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</table>
Safety instructions

⚠️ Warning

Failure to follow Eaton process and product instructions and limitations could lead to premature hose assembly failures, resulting in property damage, serious injury or death.

Eaton fitting tolerances are engineered to match Eaton hose tolerances. The use of Eaton fittings on hose supplied by other manufacturers and/or the use of Eaton hose with fittings supplied by other manufacturers may result in the production of unreliable and unsafe hose assemblies and is neither recommended nor authorized by Eaton. Read and understand the operator’s manual before attempting to operate any equipment.

Eaton hereby disclaims any obligation or liability (including incidental and consequential damages) arising from breach of contract, warranty, or tort (under negligence or strict liability theories) should Eaton hose, fittings or assembly equipment be used with the hose, fittings or assembly equipment supplied by another manufacturer, or in the event that product instructions for each specified hose assembly are not followed.

Please note that ET5050 is not a field serviceable machine. For issues beyond the preventive maintenance described below, customers are instructed to contact Eaton. Any additions or modifications to the machine may affect the operation of the machine, could result in injury or damage to the machine, and will void Eaton warranty.

Read and understand the operator’s manual before attempting to operate this machine. Failure to follow operating instructions could result in injury or damage to the equipment.

1. Prevent unauthorized operation
   Do not permit anyone to operate this machine unless they have read and thoroughly understand this manual. Failure to follow operating instructions could result in injury or damage to the equipment.

2. This machine should be operated by only one trained operator at any time.

3. Wear safety glasses
   Risk of eye injury! Eye protection required at all times during the installation, operation and maintenance of this machine.

4. Avoid pinch points
   Stay clear of the crimp ring, keep your hands clear of all moving parts. Do not allow anyone, other than the operator, to stand close to the machine.

5. Maintain dies with care
   Dies used in the crimp machine are hardened steel, offering the best combination of strength and wear resistance for long life. Hardened dies are generally brittle and care should be taken to avoid any sharp impact. Never strike a die with a hardened instrument.

6. Use only specified Eaton products
   Use only Eaton or Eaton approved products.

7. Verify correct crimp diameters
   Check and verify correct crimp diameters of all fittings after crimping. Do not put any hose assemblies into service if the crimp diameters do not meet Eaton crimp specifications.

8. Die change
   Follow prescribed directions regarding tooling change in the manual.

9. Keep work area clean
   Cluttered areas and benches invite accidents.

10. Emergency stop button
    The controller is provided with an emergency stop button. In case of an emergency, actuate the emergency button on the front of the controller. After the emergency stop button has been activated, the production area is without function, but all assemblies are still energized. De-energize the equipment via the main switch.

11. Never reach into crimp tooling when power is on
    Always make sure there is adequate safety distance of at least 4.75" (120mm) to the crimp tooling when inserting a hose fitting.

12. Crimping with base dies
    When crimping with base dies only, the uncrimped coupling diameter cannot exceed crimp range (6’/160mm)
**Safety decal explanations**

**Caution**
Pinch and crush hazard. Keep hands clear of moving parts. Never reach into the crimp tool with your hands while the electric motor is running. Always make sure that there is an adequate safety distance of at least 4.75” (120mm) to the crimping tool when you are inserting a hose fitting.

**Caution**
Crush Hazard. Keep hands clear of moving parts. Never reach into the crimp tool with your hands while the electric motor is running. Always make sure that there is an adequate safety distance of at least 4.75” (120mm) to the crimping tool when you are inserting a hose fitting.

**Greaseless bearing slides**
Do not lubricate bearing slides.

**Read and understand operator’s manual before using this machine.**
Failure to follow operating instructions could result injury or damage to equipment.

---

**Risk of eye injury**
Eye protection required.

**Electrical hazard**
Only qualified electricians should carry out work on the electric power supply.

**Lift Points**
Lift points are to help ensure load is evenly distributed on fork lift when moving. Position the heaviest part (front) of the machine nearest the front wheels of the fork lift.

**Do not lift from this side**
Always position the heaviest part (front) of the machine nearest the front wheels of the fork lift. Ensure load is evenly distributed on fork lift when moving.

---

**Dimensions:**
Height: 66.93” (1700 mm)
Width: 23.62” (599 mm) (center line of crimp head)
Length: 47.24” (2299 mm)
Note: Minimum of 36” of perimeter clearance is recommended for safety and maintenance.
Specifications

Electrical service options

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>50Hz</th>
<th>60Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET5050-001-230</td>
<td>Crimp Machine, 230V, 3 Phase (50/60 Hz)</td>
<td>16.8</td>
<td>20.6</td>
</tr>
<tr>
<td>ET5050-001-380</td>
<td>Crimp Machine, 380V, 3 phase (50/60 Hz)</td>
<td>10.2</td>
<td>12.4</td>
</tr>
<tr>
<td>ET5050-001-400</td>
<td>Crimp Machine, 400V, 3 Phase (50/60 Hz)</td>
<td>9.7</td>
<td>11.8</td>
</tr>
<tr>
<td>ET5050-001-420</td>
<td>Crimp Machine, 420V, 3 Phase (50/60 Hz)</td>
<td>9.7</td>
<td>11.2</td>
</tr>
<tr>
<td>ET5050-001-460</td>
<td>Crimp Machine, 460V, 3 Phase (50/60 Hz)</td>
<td>8.4</td>
<td>10.2</td>
</tr>
<tr>
<td>ET5050-001-480</td>
<td>Crimp Machine, 480V, 3 Phase (50/60 Hz)</td>
<td>8.0</td>
<td>9.8</td>
</tr>
</tbody>
</table>

⚠ Note: Machine was shipped without hydraulic oil. Customer will need to supply approximately 26 gallons or 100 liters of AW46 (ISO46) hydraulic oil. The oil level should be at the center of the fill level indicator. (Note: Do not attempt to run machine prior to filling with hydraulic fluid)

Weight: Approx. 1,653.5 lbs. (Dry)
Noise Level: 63 dBA
Crimp force: 280 Ton (2800 KN)
Machine setup and installation

⚠️ Caution
Read and understand the operator’s manual before attempting to operate this machine. Failure to follow operating instructions could result in injury or damage to the equipment.

Environment
1. The machine should be installed indoors on a level surface and operated in a clean dry environment, under normal atmospheric pressure. Avoid high humidity, dusty environments. (Optimal operating temperature: 50°F to 95°F)
2. Cover machine when not in use.

⚠️ Caution
Never get underneath the machine and keep the load low during transport.

Filling hydraulic fluid reservoir
1. Machine is shipped without hydraulic fluid.
2. Remove the oil cap on the top rear of machine.
3. Fill the reservoir with new, clean AW46 (ISO46) hydraulic fluid. (see page 5).
4. Filter oil through a 10 micron filter to remove any contaminates before filling machine.
5. Replace the vented oil filler cap when the correct oil level has been verified with the oil sight glass. (See figure 3).
6. Review instructions below for preparing the hydraulic system prior to operating.

⚠️ Note: Over filling hydraulic reservoir may result in blown seals and machine leakage.
Machine setup and installation

Connecting the electric supply

⚠️ Note: The machine is factory set to customer electrical supply requirements as noted on tag attached to the electrical disconnect. (See figure 4)

1. Note: The machine has six voltage options. If your electrical supply changes, factory voltage settings and amperage settings have to be changed. Contact Eaton customer service for assistance.

2. The machine is supplied with a 12’ electric pigtail that will require wiring to customer supplied plug/service by a qualified electrician.

3. The connecting plug must be rated for the service connection and comply with local electrical regulations!

4. After connection to a power source, if the head does not actuate, the rotation of the electrical motor is incorrect and two phases must be switched in the electrical plug or service.

Hydraulic system preparation

1. After filling or changing the hydraulic oil, the hydraulic system needs to be manually cycled under a no load condition to remove air from hydraulic lines before production use. Reference page 17 for manual operation.

2. Cycle the machine several times by advancing and retracting the crimp head. Upon completion, the advance and retract travel will be smooth.

3. Upon completion, leave the crimp head in the fully retracted position.

⚠️ Note: Always cycle the hydraulic system under a no load condition after filling or changing the hydraulic oil before use.
### Control symbols overview

The following symbols and buttons are utilized in the operation of the crimp machine:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🔴</td>
<td>Emergency stop button – In the event of an emergency, press the red emergency stop button on the front of the control panel. To restart, pull and twist the emergency stop button.</td>
</tr>
<tr>
<td>🔵</td>
<td>Motor off – to switch off the hydraulic motor.</td>
</tr>
<tr>
<td>🟢</td>
<td>Motor on – to switch on the hydraulic motor.</td>
</tr>
<tr>
<td></td>
<td>Opens the crimp tooling.</td>
</tr>
<tr>
<td></td>
<td>Closes the crimp tooling.</td>
</tr>
<tr>
<td>🏡</td>
<td>Takes you back to the home screen.</td>
</tr>
<tr>
<td>🙋‍♂️</td>
<td>Crimp tooling opens automatically after crimping.</td>
</tr>
<tr>
<td>🎥</td>
<td>Crimp tooling does not open automatically after crimping. Manual retract required.</td>
</tr>
<tr>
<td>🏡</td>
<td>Takes you back to the previous screen.</td>
</tr>
<tr>
<td>🎡</td>
<td>Takes you to the machine settings.</td>
</tr>
<tr>
<td>⌨️</td>
<td>User name.</td>
</tr>
<tr>
<td>🔒</td>
<td>Password entry.</td>
</tr>
<tr>
<td>🔽</td>
<td>Displays the next screen.</td>
</tr>
<tr>
<td>🔽</td>
<td>Displays current tooling position.</td>
</tr>
<tr>
<td>🔽</td>
<td>Offset to crimp target.</td>
</tr>
<tr>
<td>#</td>
<td>Select the number of pieces to be produced. (Manual operation only)</td>
</tr>
<tr>
<td>QDC</td>
<td>Target is the die change position.</td>
</tr>
<tr>
<td></td>
<td>Crimp tooling diameter. (Size)</td>
</tr>
</tbody>
</table>

---

**Notes:**
- When the emergency stop button is pressed, all machinery movements and processes are immediately stopped.
- The machine will restart upon releasing the emergency stop button and pulling and twisting it.
- To switch the hydraulic motor on or off, use the corresponding button.
- The crimp tooling will automatically open after a crimping process is completed, unless otherwise noted.
- Password entry is required for certain functions to ensure secure operation.
- The machine settings can be accessed for customization and adjustments.
- The user name is used for identification purposes within the machine.
- The crimp nominal diameter is displayed to provide feedback on the current crimping process.
- The die change position is critical for maintaining the accuracy and efficiency of the crimping process.
Tooling installation - using Quick Die Change (QDC) tool

Step 1

Figure 5

After fitting and hose selections are made on menu screens, screen will display correct tooling for application.

Step 2

Figure 6

Align and insert the eight pins of the QDC tool (ET5040C-0004) with the holes in the front of desired crimp dies in the optional storage rack (ET5040C-0014). Rotate the handle to the right (clockwise) to remove the crimp dies from the storage rack.

Step 3

Figure 7

Position the QDC tool with crimp dies in the center of the crimp head. Make sure the holding pins are aligned with the bore holes in the base or intermediate dies and gradually jog - close the crimp head while confirming all eight pins are aligned.

Step 4

Figure 8

Remove the QDC tool and retract the crimp head. Confirm the crimp dies are loaded correctly and secured to the base dies. No space should be visible between the dies and base dies. Then press the check button to acknowledge installation of correct tooling for application.
Tooling removal - using Quick Die Change (QDC) tool

Step 1

When prompted to make a tooling change, close the head to the QDC position. Head will stop and light will no longer illuminate when in QDC position.

Step 2

Align the eight pins on the QDC tool with the holes on the crimp dies, insert the pins fully into the crimp dies until magnets are fully seated.

Step 3

Gradually retract the crimp head completely until the crimp die holding pins have completely disengaged from the intermediate dies.

Step 4

Place the crimp dies into the storage rack, rotate the QDC to the left, (counter clockwise) this locks the die segments into the storage rack.
Tooling installation/removal - adapter and large bore dies (die-key)

Tooling installation with die key
1. Retract the crimp dies completely.
2. The site holes, figure (A) should be exposed and accessible.
3. Turn off the machine on the main switch.
4. Insert and hold (depress) the die key in hole (A).
5. Insert the crimp die segment as shown with the holding pin in the bore hole B.
6. Release the pressure on holding pin A by pulling out the die key.
7. This die should now be securely connected.
8. Repeat same procedure for each die.
9. Upon completion, restart machine.

Tooling removal with die key
1. Partially open the crimp head leaving site holes (A) exposed.
2. Turn off the machine on the main switch.
3. To remove the crimp dies hold the crimp die to be changed in one hand. With the other hand push and hold the die key in the bore hole A in the base die C.
4. Remove the die and release the pressure on holding pin A by pulling out the die key.
5. Remove the remaining die segments using the same procedure.
6. Restart the machine.

⚠ Note: Failing to turn off machine prior to inserting die key may result in injury or damage to machine.

General notes for crimping

Check the achieved crimp diameter after the first crimp. If there are discrepancies between actual size, ovality and specification value an offset adjustment must be entered. (See page 15 for instructions). Differences may occur due to spring back of the fitting socket after the crimping, as a result of hose or fitting tolerances, or differing material hardness of the fittings.

⚠ Attention: Always insert a full set of matching dies.

⚠ Attention: When crimping with base dies only, the uncrimped coupling diameter cannot exceed crimp range (6”/160mm).
Follow the settings and calibration steps prior to initial production use of the machine (Page 27)

**Step 1**

Rotate the main power switch (See figure 13) on the right side of the machine to the “On” position. Wait for the machine to boot up.

**Step 2**

Press “User Log In” icon to access user log in screen. (See figure 14).

**Step 3**

Enter default username “User” and password “User” to access the ET5050 controller. Then press the check icon to enter. (See figure 15).

**Step 4**

Select “Crimp Selections” for Eaton factory pre-populated specifications. (See figure 16).
Operating instructions
Crimp selections – auto mode continued

Step 5

![Figure 17](image1.png)
Select desired product line. (See figure 17).
- Aeroquip
- Everflex
- Industrial
- Weatherhead
- Synflex

⚠ Note: Favorites icon provides direct selection of commonly used crimp selections.

Step 6

![Figure 18](image2.png)
Select hose series (Use either method A or method B):
A. Use scroll bar on right side of screen to scroll through the available hose series. Make selection by touching hose series, then press check mark. (See figure 18).
B. Touch filter box on the left, key pad will pop up, type in desired hose series and press check mark.

⚠ Note: Key pad will disappear and selected series will populate in option A. Then press check mark.

Step 7

![Figure 19](image3.png)
Screen will prompt you to select “Hose Dash” size, press down arrow to view options. Make selection by pressing desired dash size. (See figure 19).

⚠ Note: If hose series or hose dash size is not available in the selection, please review Eaton powersource for compatibility. If crimp specifications and die part number information is available for hose series and hose dash size on powersource for ET5050, please use manual mode (page 17) to perform the crimping operation.

Step 8

![Figure 20](image4.png)
Next select “Fitting Type” by pressing down arrow to view options and pressing desired “Fitting Type”. (See figure 20).
Operating instructions
Crimp selections – auto mode continued

Step 9

Press check prompt on bottom of screen to finish selection process and to display tooling requirements for hose series selection. (See figure 21).

Figure 21

Step 10

Install the defined dies per the tooling installation procedure. (Page 9) Select the check mark when the correct dies are securely installed. (See figure 21).

⚠️ Note: “Current Selection” screen displays selected product, assembly instructions and appropriate specifications. (See figure 22).

Figure 22

Step 11

1. Load hose & fitting into machine.

⚠️ Caution

Never reach into the crimp tooling with your hands while the electric motor is running! Always make sure there is adequate safety distance of at least 4.75” (120 mm) between the crimp tooling and your hands when inserting a hose fitting.

2. Position the scribe line on the fitting to the edge of the tooling. (See Figure 23)

⚠️ Note: Optional back stop aids in positioning the hose and fitting assembly before crimping. (See figure 24).

Figure 23

Figure 24
Operating instructions
Crimp selections – auto mode continued

Step 12.a. - Auto retraction mode

With the **auto retraction** activated (Green icon, Figure 25), turn the crimper hydraulic motor on by depressing the green "Motor On" button on the controller. Then press and hold the "Crimp Advance" button on the controller or depress the foot pedal if activated. Once the machine has crimped the fitting, the crimp tooling will automatically retract and you can release the cycle start button or foot pedal. (See figure 25).

**Figure 25**

Step 12.b - Manual retraction mode

With the **manual retraction** activated (Red icon, Figure 26), turn the crimper hydraulic motor on by depressing the green "Motor On" button on the controller. Then press and hold the 'Crimp Advance' button on the controller or depress the foot pedal if activated. Once the machine has crimped the fitting, depress the crimp tooling retract button to manually retract the crimp tooling or you can press the retract foot pedal. (See figure 26).

**Figure 26**

Step 13

After first crimp, compare achieved crimp dimensions against crimp specifications. (See figure 27).

**Figure 27**

Step 14

If achieved crimp is larger or smaller than specification, enter the appropriate offset to correct. Offset will automatically be saved for specific hose configuration.

Note: Product assembly information is displayed in box on right side of screen. Additional information (Such as photos, See figure 28 & 29) are available by pressing the question mark icon. (See figure 27).

**Figure 28**

**Figure 29**
## Operating instructions

### Crimp selections – auto mode continued

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Crimp tooling diameter." /></td>
<td>Crimp tooling diameter.</td>
</tr>
<tr>
<td><img src="image" alt="Crimp diameter specification." /></td>
<td>Crimp diameter specification. (Target)</td>
</tr>
<tr>
<td><img src="image" alt="Crimp diameter tolerance." /></td>
<td>Crimp diameter tolerance.</td>
</tr>
<tr>
<td><img src="image" alt="Crimp ovality tolerance." /></td>
<td>Crimp ovality tolerance.</td>
</tr>
<tr>
<td><img src="image" alt="Crimp position specification." /></td>
<td>Crimp position specification.</td>
</tr>
<tr>
<td><img src="image" alt="Crimp position tolerance." /></td>
<td>Crimp position tolerance.</td>
</tr>
<tr>
<td><img src="image" alt="Correction/offset to diameter." /></td>
<td>Correction/offset to diameter.</td>
</tr>
<tr>
<td><img src="image" alt="Takes you back to the previous screen." /></td>
<td>Takes you back to the previous screen.</td>
</tr>
<tr>
<td><img src="image" alt="Add current selection to favorites menu." /></td>
<td>Add current selection to favorites menu.</td>
</tr>
<tr>
<td><img src="image" alt="Open favorites menu." /></td>
<td>Open favorites menu.</td>
</tr>
<tr>
<td><img src="image" alt="Crimp tooling does not open automatically after crimping. Manual retract required. (Touch to change)" /></td>
<td>Crimp tooling does not open automatically after crimping. Manual retract required. (Touch to change)</td>
</tr>
<tr>
<td><img src="image" alt="Crimp tooling opens automatically after crimping." /></td>
<td>Crimp tooling opens automatically after crimping.</td>
</tr>
<tr>
<td><img src="image" alt="Opening diameter. The tool automatically retracts to set opening diameter after crimp when green icon is displayed. (Touch to set)." /></td>
<td>Opening diameter. The tool automatically retracts to set opening diameter after crimp when green icon is displayed. (Touch to set).</td>
</tr>
<tr>
<td><img src="image" alt="Displays product information." /></td>
<td>Displays product information.</td>
</tr>
<tr>
<td><img src="image" alt="Returns you to home screen." /></td>
<td>Returns you to home screen.</td>
</tr>
<tr>
<td><img src="image" alt="Displays the next screen." /></td>
<td>Displays the next screen.</td>
</tr>
</tbody>
</table>

- **Current tooling position**
Operating instructions
Manual operation

Follow the settings and calibration steps prior to initial production use of the machine (Page 29)

⚠ Note: Manual operation is for crimping hose & fittings not in the pre-populated Eaton database.

Step 1

Rotate the main power switch located on the right side of the machine to the “On” position. Wait for the machine to boot up. (See figure 30).

Figure 30

Step 2

Press "User Log In" icon to access user log in screen. (See figure 31).

Figure 31

Step 3

Use pop up key pad to enter default username "User" and password "User" to access the ET5050 controller. Then press the check icon to enter. (See figure 32).

Figure 32

Step 4

Select "Manual Operation". (See figure 33).

⚠ Note: "Manual Operation" allows operator to enter and save their own desired crimp specifications.

Figure 33

Note: Manual operation is for crimping hose & fittings not in the pre-populated Eaton database.

⚠ Note: Manual operation is for crimping hose & fittings not in the pre-populated Eaton database.
Operating instructions
Manual operation continued

Step 5

<table>
<thead>
<tr>
<th>Figure 34</th>
</tr>
</thead>
</table>

Manual operation screen is shown in figure 34. See explanation of all icon on page 19.

Step 6

<table>
<thead>
<tr>
<th>Figure 35</th>
</tr>
</thead>
</table>

To save manually entered crimp specification, press the save data to user input database icon. (See figure 35).

Step 7

<table>
<thead>
<tr>
<th>Figure 36</th>
</tr>
</thead>
</table>

Enter name of manually entered crimp specification and then press the check to save. (See figure 36).

Step 8

| Figure 37 |

1. Load hose & fitting into machine.

⚠️ Caution

Never reach into the crimp tooling with your hands while the electric motor is running! Always make sure there is adequate safety distance of at least 4.75” (120 mm) between the crimp tooling and your hands when inserting a hose fitting.

2. Position the scribe line on the fitting to the edge of the tooling. (See figure 37)

| Figure 38 |

⚠️ Note: Optional back stop aids in positioning the hose and fitting assembly before crimping. (See figure 38)
Operating instructions
Manual operation continued

Icon explanations

Data entry field for naming custom crimp specification. Note: Entry not required for operation. Save required to retain for future use.

Crimp diameter target (User defined via pop up numerical keypad).

Set desired automatic retract opening diameter/position.

Offset for achieved diameter correction. Click icon to enter value.

Set dwell time. (Time at fully closed position prior to auto open).

Tooling diameter. Tooling auto populates, displaying suggested tooling for target crimp diameter. Note: User may input an alternate tooling selection.

Auto Open Red - Off Green - On (Touch icon to change)

Quick die change: Initiates the die change, install sequence. (Touch to change).

Save data to user input database.

Additional inputs (to switch parameters) (Page 17).

Return to “Home” screen.

Select number of pieces to crimp.

Displays total number of pieces crimped so far.

Displays current position of crimp tooling/pressure of crimp.

Note: Not required to crimp. “0” selection will allow unlimited crimps.
Adjusting the switching point of the crimp machine

Adjust the switching point of the machine from closing speed to (slow) crimping speed in the “Switching Point” fields, either based on the displacement or the pressure.

The value first reached by the machine triggers switching from closing to crimping speed.

Takes you back to the previous screen.

Operational steps
1. Define crimp specification in the appropriate field.
2. Reference the controller specified die required.
3. Load the appropriate dies utilizing the QDC button and instructions listed in this manual for safe die installation.
4. Verify uncrimped fitting diameter is smaller than the ‘switching point’ dimension (see Pg 18). Adjust to adhere as needed.
5. Set any desired dwell time to hold the crimp in the closed position before auto opening. (if desired). Note: Default dwell time is 0.0 seconds.
6. Set the auto opening diameter. (if desired).
7. Safely locate the fitting properly within the crimp tooling.
8. Activate crimper by depressing the cycle start button on the controller or the foot pedal if activated, completing the crimp.
9. Measure the crimped fitting to proper specification.
10. If achieved crimp is larger or smaller than acceptable range, enter the needed numerical correction in the offset field. (+/-).
11. Save the crimp setting under a user specified name (if desired).
# Settings

## Setting #1 - controller log-in

Note: Walk through all machine settings during initial machine set-up.

![Figure 39](image1)

Select the settings icon to access the settings menu's. (See figure 39).

![Figure 40](image2)

Enter your user name. Note: Factory default is “user”. (See figure 40).

Enter your password. Note: Factory default is “user”. (See figure 40).

Press the “Check” icon to log-in to the “Settings” menu. (See figure 40).

## Language

Select desired language by selecting “Flag” icon. (See figure 36).

![Figure 41](image3)

Displays the language selected. (See figure 41)

Press forward arrows to display the next “Settings Menu”.

Figure 39

Figure 40

Figure 41
Settings
Setting #2 - display units of measurement

A
Diameter settings and pressure units display menu. (See figure 42)
Select unit of measurement for distance, press desired icon, “MM” or “Inches”.

B
Displays the selected unit of measurement in millimeters or inches.
Select unit of measurement for pressure, press desired icon, “Bar, PSI. or MPa”. (See figure 42).

Displays the selected unit of pressure measurement in “Bar, PSI.\ or MPa”. (See figure 42).

Software version

Settings screen displays current software version loaded. (See figure 43).
No user adjustment or selection is needed.
Settings
Setting #3 - user administration

Machine users and privileges can be set from the user administrator screen. If not desired, proceed to the next screen via arrow forward. **When added a new user, DO NOT repeat usernames or passwords.**

- Enter your user name. (See figure 44).
- Enter your password. (See figure 44).
- Displays your access rights (Administrator or set-up staff).
- Selects the next user from the list, if available.

- Selects the previous user.
- Adds user to the list.
- Delete a user from the list.
- Displays the previous screen.

- Displays the next screen.
- Exits settings menu.
Settings
Setting #4 - tooling editor

Note: When the machine is delivered, the tooling editor contains all of the Eaton die sets. Remove the dies not purchased with the machine to direct the machine to the available dies. (See figure 45).

Figure 45

Dies displayed by nominal size.
Example: ET5040DC-M320S = 32.0

Add a new die set to the list. Delete a die set from the list. Restore complete Eaton tooling list. Return to previous setting (back).

Proceed to next setting (forward). Exit settings menu.
Settings
Setting #5 - product/operational updates

Update notifications will be provided via e-mail. Updates will be available via Eaton customer connect portal or online drop box storage. After downloading, store a copy of the files on the USB storage device provided with the machine in ‘FAT32’ format. Do not utilize the ‘quick format’ option.

Step 1
Rotate the main power switch located on the left side of the machine to the “On” position. Wait for the machine to boot up. (See figure 46).

Figure 46

Step 2
Press "User Log In" icon to access user log in screen. (See figure 47).

Figure 47

Step 3
Use pop up key pad to enter default username "User" and password "User" to access the ET5050 controller. Then press the check icon to enter. (See figure 48).

Figure 48

Step 4
Select the settings icon to access the settings menu’s. (See figure 49).

Figure 49
**Settings**

**Setting #5 - product/operational updates**

**Step 5**

![Figure 50](image)

Enter your **user name**.

Note: Factory default is “user”. (See figure 50).

Enter your **password**.

Note: Factory default is “user”. (See figure 50).

Press the “Check” icon to log-in to the “Settings” menu. (See figure 50).

**Step 6**

![Figure 51](image)

Language screen will be the first settings screen displayed. Press the advance arrow (5-times) to reach the software updates screen. (See figure 51 & 52).
Settings
Setting #5 - product/operational updates

Step 7

![Figure 53](image)

Install the USB device into the back of the controller and press the download icon, (See figure 53 & 54).

![Figure 54](image)

Step 8

![thumbs-up](image)

When updates are complete and successful, an image with a green thumb up will pop up on the screen. Select the check mark to acknowledge.

Step 9

![language settings](image)

After acknowledging download completion, screen will return to the language settings screen. Use forward arrows to advance to software screen. (See figure 55 & 56).
Settings
Setting #5 - product/operational updates

Step 10

Select latest software version installed. A green thumbs up icon will appear. (See figure 56 & 57).

Step 11

Press the check mark to acknowledge selection. (See figure 57).

Step 12

Turn the power off and then back on to the machine to reboot the controller. (See figure 58).
Settings

Setting #6 - user input crimp database

Figure 59

Review user input database and related crimp specifications. (See figure 59). Delete any unneeded specifications.

Displays the previous setting (back).
Displays the next setting (forward).
Delete the highlighted specification.
Exit the settings menu.
Settings
Setting #7 - machine settings

Note: Most fields here are for reference only and should not be updated by the customer.

Adjusted zero point and/or reference point of the machine. No user adjustment.

Factory position for die change. No user adjustment.


Total number of completed machine cycles (life of machine).

Displays the previous setting (back).

Displays the next setting (forward).

Exit settings menu.
Adapter dies (ET5040C-0001) and 32 mm dies (ET5040C-M320S) must be installed for calibration procedure as directed. (See figure 61). Follow safe tooling installation instructions.

Install small end of mandrel as directed. (See figure 62) (ET5040C-0019 tool)

Press the motor on button to activate the hydraulic motor and then crimp onto the small end of the mandrel until the green light no longer is illuminated. Retract the crimp head and remove the mandrel.

Rotate the calibration tool and insert the large end of the mandrel into the crimp head and advance the crimp tooling by depressing the advance button until the green light no longer is illuminated. (See figure 64).

When fully advanced, the advance button illumination will turn off indicating head is fully advanced. The display screen will change showing calibration complete. (See figure 65) Fully retract head and remove calibration tool and press the enter button.
# Maintenance

⚠️ **Warning**

Power down the machine and lock out the main breaker prior to performing maintenance. Appropriate safety gear such as safety glasses and gloves should be worn at all times during operation of the machine and while performing maintenance.

⚠️ **Warning**

Please note that ET5050 is not a field serviceable machine. For issues beyond the preventive maintenance described below, customers are instructed to contact Eaton technical support. Any additions or modifications to the machine may affect the operation of the machine, could result in injury or damage to the machine, and will void Eaton warranty.

## Daily maintenance procedures

- Open the crimp tool completely.
- Power down the machine.
- Clean the crimp head and tooling of any foreign debris utilizing a shop vacuum. Pressurize air (110 psi) may be utilized to remove debris.
- Check visually for oil leakage. Wipe down any residue.
- Check the crimp head and associated parts for cracks, signs of damage and wear.
- Check the detent pins on the crimping dies for damage.

## Monthly maintenance

- Switch off the motor and switch off the machine using the main switch.
- Check the base and underneath the machine for potential leaks from the hydraulic hose assemblies and connections. If a leak is identified, open up the cabinet to inspect.
- Check hydraulic oil level using the sight glass on the side of the machine.
- Inspect hydraulic oil filter.

## Six-month maintenance

- Check the bearing plates for wear and galling. Worn bearing plates need to be exchanged.
- If replacement is required, contact Eaton customer service.

## Annual maintenance

- Switch off the motor and turn off the machine using the main switch.
- Pump out old oil and fill with new, clean AW46 (ISO 46) hydraulic fluid (see page 5). Filter oil through a 10 micron filter to remove any contaminants.
- Install new hydraulic filter.
- Perform calibration procedure as detailed in settings #8 (page 31).

## Hydraulic oil and filter change

- Fully open crimp head.
- Switch off & lock out power.
- Remove the oil cap and pump out old oil from reservoir from the filler port.
- Remove the back panel to access the oil filter housing. Using an adjustable wrench, remove the oil filter housing to access the filter. Unscrew housing counterclockwise to remove the filter. (See figure 66 & 67).
- Install new filter and replace filter housing.
- Refill with AW46 hydraulic oil (see page 5).
- Verify fill level with oil sight glass on side of tank.
- Cycle crimp machine head per instructions on page 6.
ET5050 dies and kits

Note: Please note that ET5050 shares dies crimp components and accessories with the ET5040.

ET5040 standard die part numbers

Capability of crimping Eaton hose products ranging from -3 (3/16") through -40 (2 1/2") in certain constructions. The ET5040C-0023 kit includes the (11) most popular dies required to crimp Eaton’s most common hose product lines. The standard ET5040DC dies require the use of the ET5040C-0001 adapter dies.

These die packages are used for hydraulic hoses and industrial hoses with a finished crimp diameter up to 3.46 in. (88mm).

<table>
<thead>
<tr>
<th>Standard die set part number</th>
<th>Die size</th>
<th>Die length</th>
<th>Crimp range minimum</th>
<th>Crimp range maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mm</td>
<td>in</td>
<td>mm</td>
<td>in</td>
</tr>
<tr>
<td>ET5040DC-M070S</td>
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<td>0.276</td>
<td>82,0</td>
<td>3.23</td>
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<td>ET5040DC-M090S</td>
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<td>82,0</td>
<td>3.23</td>
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<tr>
<td>ET5040DC-M120S</td>
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<td>82,0</td>
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<tr>
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<td>3.23</td>
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<td>0.827</td>
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<td>ET5040DC-M240S</td>
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<tr>
<td>ET5040DC-M370S</td>
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<td>82,0</td>
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<td>3.23</td>
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<td>82,0</td>
<td>3.23</td>
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<td>82,0</td>
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<td>ET5040DC-M505S</td>
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<td>1.988</td>
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<td>3.23</td>
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<tr>
<td>ET5040DC-M520S</td>
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<td>ET5040DC-M550S</td>
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<tr>
<td>ET5040DC-M570S</td>
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<td>82,0</td>
<td>3.23</td>
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<td>82,0</td>
<td>3.23</td>
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<td>ET5040DC-M620S</td>
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<td>3.23</td>
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<td>ET5040DC-M720S</td>
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<td>ET5040DC-M775S</td>
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<td>3.051</td>
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<td>3.23</td>
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<td>3.110</td>
<td>82,0</td>
<td>3.23</td>
</tr>
</tbody>
</table>

*Included in the ET5040C-0023 standard die kit.
†Supplied with all ET5050 crimp machines and required for calibration.
††Require ET5040C-0001 adapter die.
Each set includes 8 individual dies.
**ET5050 dies and kits**

Note: Please note that ET5050 shares dies crimp components and accessories with the ET5040.

**ET5040C-0001 adapter dies**

Eaton adapter dies are supplied with all ET5040 base machines and are required for use with Eaton standard ET5040DC style dies. Adapter dies are inserted into the crimp head, providing proper alignment for the ET5040DC style dies. ET5040DC style dies are installed directly into the adapter die segments.

**ET5040 large bore die part numbers**

Capability of crimping Eaton hose products ranging up to -64 (4") in certain constructions. The large bore ET5040 dies do not require an adapter die and are inserted one segment at a time. The large bore dies are typically used for large I.D. Eaton industrial hose and large hydraulic hose.

<table>
<thead>
<tr>
<th>Standard die set part number</th>
<th>Die size</th>
<th>Die length</th>
<th>Crimp range minimum</th>
<th>Crimp range maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET5040PBL-M740</td>
<td>74.0</td>
<td>118.0</td>
<td>2.913</td>
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<td>ET5040PBL-M780</td>
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<tr>
<td>ET5040PBL-M840</td>
<td>84.0</td>
<td>118.0</td>
<td>3.307</td>
<td>4.65</td>
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<tr>
<td>ET5040PBL-M860</td>
<td>86.0</td>
<td>118.0</td>
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<td>ET5040PBL-M900</td>
<td>90.0</td>
<td>118.0</td>
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<td>ET5040PBL-M960</td>
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<td>3.800</td>
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<td>ET5040PBL-M1110</td>
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<td>4.96</td>
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<td>4.764</td>
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<td>ET5040PBL-M1310</td>
<td>131.0</td>
<td>126.0</td>
<td>5.157</td>
<td>4.96</td>
</tr>
</tbody>
</table>

Each set includes 8 individual dies.
**Accessories**

**Figure 68**

**Automatic back stop (Part number: ET5040C-0006)**
Replaces controller activation of the crimper, hose must engage with backstop to cycle the crimper. (See figure 68) Crimping stops whenever the hose no longer touches the back stop face.
Set actuation position of backstop prior to plugging into crimper. Automatic back stop plugs in on the side of the electrical enclosure. (See figure 4).

**Figure 69**

**Manual back stop (Part number: ET5040C-0007)**
Used for position control. Locate assembly to desired position in crimp jaws. Adjust backstop to contact fitting assembly. (See figure 69).

**Figure 70**

**Foot switch (Part number: ET5040C-0020)**
Optional foot switch is available for crimp head activation/retraction. (See figure 70). To activate foot switch, select button on controller.

Foot switch plugs in on the side of the electrical enclosure. (See figure 4 on page 6).

**Figure 71**

**Magnetic work light (Part number: ET4001C-0017)**
Magnetic work light provides improved visibility in low light conditions. (See figure 71).
Accessories

Figure 72

Calibration tool (Part number: ET5040C-0019)
Calibration tool simplifies the calibration process to ensure the ET5050 crimp machine is achieving consistent and accurate crimp diameters. (See figure 72).

Figure 73

Die storage rack (Part number: ET5040C-0014)
Machine mounted die storage rack for standard size dies. (See figure 73).

Figure 74

Mirror kit (Part number: ET5050C-0009)
Provides operator with additional viewing angles to assist in correct alignment of crimp position. (See figure 74).
Accessories

Die installation tool (Part number: ET5040C-0004)
Die installation tool provides quick die change out capability for all standard style dies. (See figure 75)

Manufacturer:
UNIFLEX-Hydraulik GmbH Robert-Bosch-Strasse 50-52 D-61184 Karben Germany
Phone: +49 (0) 60 39 / 91 71 - 0 Fax: +49 (0) 60 39 / 91 71 - 181

EC Declaration of Conformity
In accordance with EC Machinery Directive 2006/42/EC.
The following machine
HM 3xx Control C.2 PFC
was developed, designed and manufactured in compliance with EC Directive 2006/42/EC, in the sole responsibility of UNIFLEX-Hydraulik GmbH Robert-Bosch-Strasse 50 - 52 D-61184 Karben
The following standards, codes and specifications have been applied:
• EC Directive 2006/42/EC
• EMC Directive 2014/30/EC
• EN ISO 12100: 2010
• EN 60204: 2006

This declaration are invalid when the machine is modified or if un-authorized and unapproved third-party components are used without our prior approval.

Karben, 24.03.2016

Managing Director Harald von Waitz