWARD. ALWAYS.™



CC4-50 CRIMPER OPERATORS MANUAL WITH ACT™ CONTROLLER



WARNING - SAFETY NOTE



IMPORTANT - DO NOT OPERATE THIS EQUIPMENT UNTIL YOU READ AND FULLY UNDERSTAND THIS MANUAL AND ITS ASSEMBLY INSTRUCTIONS

ALWAYS WEAR EYE PROTECTION

WARNING! USE ONLY THOSE HOSE AND COUPLING COMBINATIONS AND CRIMPING EQUIPMENT SPECIFIED IN DAYCO HYDRAULIC PUBLISHED LITERATURE. DAYCO RECOMMENDATIONS ARE BASED ON TESTING, AND USE OF HOSE AND COUPLING COMBINATIONS OTHER THAN THOSE RECOMMENDED BY DAYCO CAN RESULT IN SERIOUS INJURY, DEATH OR SUBSTANTIAL PROPERTY DAMAGE. DAYCO DISCLAIMS ALL LIABILITY FOR ANY HOSE AND COUPLING ASSEMBLY THAT IS NOT MADE ACCORDING TO DAYCO RECOMMENDATIONS. CONSULT YOUR LOCAL DAYCO REPRESENTATIVE OR DAYCO DISTRIBUTOR IF YOU HAVE ANY QUESTIONS.

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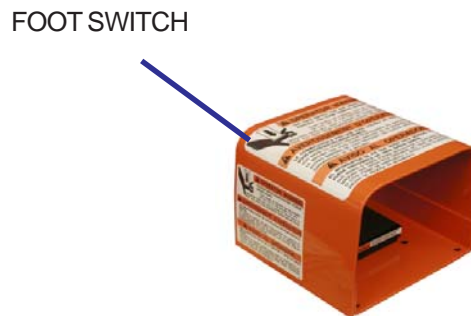
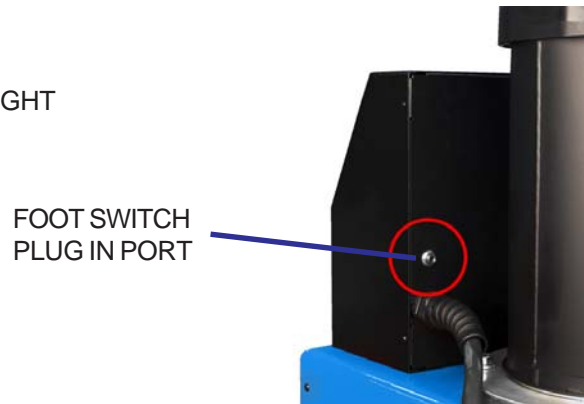
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SPECIFICATIONS:

MAX HEAD OPENING W/O DIES -----	168 MM (6.62 IN)
MASTER DIE INSIDE DIAMETER -----	130 MM (5.11 IN)
MAXIMUM DIE OPENING -----	DIE CLOSED DIAMETER + 38 MM
CRIMPER SIZE -----	29 IN LONG X 20 IN DEEP X 32 IN HIGH
WEIGHT -----	573 LB (269 KG)
ELECTRICAL REQUIREMENTS -----	220 VOLT 3 PHASE (STANDARD)
-----	440 VOLT 3 PHASE (OPTIONAL)
MOTOR -----	7.5 HP
RESERVIOR CAPACITY -----	8 US GAL
OIL TYPE -----	ISO 46 HYDRAULIC OIL
MASTER DIES -----	145MM I.D. MASTER DIE STANDARD
ADAPTER DIES -----	99 MM I.D. ADAPTER DIES INCLUDED
HOSE CAPACITY -----	2 INCH 6 SPIRAL
-----	2-1/2 INCH INDUSTRIAL

INITIAL CRIMPER SET UP

CHECK RESERVIOR OIL LEVEL WITH SIGHT GLASS AT REAR OF TANK

CHECK ELECTRICAL CIRCUIT TO BE CERTAIN THAT IT MATCHES THE CRIMPER REQUIREMENTS 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.

SEE INITIAL SETUP AND MAINTENANCE SECTION

Patent(s) Pending



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

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

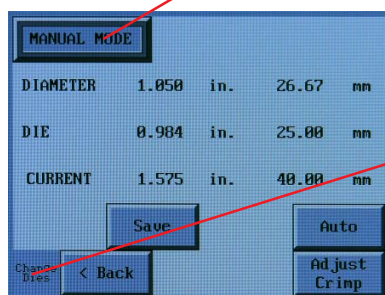
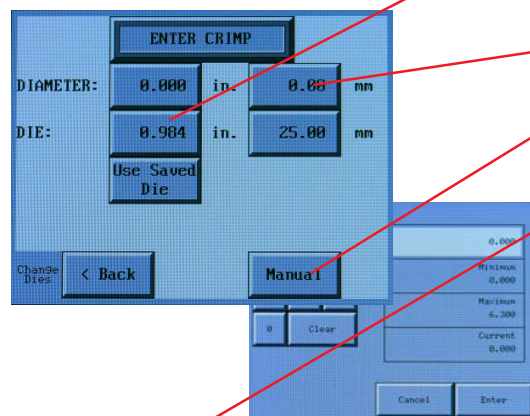
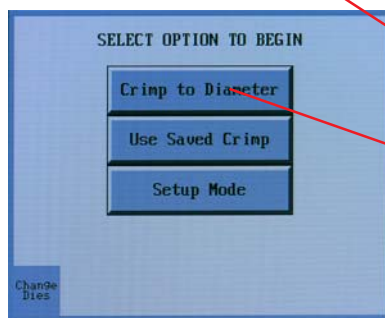
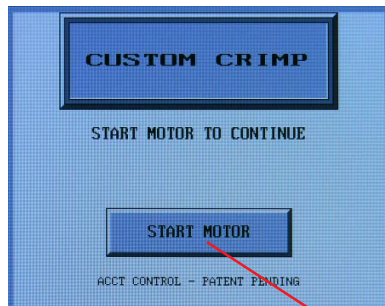
EMERGENCY STOP

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.

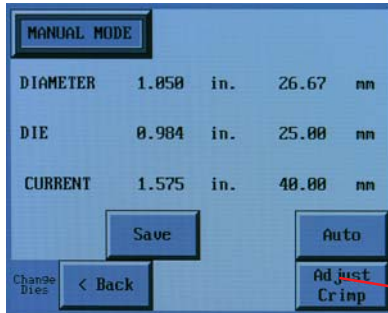


To make a manual crimp, two numbers are needed:
The closed diameter of the die (in either in or mm)
The finished crimp diameter (in either in or mm)
 That's all you need to know. ACT™ does the rest.

- 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 the decimal point.*
- 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.*

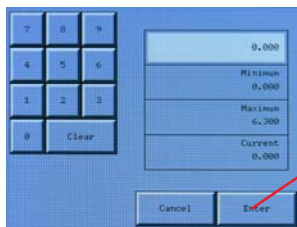
HOW TO MAKE MINOR CORRECTIONS



- 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:

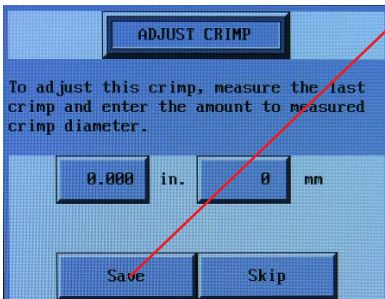
- Press the **ADJUST CRIMP** button.



- Enter the measured diameter of the fitting (Not the amount of correction).

- 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 (1.530) 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.



ACT™ TECHNOLOGY

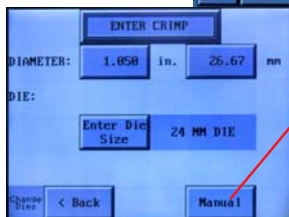
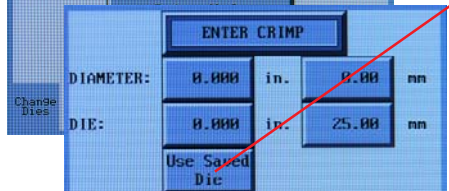
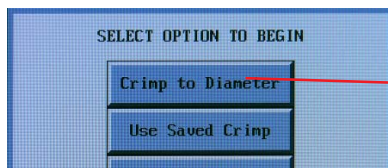
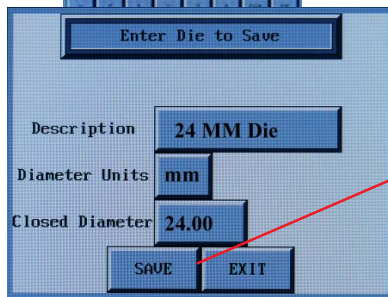
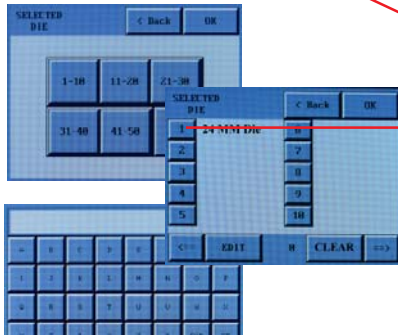
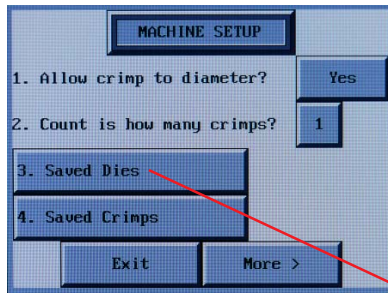
On crimpers equipped with ACT™ controllers the sensors which sense the position of the dies are supplemented by a pressure transducer which senses the “effort” required to make a crimp and compensates for variations in hose and fitting combinations. This unique feature means that the operator can enter the finished crimp diameter and will seldom, if ever, have to enter an offset to achieve the correct finished crimp diameter.

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

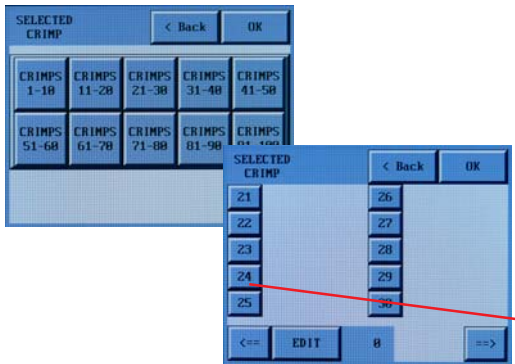
Select **CRIMP TO DIAMETER**, and from the **ENTER CRIMP** screen, select **USE SAVED DIE**.

Select the saved die (1-50) and press **LOAD** and then **OK**. The die parameters will now be used for the crimp process.

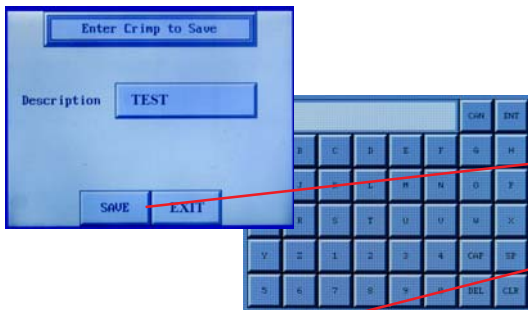
From the **ENTER CRIMP** screen press **MANUAL**.

The saved die will now be shown on the crimp parameters screen

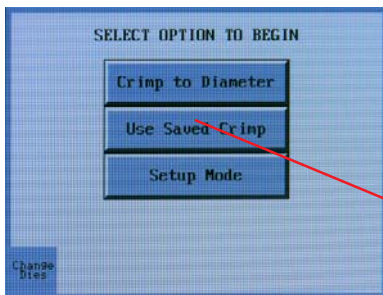
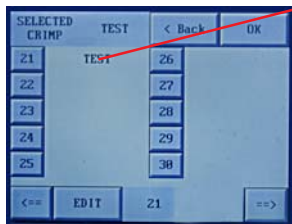
HOW TO ADD A SAVED CRIMP



- 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**

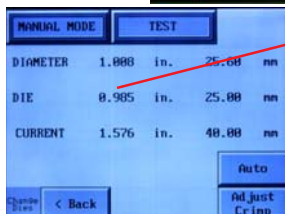
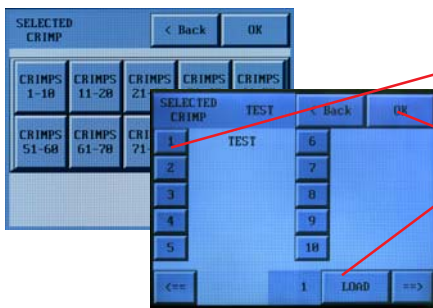


- Enter a description (up to 12 characters)
- Press **SAVE** and **EXIT**
- The die and crimp setting can now be recalled from the saved location as required (21 on the example screen shown)



TO RECALL SAVED CRIMP

- Select **USE SAVED CRIMP** from the option screen
- Select a previously saved crimp from location 1-100.
- Press **LOAD**
- Press **OK**
- The saved crimp will appear on the manual screen



FULL AUTO MODE

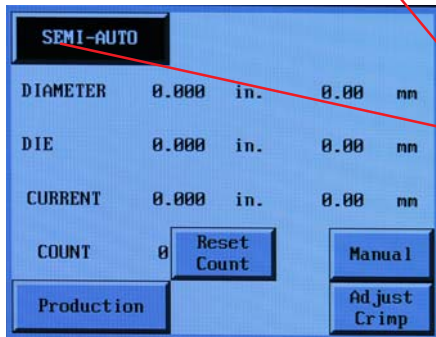
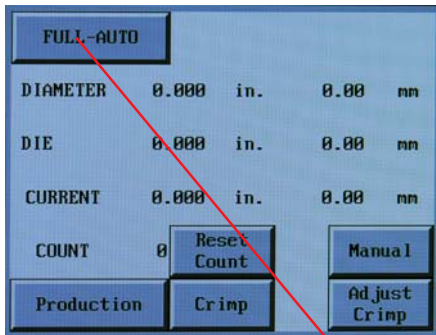
With the crimper in **FULL AUTO** mode additional functions are available:

- 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.

Note: The retraction position must be set a minimum amount above the finished crimp diameter or the crimper will not retract. The minimum retraction diameters are:

- CC38 - Crimp Diameter plus 2 mm
- CC4-50 - Crimp Diameter plus 2 mm
- CC60 - Crimp Diameter plus 3 mm

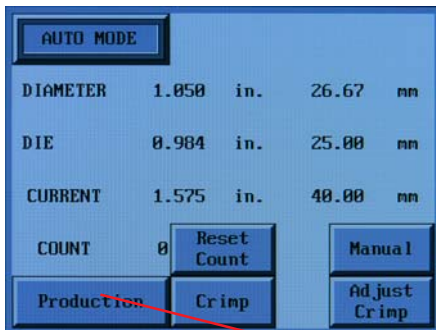


Pressing the **FULL AUTO** button will toggle the crimper into **SEMI-AUTO** mode. In **SEMI-AUTO** mode, pressing the **FOOT SWITCH** or the **CLOSE** button will close the crimper head and releasing it will cause the head to stop closing. This mode allows the crimper to be jogged into position allowing 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

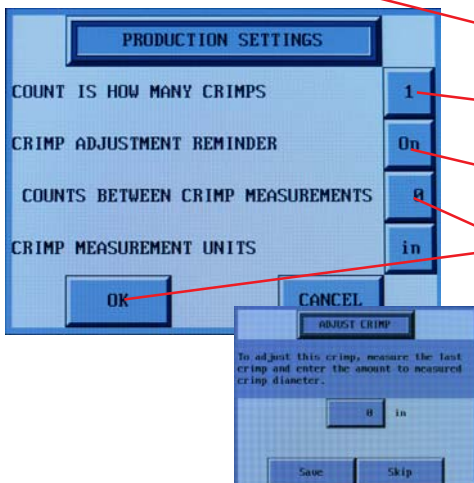
- Press the **PRODUCTION** button.

- 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.

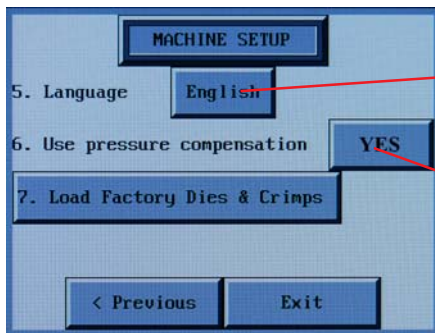


ACT™ ADDITIONAL FEATURES



- 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.

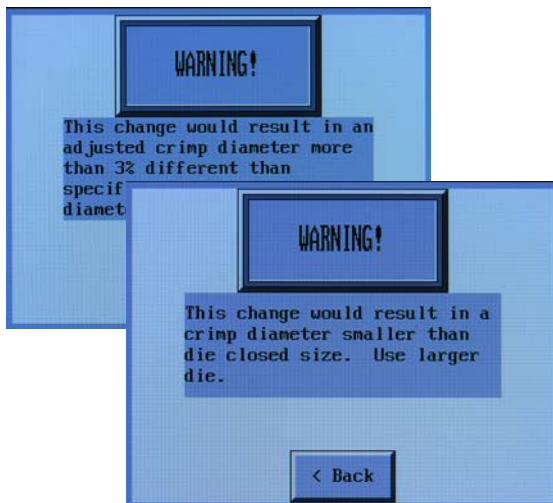


- English or Spanish language options are available.

- 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.



- Some hose and fitting manufacturers furnish a complete set of crimp specifications which can be downloaded into the crimper memory. Prior to downloading, a warning screen will appear warning that all previously entered settings will be lost.



- If an operation is attempted which is outside of the range of the die set selected or which could result in a bad crimp, a series of warning screens will appear to help diagnose the problem.

Industrial and Hydraulic hose dies are available for this crimper. Industrial Dies are inserted directly into the Master Dies and hydraulic dies require an intermediate die. Hydraulic Dies are available with an 80mm, 84mm, 99mm and 130mm O.D.

The I.D. of the intermediate die must match the O.D. of the hydraulic die or accurate crimps are not possible.

INDUSTRIAL DIE INSTALLATION INTERMEDIATE ADAPTER DIE INSTALLATION

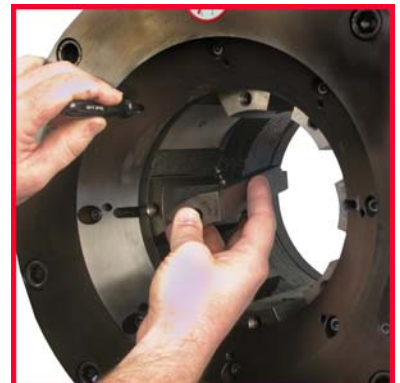
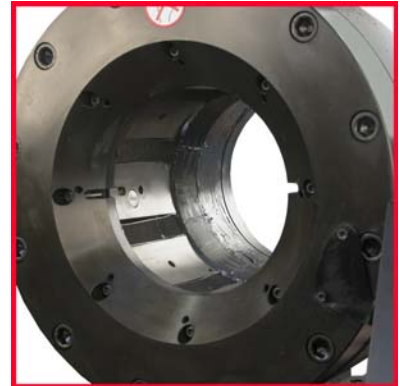
Turn on the crimper at the master power switch (See AccuCrimp Controller Instructions) and go to Manual mode.

Insert the die removal tool in the release hole to release the retaining spring and attach either an Intermediate Adapter Die or a Hydraulic Die to the Master Die. the numbers stamped on the face of the die should face the operator.

Mount all 8 dies in a similar manner.

If Industrial Dies are being used, proceed to the AccuCrimp Operating instructions and set up the crimper for the correct crimp diameter.

If Hydraulic Dies are being used, see Hydraulic Die Installation instructions.



Install Intermediate Adapter Dies as shown previously 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.



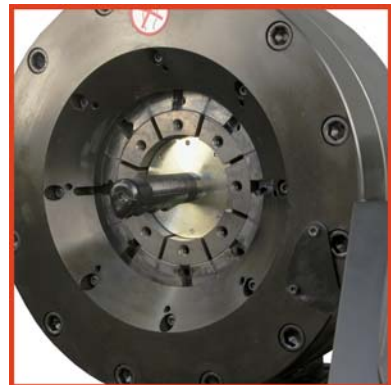
The die size stamped on the face of the die should face toward the operator

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 AccuCrimp operating instructions to set up the crimper for the hose and fitting being crimped.

For Hydraulic Die removal, place the crimper in manual mode or press the **CHANGE DIES button on the controller**, 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.



The optional AccuStop™ coupling stop eliminates guesswork allowing the operator to visually observe exactly where the crimp will be positioned on the fitting without the need for trial and error and product scrap due to poor crimp positioning.

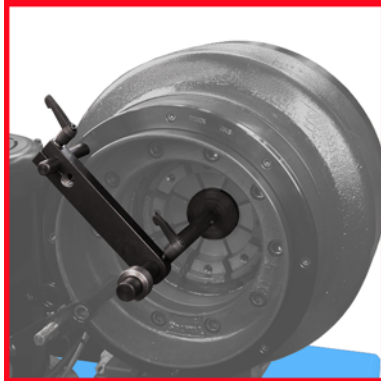
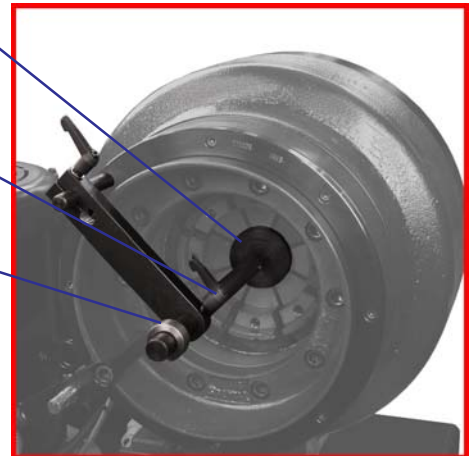
With the Coupling Stop retracted, load the appropriate set of dies and set crimp diameters as required.

With the crimper in the **MANUAL** mode, bring the dies to a fully closed position

Coupling Stop

Coupling Stop Clamp

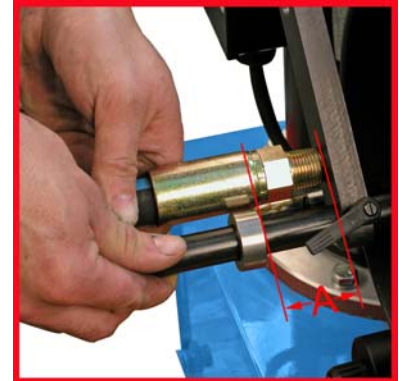
Coupling Stop Guide



Loosen the Coupling Stop Clamp and position the Coupling Stop against the back face of the dies.



Slide the Coupling Stop Guide against the Coupling Stop Arm.



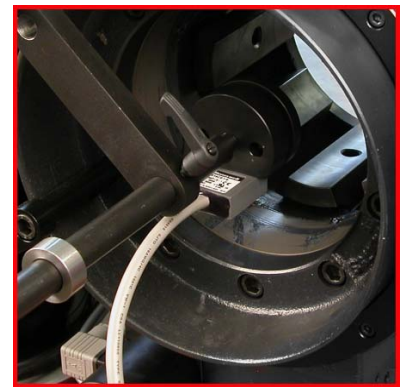
Hold the fitting against the Coupling Stop Arm withdraw the Coupling Stop Rod such that the Guide is aligned with the desired crimp position. Lock the Coupling Stop Clamp.



Position the fitting against the Coupling Stop and actuate the crimper in the normal manner.



The dimension from the face of the fitting to the crimp position will now be the dimension established in the previous step.



An electronic Coupling Stop is available. Set up is identical, but when the fitting touches the Coupling Stop, the crimp cycle will start automatically.

CAUTION: When using an electronic Coupling Stop, disconnect it from the controller prior to setup. Failure to do so will cause the crimper to actuate during the set up process.

Do not lift the machine by the crimper head. Lift with a fork lift under the tank.

Mount the crimper on a sturdy surface

Electrical Requirements:

220 Volt 3 Phase Current (Standard)

440 Volt 3 Phase Current (Optional)

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 rear of the crimper. 8 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 crimper



Front Flange Bolts

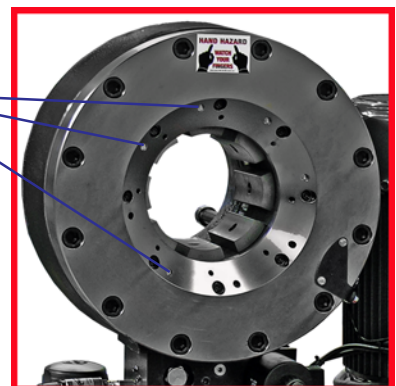
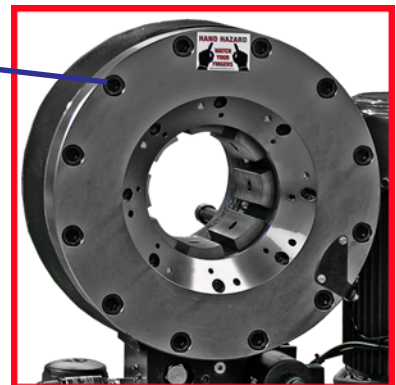
Front Flange Bolts: Periodically, every 6-12 months depending upon usage, the front flange bolt torque should be checked. The correct torque is 330NM (243 Ft Lbs)

Proper lubrication is essential to prevent damage to the machine and to assure accurate crimping.

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.

Grease Fittings

Bring the master dies to the fully closed position and lubricate the die fingers through the 8 lubrication fittings in the front flange face. Use only a high quality moly-disulfide grease. Failure to do so may result in damage to the wearing surfaces.



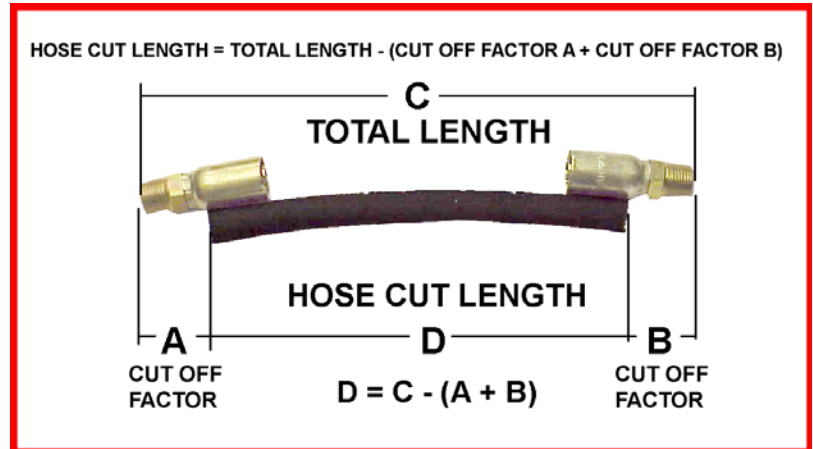
Dayco recommends that all users familiarize themselves with Dayco's warning statements, SAE J1273, and the Kwikrimp® concept, found in this operator's manual.

Select the Dayco hose and coupling to be assembled.

Determine the correct crimp setting from the crimp specifications sheet.

Determine hose cut length by subtracting the cutoff factor for each coupling from the overall length of the assembly. For these cutoff factors, see Dayco's published catalog data.

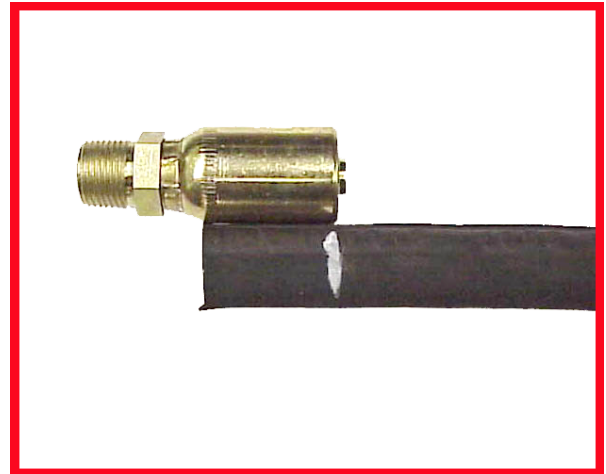
Cut the hose square and to the proper length with a suitable saw.



Coat the coupling stem with Dayco hose assembly lubricant (HAL16) to ease hose insertion. Insert the hose until it "bottoms" in the coupling shell.

To insure that the hose is bottomed in the collar, mark the insertion depth on the hose before inserting it into the coupling (see figure below).

Using a clockwise twisting motion or fixing the hex on the coupling in a vise may help when tolerances are tight



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.

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.
- 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

- Fitting is too large for selected crimp die. Select a crimp die that is closer to final crimp diameter. Machine has built-in safety by-pass to protect internal components from damage due to incorrect die selection.
- 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 2 mm larger than the final crimp diameter