

# SelectiveRIDER™

QUICK REFERENCE GUIDE | A60-7353-16 R1.1.0

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## INTRODUCTION

This guide explains how to operate the ECD SelectiveRIDER™. Refer to the M.O.L.E MAP Users Help System in the software for detailed information on hardware and software.

This guide is written for users of varied experience. If a section covers information you already know, feel free to skip to the next section.

- You do not need to be a computer expert to use this guide or the software.
- The guide assumes you are familiar with Microsoft® Windows® Operating Systems.

## TERMS USED

In 1986 ECD introduced our original Thermal Profiling instrument called the **M.O.L.E.® (Multichannel Occurrent Logger Evaluator)**. Over the years ECD has produced several models of the **M.O.L.E.®** for use in a wide variety of applications. In this Users Help System, we may refer to all of our Thermal Profiling instruments as the **M.O.L.E.®**.

The **M.O.L.E.® Thermal Profiler** is a registered trademark of ECD.

### **The following statements describe special terms that will be used in this Guide:**



Informs the user that the note includes important information.



Informs the user that the note includes a handy tip.



Informs the user of an equation used.

## Hardware Terms:



Informs the user that the note identifies conditions or practices that could result in damage to the equipment.



Informs the user that the note identifies conditions or practices that could result in personal injury or damage to property other than the equipment.

- **Thermocouple**, may be referred to as T/C.

## Software Terms:

- **Page Tabs**, the individual page tabs in the M.O.L.E.® MAP software.
- **Data Set**, multiple data runs saved as individual .XMG files into the open working directory.
- **Data Run**, the data uploaded from the M.O.L.E. Profiler and saved as an .XMG file into a working directory. This data run is displayed on the Data Graph as a Profile.
- **Environment**, a set of page tabs, menus, toolbars, and shortcuts that are grouped and organized so that the user can work in a task-oriented environment.
- **Modes**, a set of page tabs, menus, toolbars, and shortcuts that are grouped and organized so that the user can work in a task-oriented environment.

## OPERATORS SAFETY INFORMATION

The safety information in this section is for the benefit of operating personnel. Warnings and Cautions will also be found throughout the manual where they apply.

Hardware changes or modifications to the M.O.L.E. Profiler or components are not expressly approved by ECD and could void the warranty.



The warranty will not cover damage caused by neglect or abuse of any ECD products. To maintain the safety features incorporated, operation must be in strict compliance with the requirements specified herein.

## GENERAL WARNINGS

**For protection of the M.O.L.E. Profiler and components, observe the following:**



- **NEVER** permit the M.O.L.E. Profiler or the battery to exceed the maximum specified internal temperature as permanent damage may result. Refer to the ***Specifications*** for your product for more information.
- **NEVER** expose the M.O.L.E. Profiler or battery to temperatures below the specified minimum for extended time periods. This may damage the rechargeable battery.
- **NEVER** connect the M.O.L.E. Profiler input channels to objects at elevated electrical potentials.
- **NEVER** operate the M.O.L.E. Profiler in flammable or explosive atmospheres. Such usage constitutes a fire or explosion risk.
- **NEVER** immerse the M.O.L.E. Profiler in liquids.
- **NEVER** subject the M.O.L.E. Profiler and components to sharp impacts.
- **NEVER** excessively stress the computer Interface cable.
- **NEVER** expose the M.O.L.E. Profiler and components to corrosive environments.



When removing M.O.L.E. Profiler from any temperature environment, be careful of extreme temperatures and use protective gloves.



**Warnings:**

- Charge “Rechargeable” Power Pack batteries using only the ECD approved charger.
- Always dispose of used batteries promptly and properly.
- Keep all batteries away from children.
- The batteries may explode if mistreated.
- The batteries contain electrolytes.

**Replace the product batteries with same type only:**

- SelectiveRIDER™: Sensor battery, ECD Part No. (F30-0048-00)



Using alternate batteries may present a risk of fire or equipment damage.

The following section guides the user through a typical data collection process. These steps may vary depending on the process your company uses.

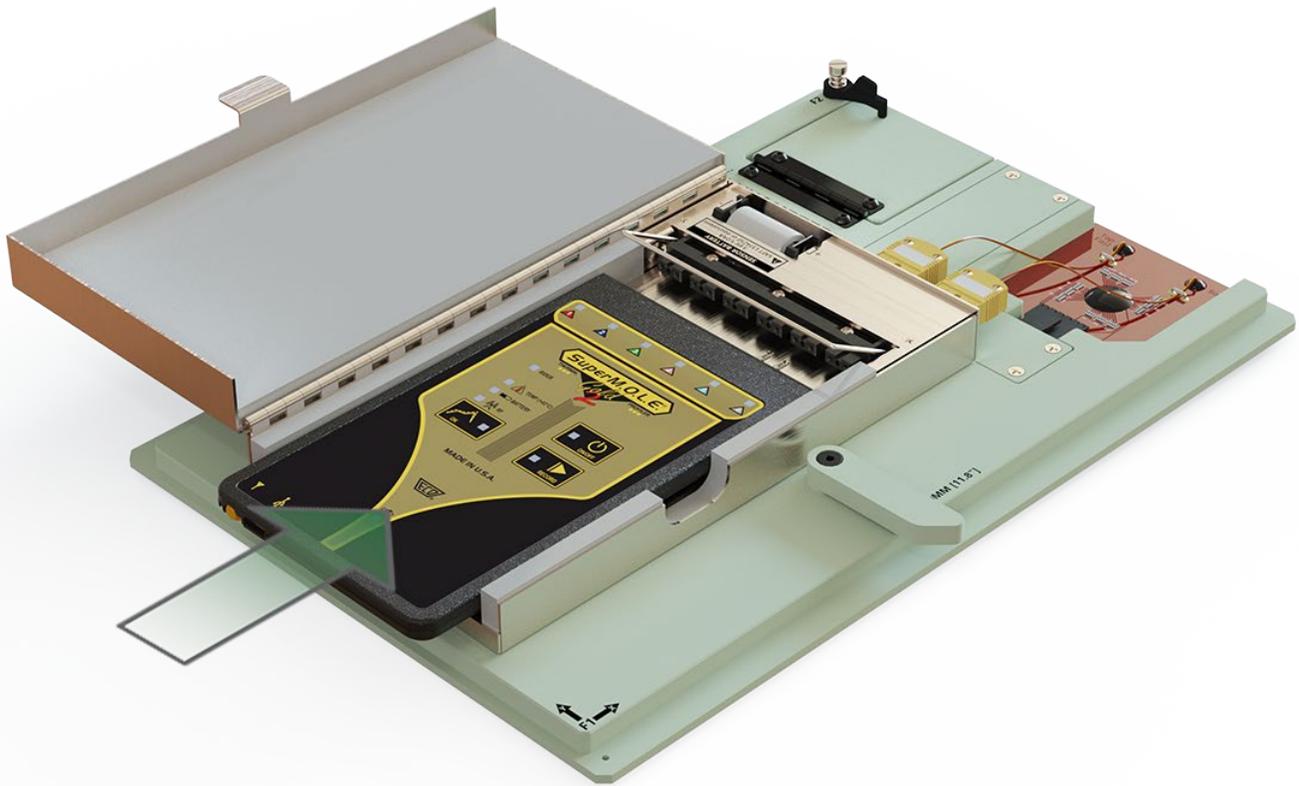
### STEP 1: SETUP INSTRUMENT



This is available when in MAP is in Engineer Mode. [View Menu>Mode>Engineer](#) of the M.O.L.E MAP Users Help System.

#### **To set an instrument up:**

- 1) Connect the M.O.L.E. Profiler to the computer.
- 2) Open the SelectiveRIDER™ barrier box and connect the M.O.L.E. Profiler to the Connector Bridge.



3) Open an existing SelectiveRIDER™ Environment Folder or create a new one.



If the desired Environment is not displayed on the **Environment Sidebar**, the user can enable it from the **Preferences** dialog. [File Menu>Preferences>Misc Tab](#) of the M.O.L.E MAP Users Help System.

Thermal		Dynamic		Fountain Accuracy	
Max Preheat Temp:	110.3 °C	Fountain X:	0.86 mm		
Delta T:	20.5 °C	Fountain Y:	0.00 mm		
Fountain Temp:	272.4 °C	Fountain Height:	4.00 mm		
		Fountain Diameter:	5.29 mm		
		Fountain Dwell:	3.90 sec		

4) On the **M.O.L.E.** menu, click **Setup Instrument** and the workflow wizard appears.



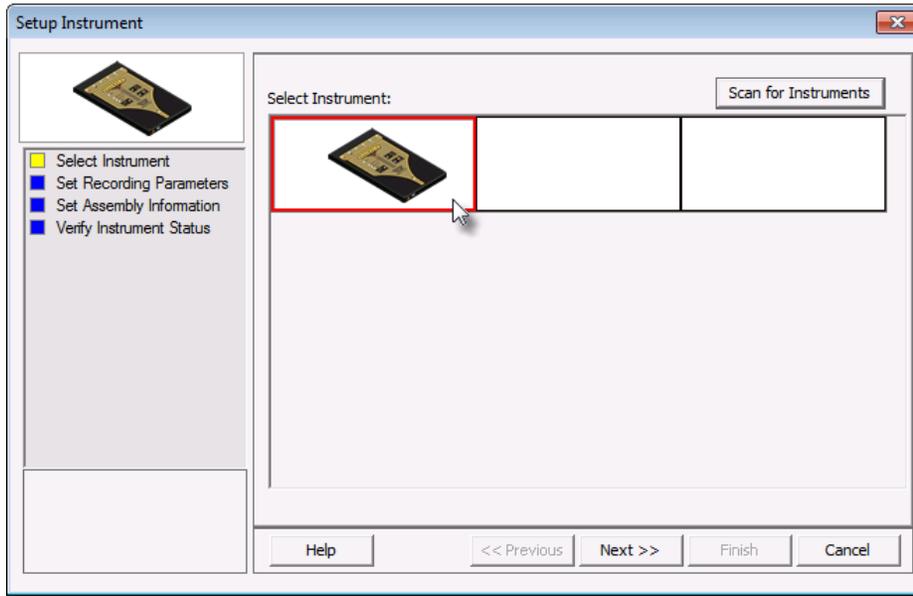
When navigating through the wizard, the step list on the left uses a color key to inform the user of the current step, steps that have been completed and remaining steps.

- Current
- Completed
- Remaining

- 5) Select the desired instrument from the dialog box. If there is none displayed, select the **Scan for Instruments** command button to detect all connected instruments.



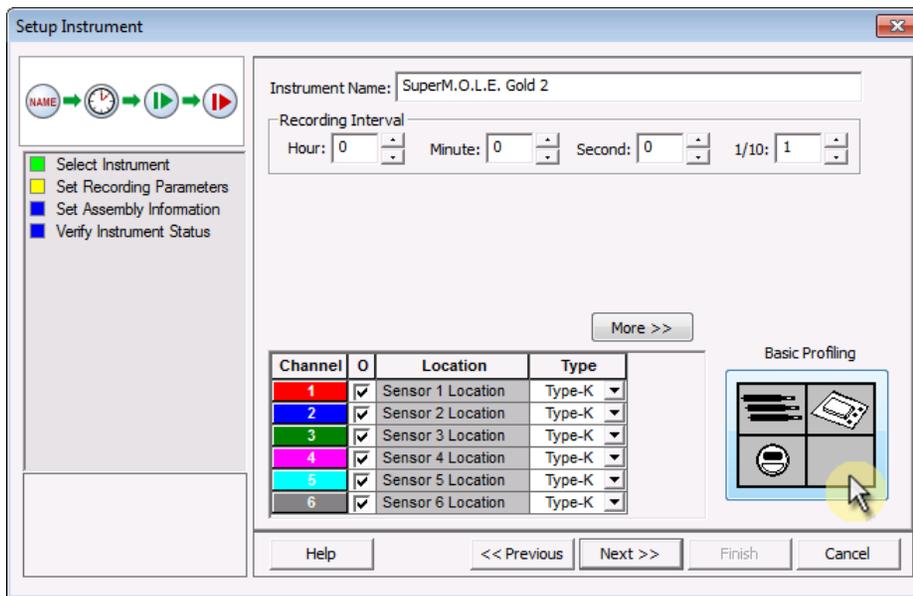
If the software does not detect a M.O.L.E. Profiler, using the communication cable connect it to the computer and click the **Scan for Instruments** command button to search again. M.O.L.E.® MAP software allows multiple instruments to be connected to a computer at one time. Selecting the **Scan for Instruments** command button will detect all instruments and display them in the dialog box. If no instrument is detected the software displays all of the Demonstration thermal profilers to select from.



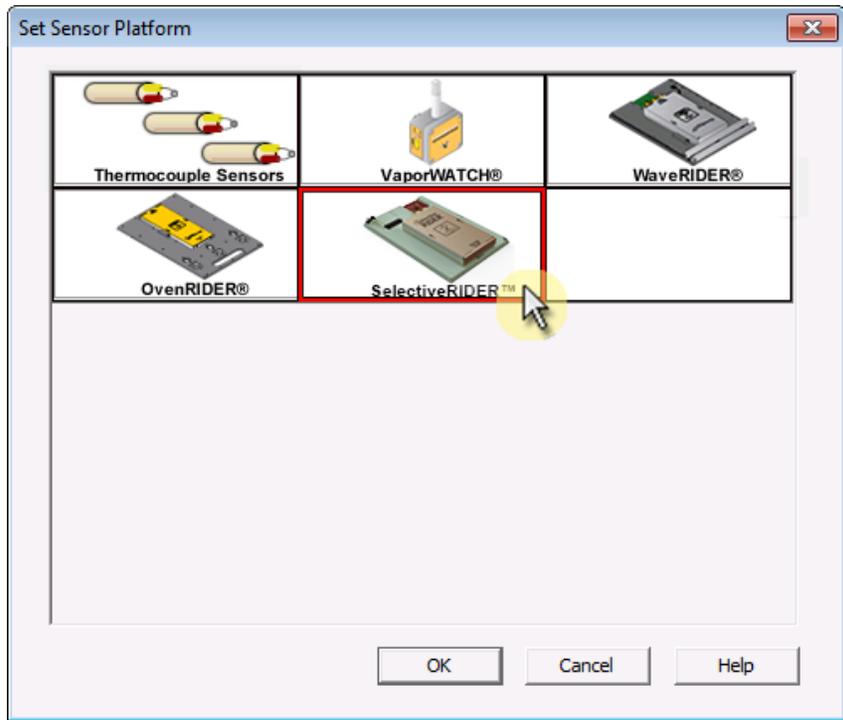
- 6) Select the **Next** command button.
- 7) Select the **Sensor Platform** button.



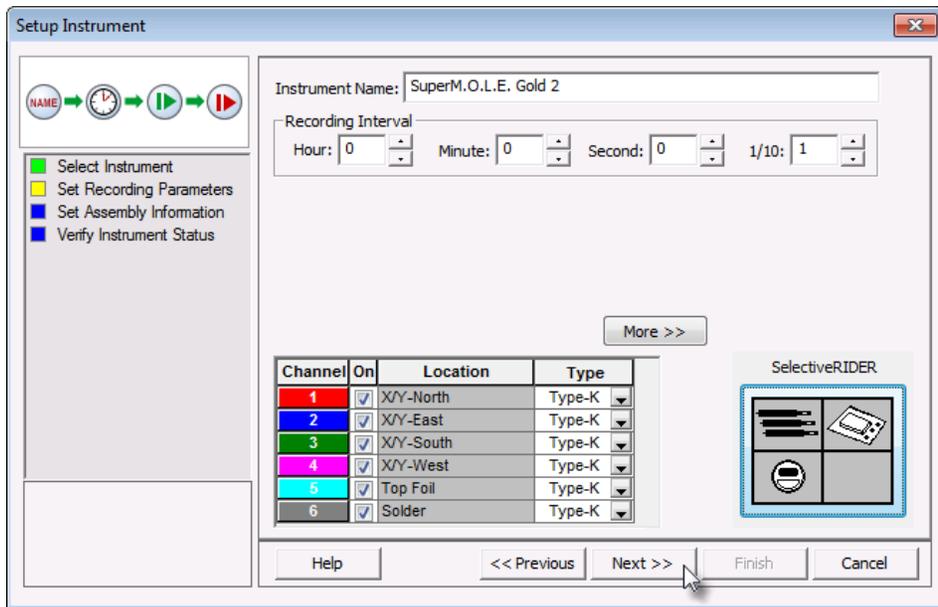
For additional settings such as **Start** and **Stop Parameters**, select the **More** command button. Refer to topic [Start and Stop Recording Parameters](#) of the M.O.L.E MAP Users Help System.



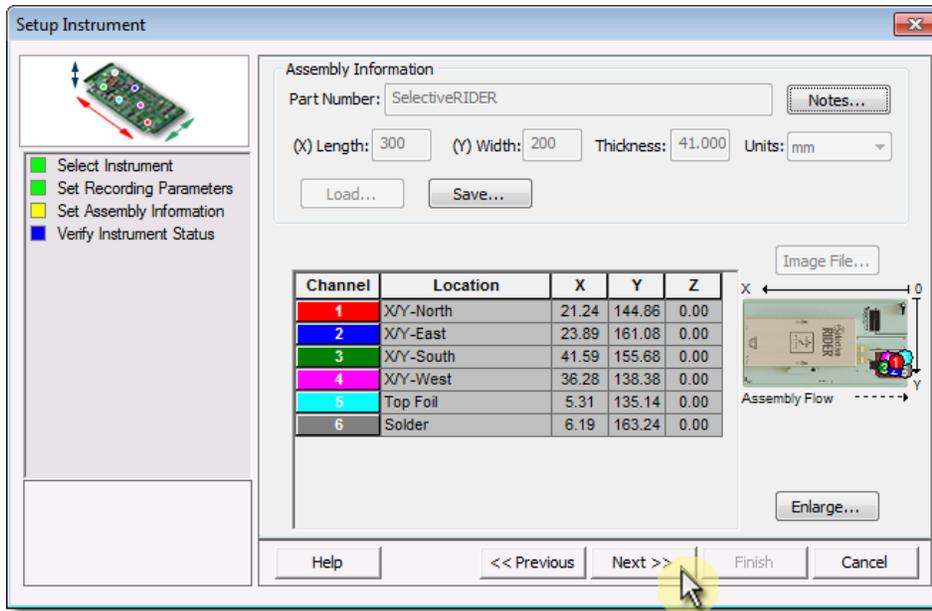
8) Select the SelectiveRIDER™ then the **OK** command button to proceed.



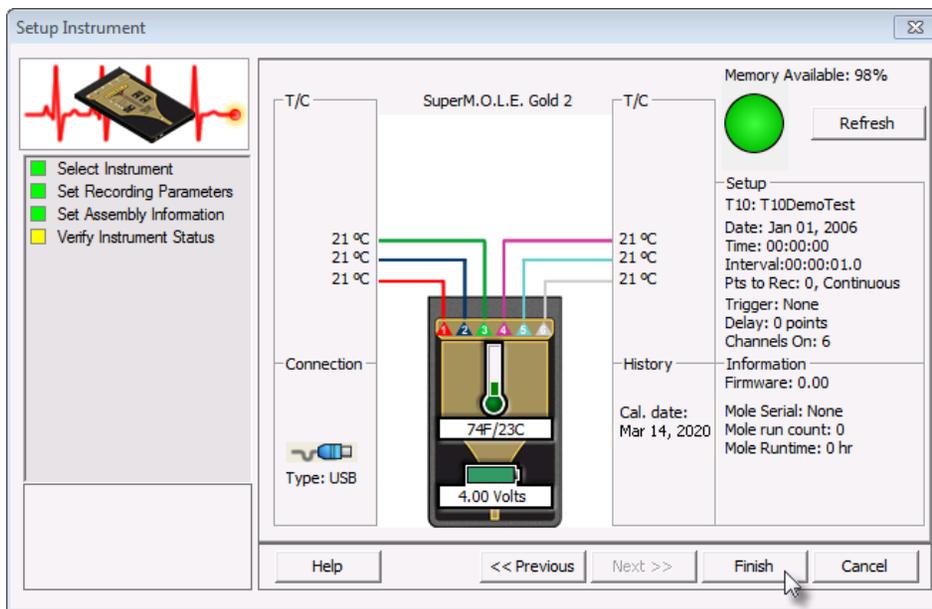
9) Confirm the sensor selection and then select the **Next** command button.



10) Select the **Next** command button to send the settings to the instrument.



11) Verify the instrument status. This dialog box displays the health of the M.O.L.E. Profiler such as battery charge, internal temperature, thermocouple temperatures. If the user selects the **Show Critical** command button the dialog box will only display items that will prevent the user from completing a successful data run.



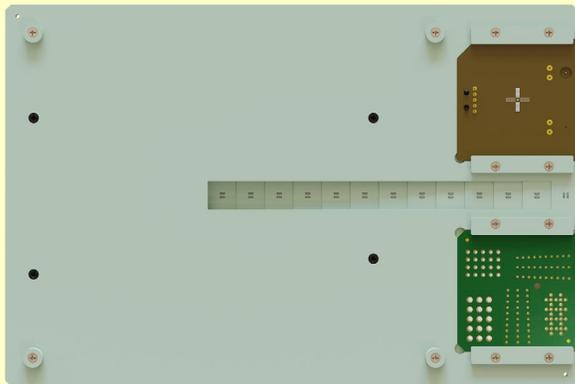
12) Select the **Finish** command button to complete the Setup Instrument wizard.

## STEP 2: PROGRAM SELECTIVE MACHINE

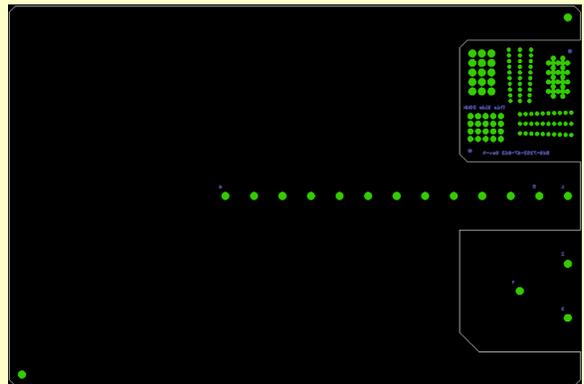
Use the following schedule to program the selective solder machine. Your selective solder program may vary in time, but **MUST** be in the following order. Any timing differences can be compensated for by altering the Machine Model after download using the MAP software. Timings may be longer between solder touches, but do **NOT** reduce the time.

Before programming, a photo or scanned image of the bottom side of the pallet can be used for the selective solder programming software. If you would like other formats use the provided links (internet connection required).

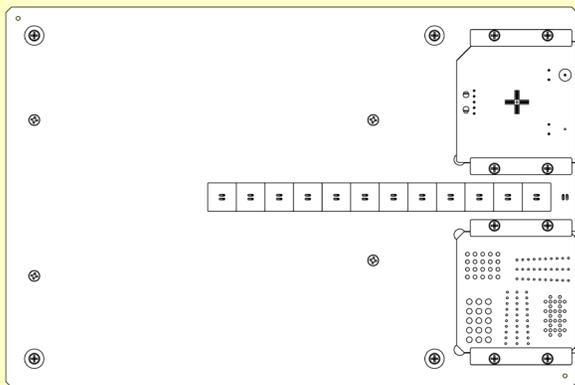
### SelectiveRIDER™ WITH V-GAUGE MESH



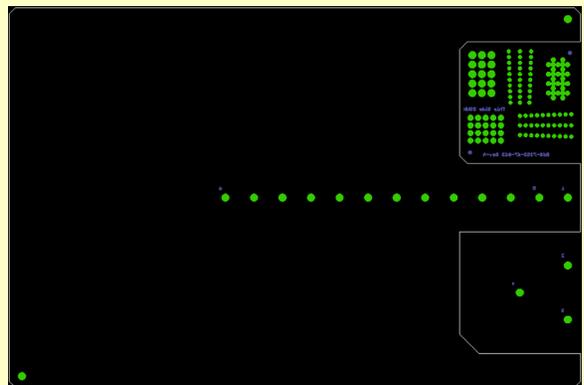
[PNG](#) | [JPG](#)  
Bottom View



[.SOL \(GERBER\)](#)  
Top View

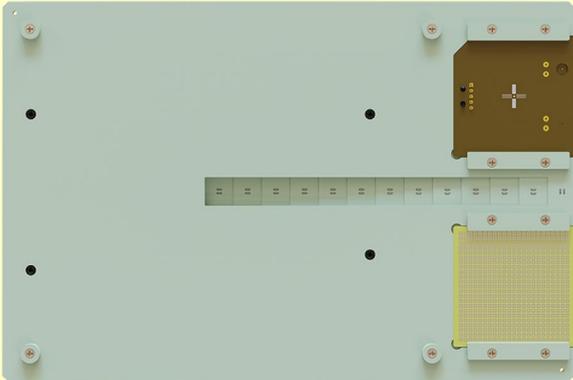


[DXF](#)  
Bottom View

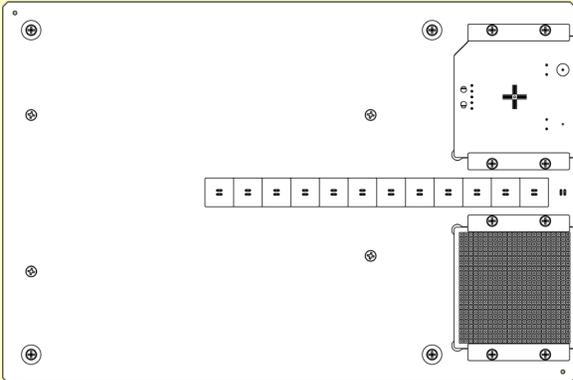


[DXF](#)  
Top View

SelectiveRIDER™ WITH UP MESH



[PNG](#) | [JPG](#)  
Bottom View



[DXF](#)  
Bottom View

## Programming:

### Mini Fluxometer® (Optional):

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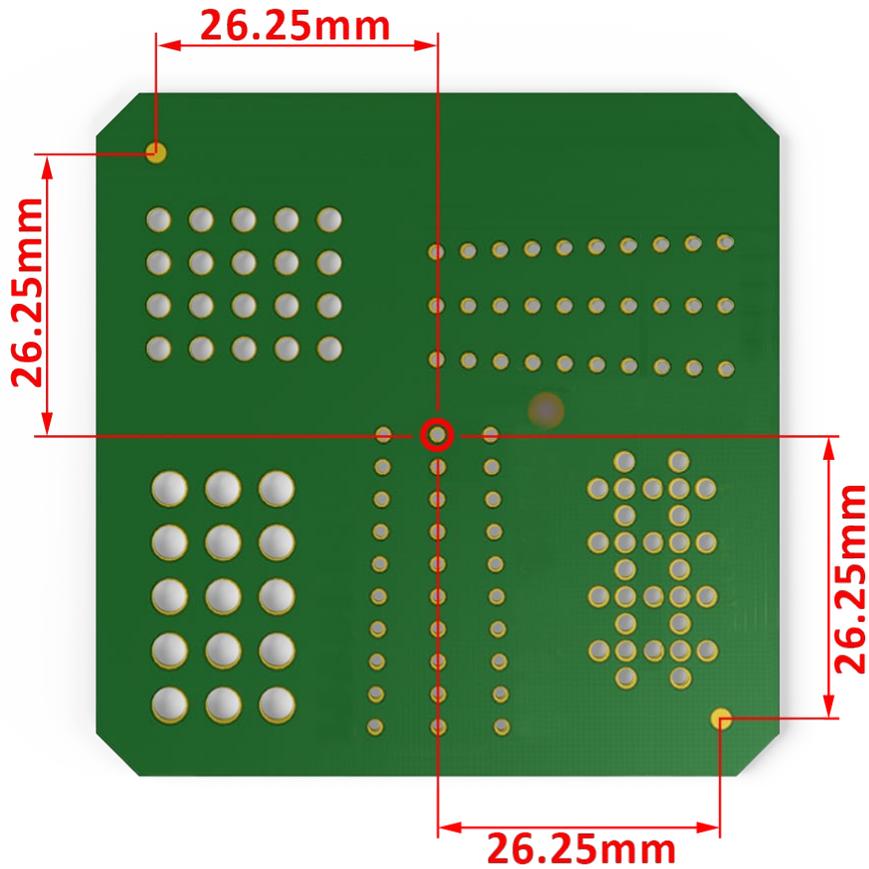
- Can be done before or after the selective solder schedule.
- V-Guage Test Mesh must be in the exact orientation in the pallet as shown. UP Test Mesh has no unique orientation.
- The center point (0,0) of the Mini Fluxometer™ Test Mesh from the pallet fiducial F1: **X = 261.8mm (10.31") / Y=144.0mm (5.67")**.





**DO NOT** flux the Dynamic X/Y sensor

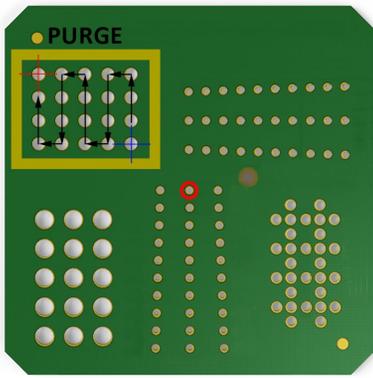
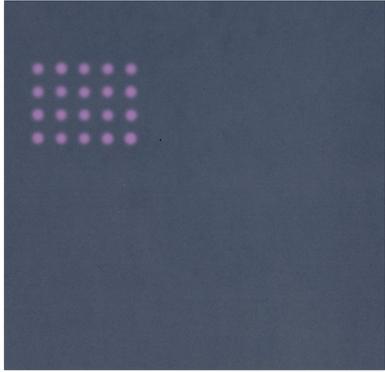
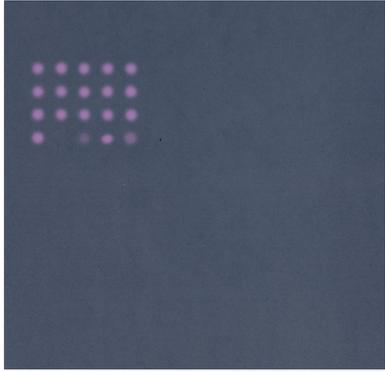
- The two fiducials on the V-Gauge Test Mesh are 26.25mm (X & Y) from the center point (0,0) of the Mini Fluxometer®.



## V-Gauge Test Mesh Measurements:

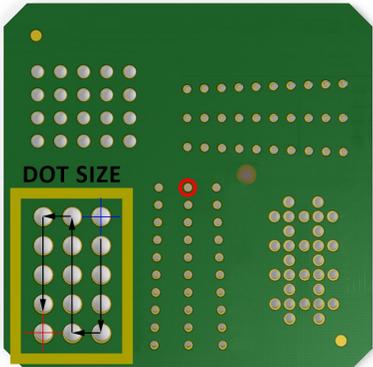
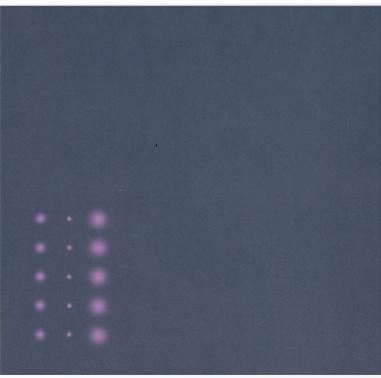
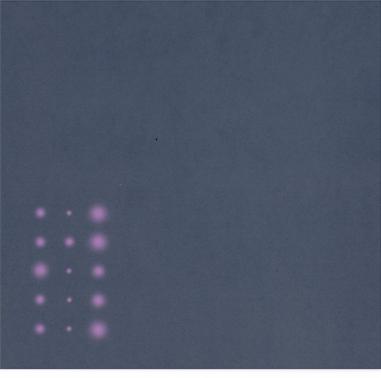
**Purge:** Must run this pattern first. Program the nozzle to one or more of these holes to dispense this pattern to purge any air and prime the flux head. The purge pattern makes sure the nozzle is primed and ready for the other (perhaps more important) steps. If the first couple are missing or mis-shaped it indicates an issue with priming or blockage.

This example locates the hole closest to the **0,0**. All of the holes in this pattern are equally spaced **4mm** apart. Click image to zoom

<b>Flux Spray Start</b> (From <b>0,0</b> Hole)	X = -18mm Y = 8mm		 <p style="text-align: center;"><b>GOOD</b></p>
<b>Flux Spray Hole #2</b> (From <b>0,0</b> Hole)	X = -18mm Y = 12mm		
<b>Flux Spray Hole #3</b> (From <b>0,0</b> Hole)	X = -18mm Y = 16mm		
<b>Flux Spray Hole #4</b> (From <b>0,0</b> Hole)	X = -18mm Y = 20mm		
<b>Flux Spray Hole #5</b> (From <b>0,0</b> Hole)	X = -22mm Y = 20mm		
<b>Flux Spray Hole #6</b> (From <b>0,0</b> Hole)	X = -22mm Y = 16mm		
<b>Flux Spray Hole #7</b> (From <b>0,0</b> Hole)	X = -22mm Y = 12mm		
<b>Flux Spray Hole #8</b> (From <b>0,0</b> Hole)	X = -22mm Y = 8mm		
<b>Flux Spray Hole #9</b> (From <b>0,0</b> Hole)	X = -26mm Y = 8mm		
<b>Flux Spray Hole #10</b> (From <b>0,0</b> Hole)	X = -26mm Y = 12mm		
<b>Flux Spray Hole #11</b> (From <b>0,0</b> Hole)	X = -26mm Y = 16mm		
<b>Flux Spray Hole #12</b> (From <b>0,0</b> Hole)	X = -26mm Y = 20mm		
<b>Flux Spray Hole #13</b> (From <b>0,0</b> Hole)	X = -30mm Y = 20mm		
<b>Flux Spray Hole #14</b> (From <b>0,0</b> Hole)	X = -30mm Y = 16mm		
<b>Flux Spray Hole #15</b> (From <b>0,0</b> Hole)	X = -30mm Y = 12mm		
<b>Flux Spray Hole #16</b> (From <b>0,0</b> Hole)	X = -30mm Y = 8mm		
<b>Flux Spray Hole #17</b> (From <b>0,0</b> Hole)	X = -34mm Y = 8mm		
<b>Flux Spray Hole #18</b> (From <b>0,0</b> Hole)	X = -34mm Y = 12mm		
<b>Flux Spray Hole #19</b> (From <b>0,0</b> Hole)	X = -34mm Y = 16mm		
<b>Flux Spray Finish</b> (From <b>0,0</b> Hole)	X = -34mm Y = 20mm	 <p style="text-align: center;"><b>BAD</b></p>	

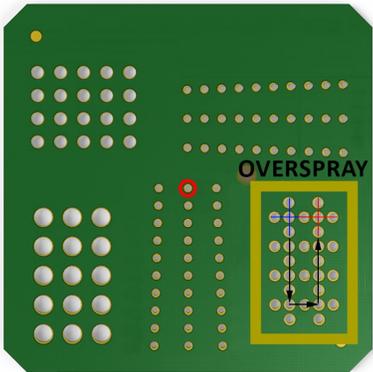
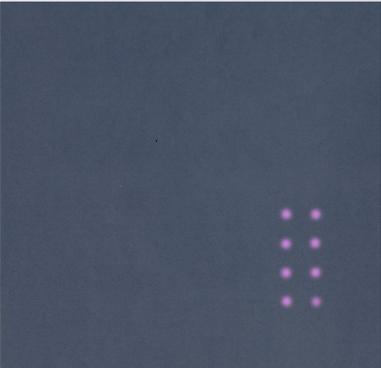
**Dot Size:** Using a variety of programmed flux dot sizes, 3mm and less, aim the nozzle at these hole centers to see if they are centered on and at the set diameter. Dots on recorded should be of the set diameter and circular, indicating it was centered at the location set.

This example locates the hole closest to the **0,0** as the **Start**. All of the holes in this pattern are equally spaced **5mm** apart. Click image to zoom

<b>Flux Spray Start</b> (From <b>0,0</b> Hole)	X = -15mm Y = -5mm		 <p style="text-align: center;"><b>GOOD</b></p>
<b>Flux Spray Hole #2</b> (From <b>0,0</b> Hole)	X = -15mm Y = -10mm		
<b>Flux Spray Hole #3</b> (From <b>0,0</b> Hole)	X = -15mm Y = -15mm		
<b>Flux Spray Hole #4</b> (From <b>0,0</b> Hole)	X = -15mm Y = -20mm		
<b>Flux Spray Hole #5</b> (From <b>0,0</b> Hole)	X = -15mm Y = -25mm		
<b>Flux Spray Hole #6</b> (From <b>0,0</b> Hole)	X = -20mm Y = -25mm		
<b>Flux Spray Hole #7</b> (From <b>0,0</b> Hole)	X = -20mm Y = -20mm		
<b>Flux Spray Hole #8</b> (From <b>0,0</b> Hole)	X = -20mm Y = -15mm		
<b>Flux Spray Hole #9</b> (From <b>0,0</b> Hole)	X = -20mm Y = -10mm		
<b>Flux Spray Hole #10</b> (From <b>0,0</b> Hole)	X = -20mm Y = -5mm		
<b>Flux Spray Hole #11</b> (From <b>0,0</b> Hole)	X = -25mm Y = -5mm		
<b>Flux Spray Hole #12</b> (From <b>0,0</b> Hole)	X = -25mm Y = -10mm		
<b>Flux Spray Hole #13</b> (From <b>0,0</b> Hole)	X = -25mm Y = -15mm		
<b>Flux Spray Hole #14</b> (From <b>0,0</b> Hole)	X = -25mm Y = -20mm		
<b>Flux Spray Finish</b> (From <b>0,0</b> Hole)	X = -25mm Y = -25mm	 <p style="text-align: center;"><b>BAD</b></p>	

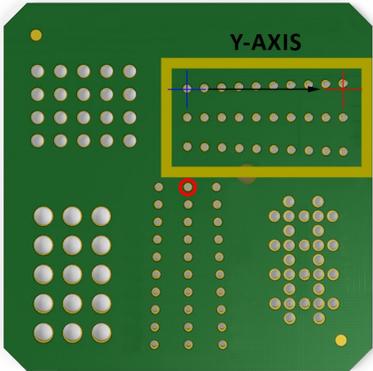
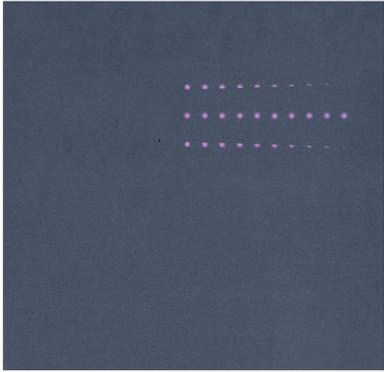
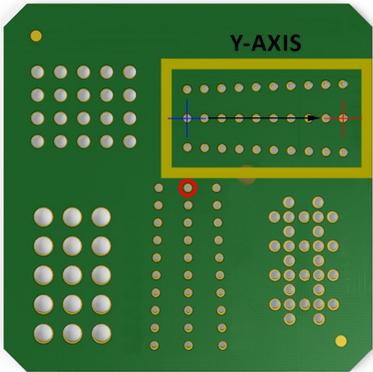
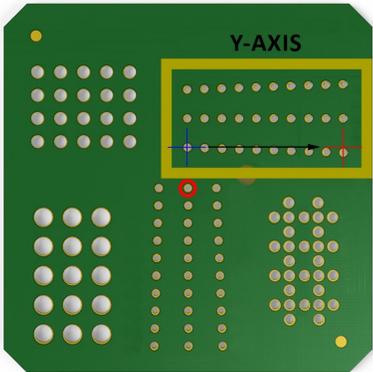
**Overspray:** Aim the nozzle at the center hole of each of the 8 hole cross patterns to see if there is any overspray recorded in the outer holes.

This example locates the hole closest to the **0,0** as the **Start**. All of the center holes in this pattern are equally spaced **5mm** apart. Click image to zoom

<b>Flux Spray Start</b> (From <b>0,0</b> Hole)	X = 17.5mm Y = -5mm		 <p style="text-align: center;"><b>GOOD</b></p>
<b>Flux Spray Pattern #2</b> (From <b>0,0</b> Hole)	X = 17.5mm Y = -10mm		
<b>Flux Spray Pattern #3</b> (From <b>0,0</b> Hole)	X = 17.5mm Y = -15mm		
<b>Flux Spray Pattern #4</b> (From <b>0,0</b> Hole)	X = 17.5mm Y = -20mm		
<b>Flux Spray Pattern #5</b> (From <b>0,0</b> Hole)	X = 22.5mm Y = -20mm		
<b>Flux Spray Pattern #6</b> (From <b>0,0</b> Hole)	X = 22.5mm Y = -15mm		
<b>Flux Spray Pattern #7</b> (From <b>0,0</b> Hole)	X = 22.5mm Y = -10mm		
<b>Flux Spray Finish</b> (From <b>0,0</b> Hole)	X = 22.5mm Y = -5mm		

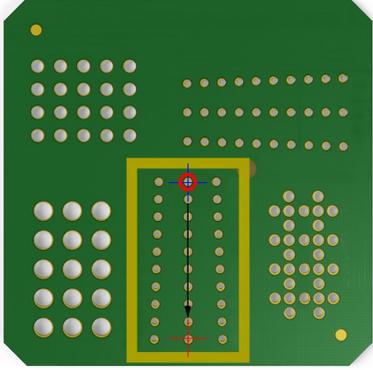
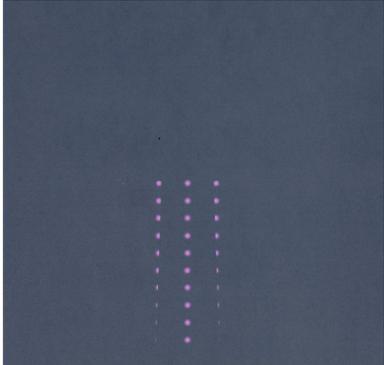
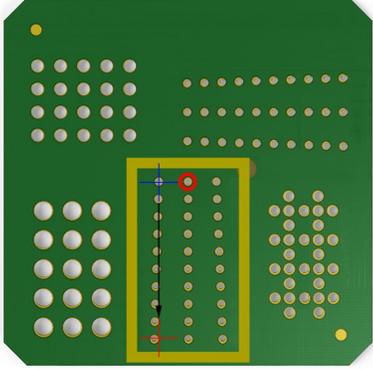
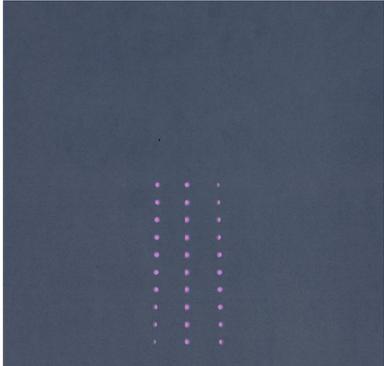
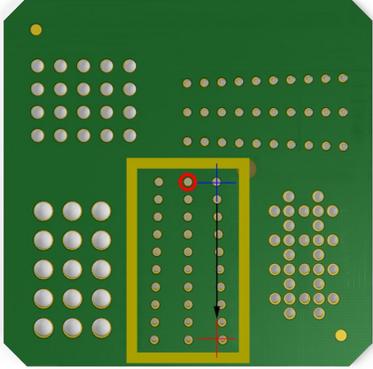
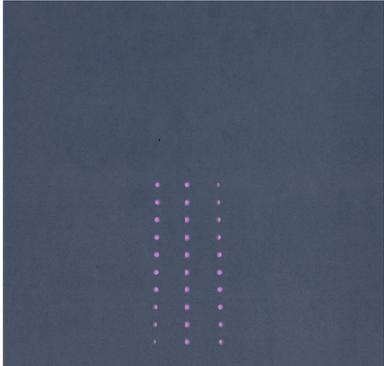
**Y-Axis:** Measures the amount of Y-Axis offset. Program the fluxer to dispense the pattern as per the coordinates supplied. Start at the 0, 0 hole and move in the X-Axis direction to the end of each of the three horizontal rows. The center row may show partial circles indicating a Y-axis offset error. The “V” angled rows whose dot is most circular indicates the amount of offset, positive (+) or negative (-).

This example locates the hole closest to the 0,0 as the **Start**. The holes in this pattern are spaced **3mm** for X and **5mm** for Y. Click image to zoom

<p><b>Flux Spray Start</b> X = 0mm (From <b>0,0</b> Hole) Y = 7mm</p>	<p>X = 0mm Y = 7mm</p>		
<p><b>Flux Spray Finish</b> X = 27mm (From <b>0,0</b> Hole) Y = 7mm</p>	<p>X = 27mm Y = 7mm</p>		
<p><b>Flux Spray Start</b> X = 0mm (From <b>0,0</b> Hole) Y = 12mm</p>	<p>X = 0mm Y = 12mm</p>		 <p style="text-align: center;"><b>GOOD</b></p>
<p><b>Flux Spray Finish</b> X = 27mm (From <b>0,0</b> Hole) Y = 12mm</p>	<p>X = 27mm Y = 12mm</p>		
<p><b>Flux Spray Start</b> X = 0mm (From <b>0,0</b> Hole) Y = 17mm</p>	<p>X = 0mm Y = 17mm</p>		 <p style="text-align: center;"><b>BAD</b></p>
<p><b>Flux Spray Finish</b> X = 27mm (From <b>0,0</b> Hole) Y = 17mm</p>	<p>X = 27mm Y = 17mm</p>		

**X-Axis:** Measures the amount of X-Axis offset Program the fluxer to dispense the pattern as per the coordinates supplied. Start at the 0, 0 hole and move in the Y-Axis direction to the end of each of the three vertical rows. The center row may show partial circles indication a X-axis offset error. The “V” angled rows whose dot is most circular indicates the amount of offset, positive (+) or negative (-).

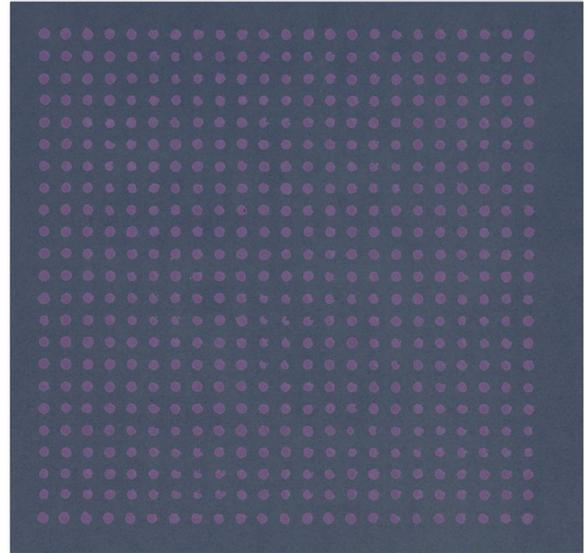
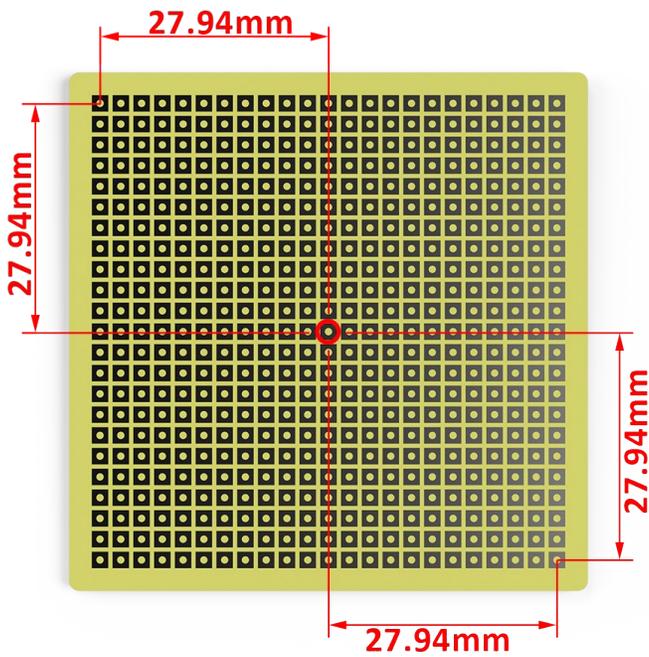
This example locates the hole closest to the **0,0** as the **Start**. The holes in this pattern are spaced **5mm** for X and **3mm** for Y. Click image to zoom

<p><b>Flux Spray Start</b> (From <b>0,0</b> Hole)</p>	<p>X = 0mm Y = 0mm</p>	 <p style="text-align: center;">X-AXIS</p>	 <p style="text-align: center;">GOOD</p>
<p><b>Flux Spray Finish</b> (From <b>0,0</b> Hole)</p>	<p>X = 0mm Y = -27mm</p>		
<p><b>Flux Spray Start</b> (From <b>0,0</b> Hole)</p>	<p>X = -5mm Y = 0mm</p>	 <p style="text-align: center;">X-AXIS</p>	 <p style="text-align: center;">BAD</p>
<p><b>Flux Spray Finish</b> (From <b>0,0</b> Hole)</p>	<p>X = -5mm Y = -27mm</p>		
<p><b>Flux Spray Start</b> (From <b>0,0</b> Hole)</p>	<p>X = 5mm Y = 0mm</p>	 <p style="text-align: center;">X-AXIS</p>	 <p style="text-align: center;">BAD</p>
<p><b>Flux Spray Finish</b> (From <b>0,0</b> Hole)</p>	<p>X = 5mm Y = -27mm</p>		

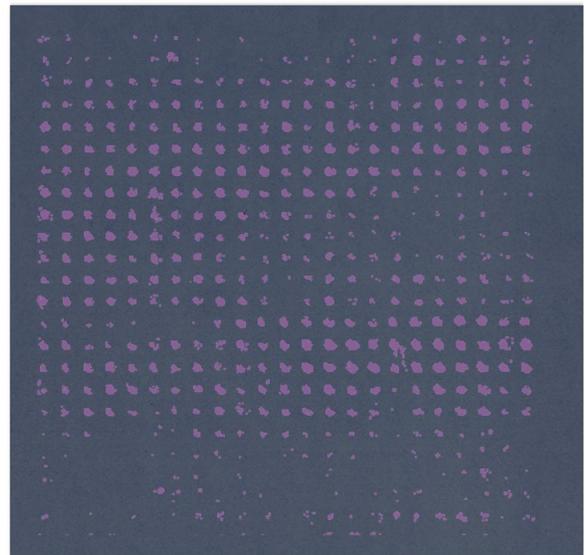
**UP Test Mesh Measurement:**

**Uniform Pattern:** Identifies problems with uniformity and coverage. Select an specific location or the entire area within the Tesh Mesh through holes to flux.

This example locates the hole closest to the **0,0** as the **Start**. All of the center holes in this pattern are equally spaced 2.54mm apart. Click image to zoom



**GOOD**



**BAD**

## Preheat as desired (Optional)

- Must be done before the selective solder schedule.

## Selective Solder Schedule

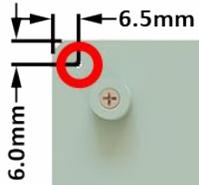


**DO NOT** flux the Dynamic X/Y sensor

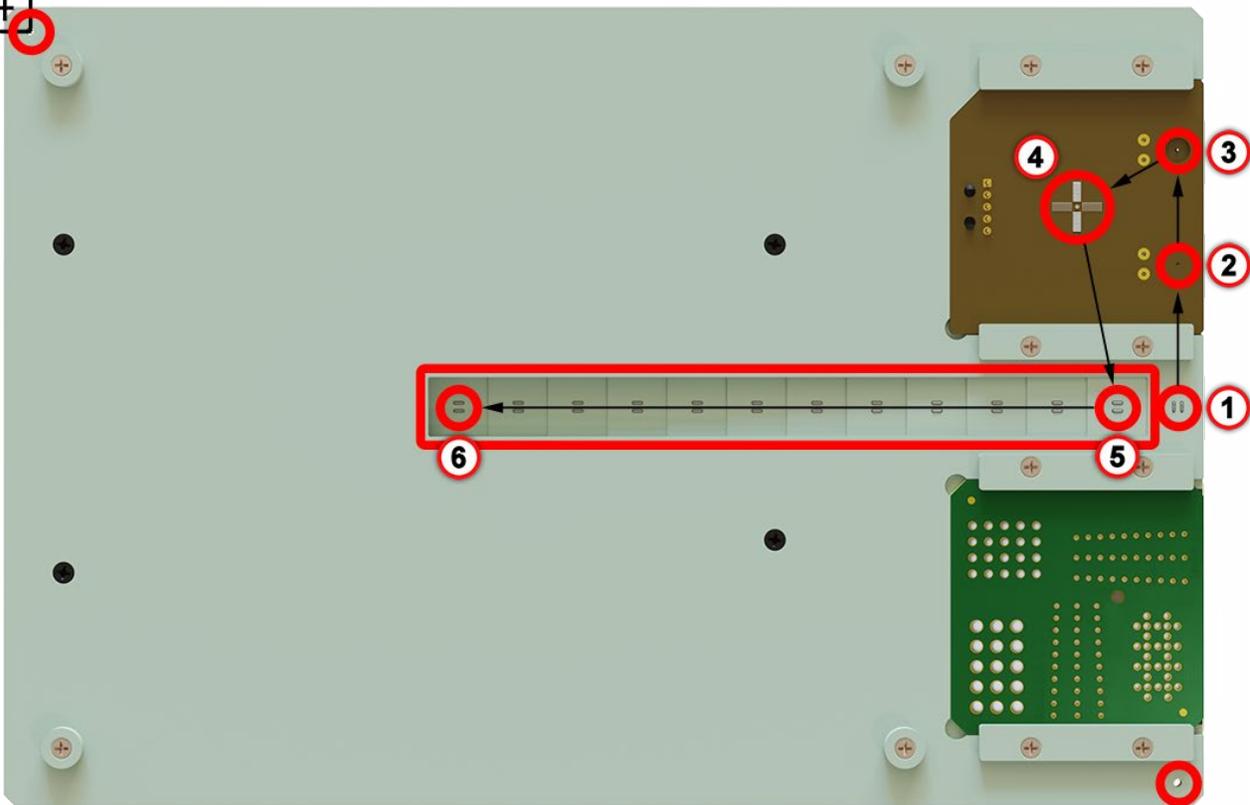
### Selective Solder Schedule

	①	②	③	④	⑤	⑥
<b>Move To:</b>	Origin (PO)	Top Foil T/C	Solder T/C	X/Y Accuracy Sensor	Height Start	Height Finish
<b>Travel + Hold Time:</b>	N/A	2 seconds	2 seconds	10 seconds	2 seconds	Drag at 5 mm/sec toward Height Finish
<b>Location:</b>	X=287.0mm (11.30") Y=94.0mm (3.70")	X=287.0mm (11.30") Y=58.3mm (2.30")	X=287.0mm (11.30") Y=29.8mm (1.17")	X=261.75mm (10.305") Y=44.00mm (1.732")	X=272.0mm (10.71") Y=94.0mm (3.70")	X=107.0mm (4.21") Y=94.0mm (3.70")
<b>Touch Duration:</b>	3 seconds	3 seconds	3 seconds	3 seconds	1 second then drag	Complete

Origin Fiducial (F1):  
X=0.0mm / Y=0.0mm



Machine Travel Direction →



Secondary Fiducial (F2):  
X=287.0mm / Y=188.0mm

## STEP 3: DATA COLLECTION



**DO NOT** apply flux to the Dynamic X/Y Sensor and pallet contacts: P.O. and Height sensors. It prevents good electrical contact and thus proper sensing. Flux should **ONLY** be applied to the Mini Fluxometer® mask area.

- 1) To start collecting data, the width of the conveyor must be set to match the width of the SelectiveRIDER™.
- 2) Set the solder fountain and pre-heat temperatures, as a common product would be processed.
- 3) If using the Mini Fluxometer®, select the proper test paper for the flux being used in the process. Open the paper cover, place the test paper on top of the test mesh and close the cover. Secure in place with the rudder latch.



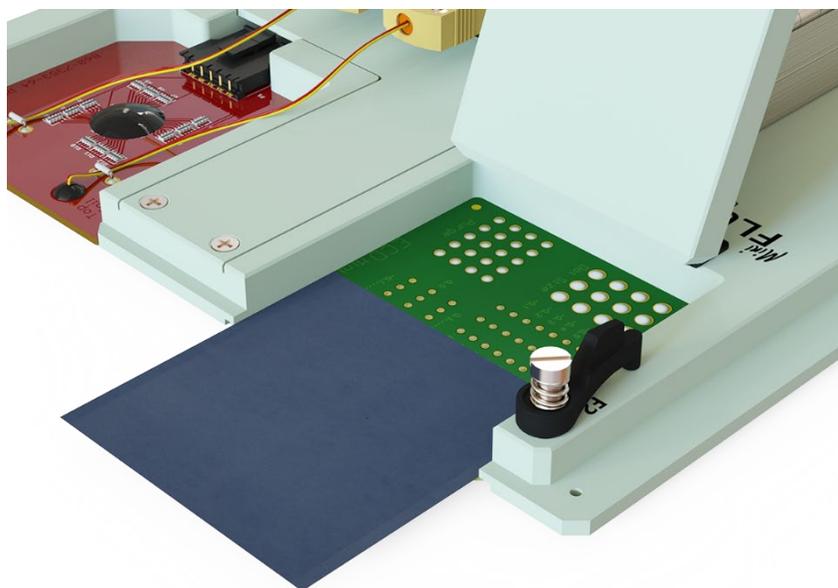
*Neutral pH - 7 or less  
(for water-based fluxes)*



*Low pH - 4 or less  
(for acid based fluxes)*



*IPA  
(for alcohol-based fluxes)*



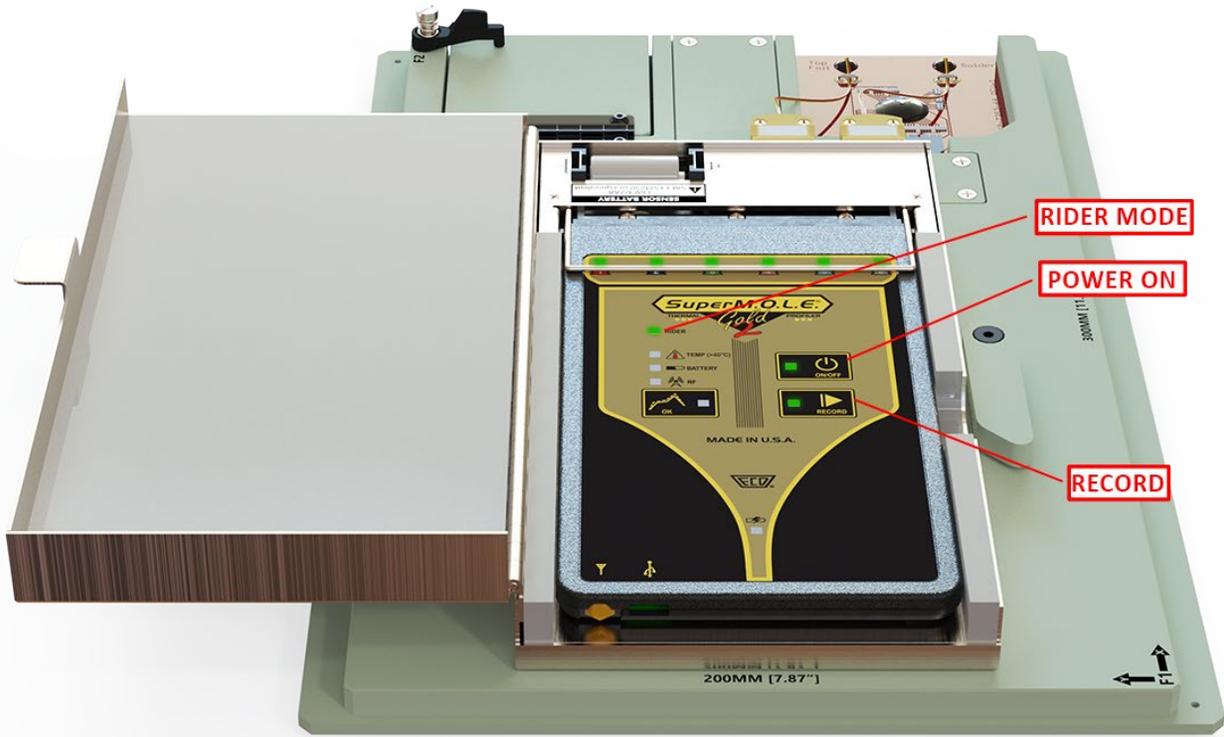
If the selective solder machine has an in-line conveyor washer, it must be turned **"OFF"** or the RIDER must be removed before it reaches the washer. Washing the RIDER with the M.O.L.E. Profiler installed may cause damage.

- 3) Make sure the M.O.L.E. Profiler is connected to the connector bridge.
- 4) Press the **"ON"** button.

- 5) Confirm **Rider Mode** LED is illuminated.
- 6) Press the "**Record**" button. The record light should be lit solid (Not flashing) indicating 0.1 (1/10) second log interval).

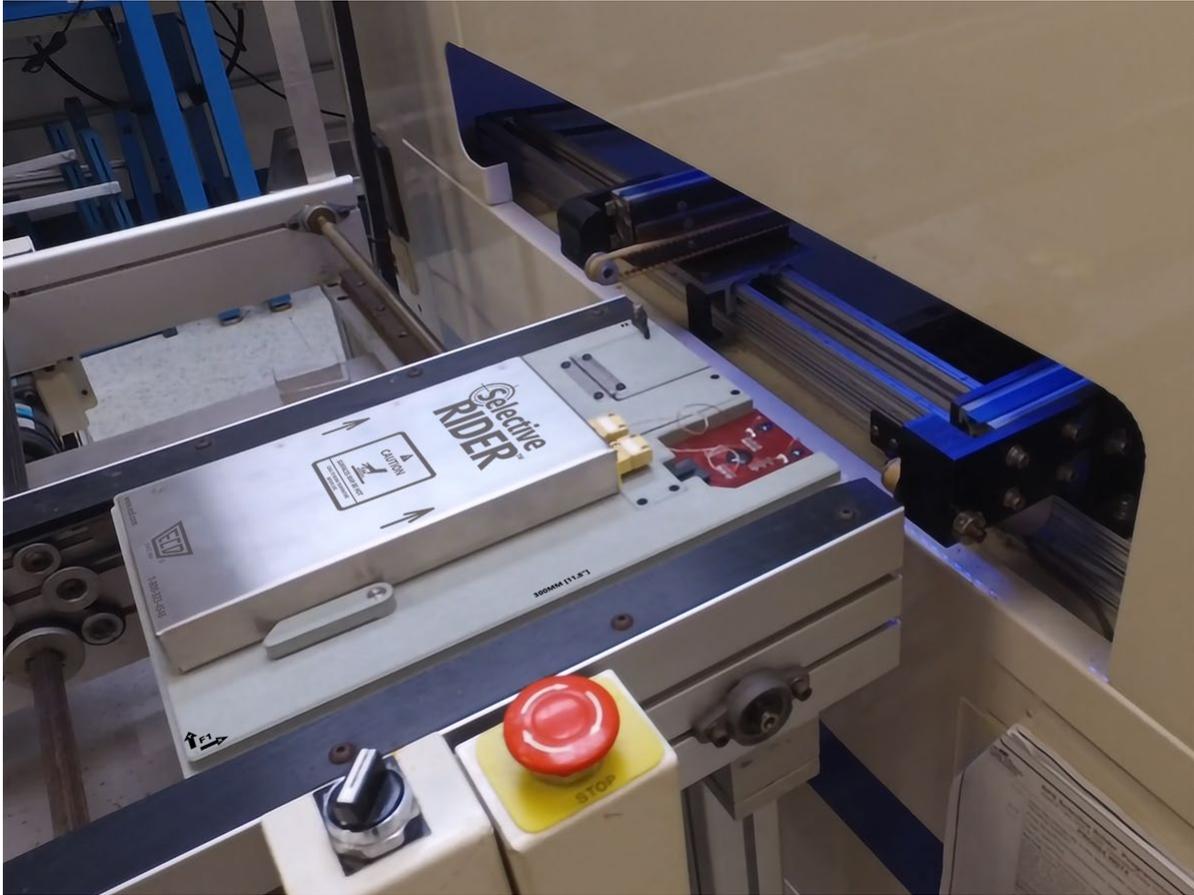


The M.O.L.E. Profiler continues to capture data until its memory is full or until it is turned "**OFF**". It is recommended to turn M.O.L.E. Profiler "**ON**" after it is placed on the selective solder machine conveyor, then turn it "**OFF**" as soon as possible after it exits the solder machine.



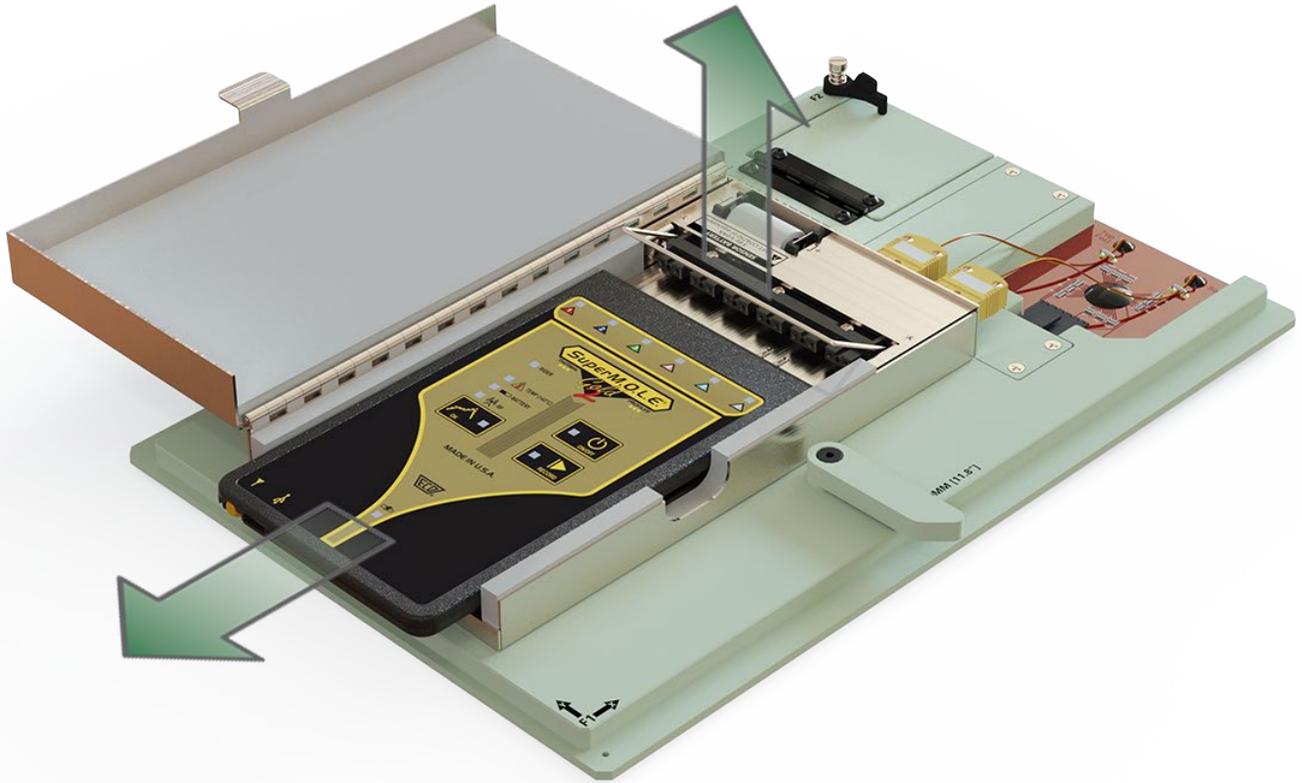
- 7) Close the Thermal barrier cover and latch securely.

- 8) Place the SelectiveRIDER™ on to the selective solder machine conveyor. Make sure it is being fed into the machine in the proper direction. There are two arrows on the SelectiveRIDER™ thermal barrier that indicates the proper direction. If a manual feed selective solder machine is being used, hold it until the conveyor fingers have completely grabbed it.



- 9) Retrieve the SelectiveRIDER™ when it has traveled completely through the selective solder machine. The SelectiveRIDER™ will be HOT so using protective gloves, retrieve it from the conveyor. The best way to handle the SelectiveRIDER™ when retrieving from the solder machine is to place one hand under it and use the other hand to grab the barrier box cover.

- 10) Open the SelectiveRIDER™ thermal barrier and if the Record LED is still **ON** this means the M.O.L.E. Profiler is still logging and it must be turned “**OFF**”.
- 11) Remove the M.O.L.E. Profiler from the thermal barrier by pulling the extractor handle up. Allow the SelectiveRIDER™ and M.O.L.E. Profiler cool to room temperature before collecting data again.



## STEP 4: DOWNLOAD DATA

- 1) Connect the M.O.L.E. Profiler to the computer. Refer to the **Communications Setup** topic for your specific M.O.L.E. Profiler for more information.
- 2) On the **M.O.L.E.** menu, click **Instrument Status** and the workflow wizard appears.



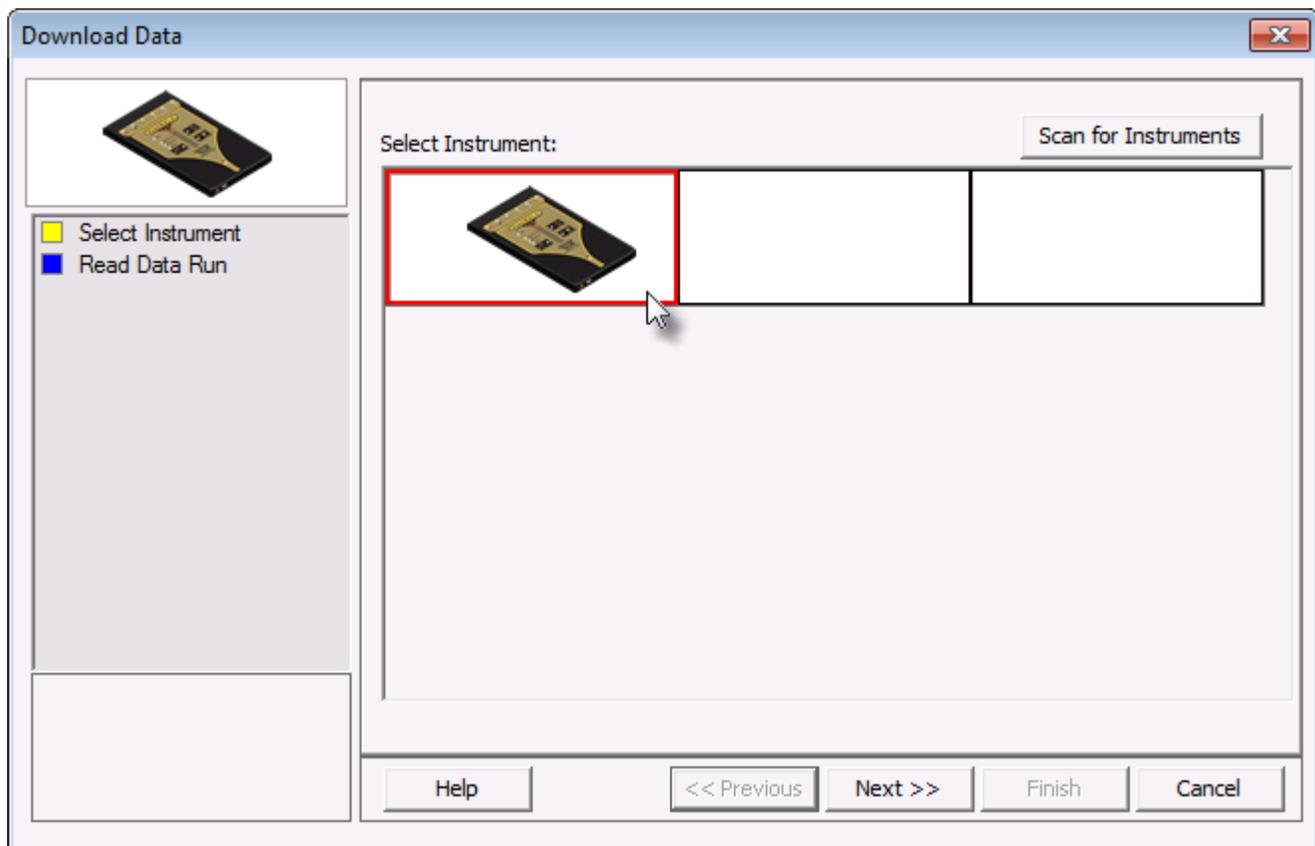
When navigating through the wizard, the step list on the left uses a color key to inform the user of the current step, steps that have been completed and remaining steps.

■ Current    ■ Completed    ■ Remaining

- 3) Select the instrument from the dialog box that was used with the SelectiveRIDER™. If a M.O.L.E. Profiler has already been selected during a different process, the software automatically selects the M.O.L.E. Profiler connected to the COM Port previously used.



If the software does not detect a M.O.L.E. Profiler, using the communication cable connect it to the computer and click the **Scan for Instruments** command button to search again. M.O.L.E.® MAP software allows multiple instruments to be connected to a computer at one time. Selecting the **Scan for Instruments** command button will detect all instruments and display them in the dialog box. If no instrument is detected the software displays all of the Demonstration thermal profilers to select from.

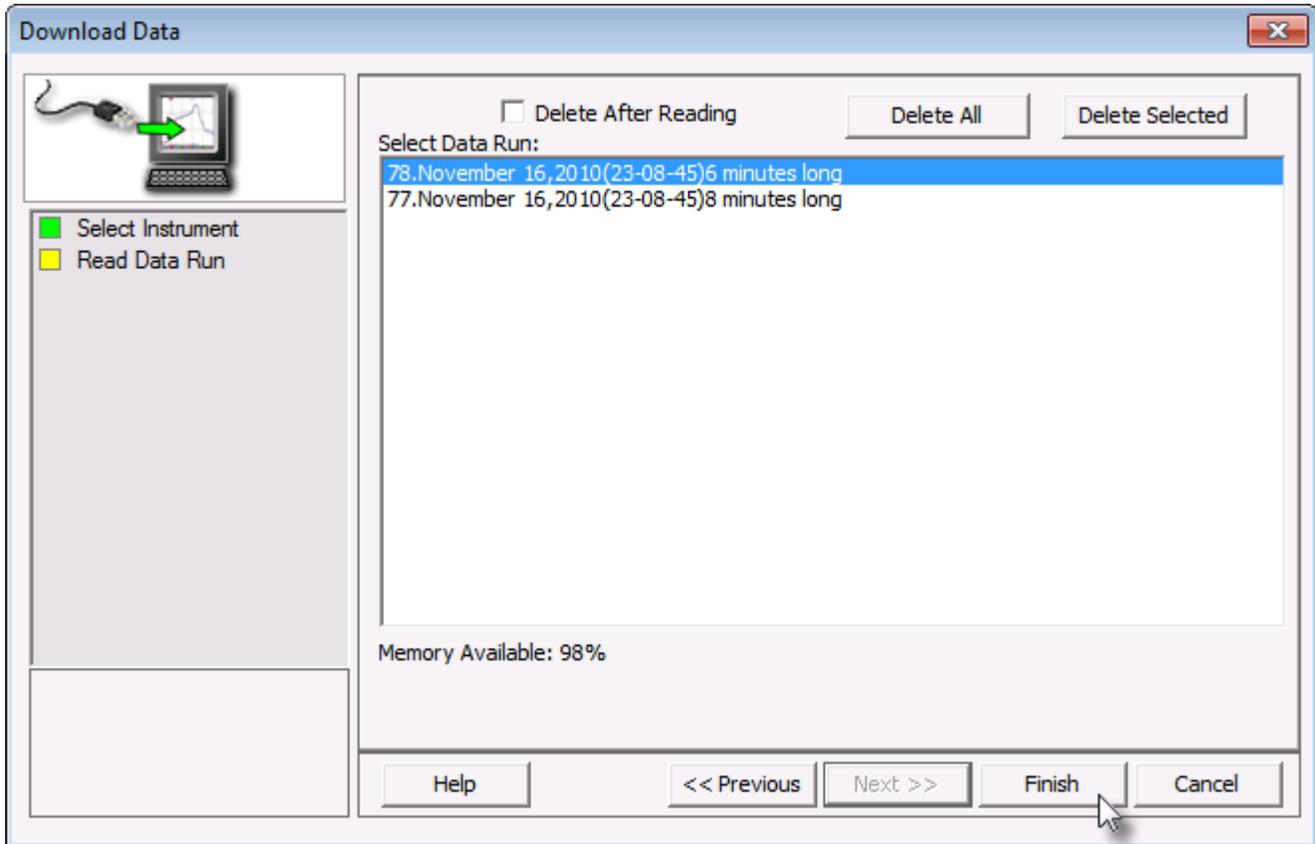


- 4) Click the **Next** command button.

- 5) Select the desired data run and then click the **Finish** command button to complete the wizard and read the data run from the M.O.L.E. Profiler.



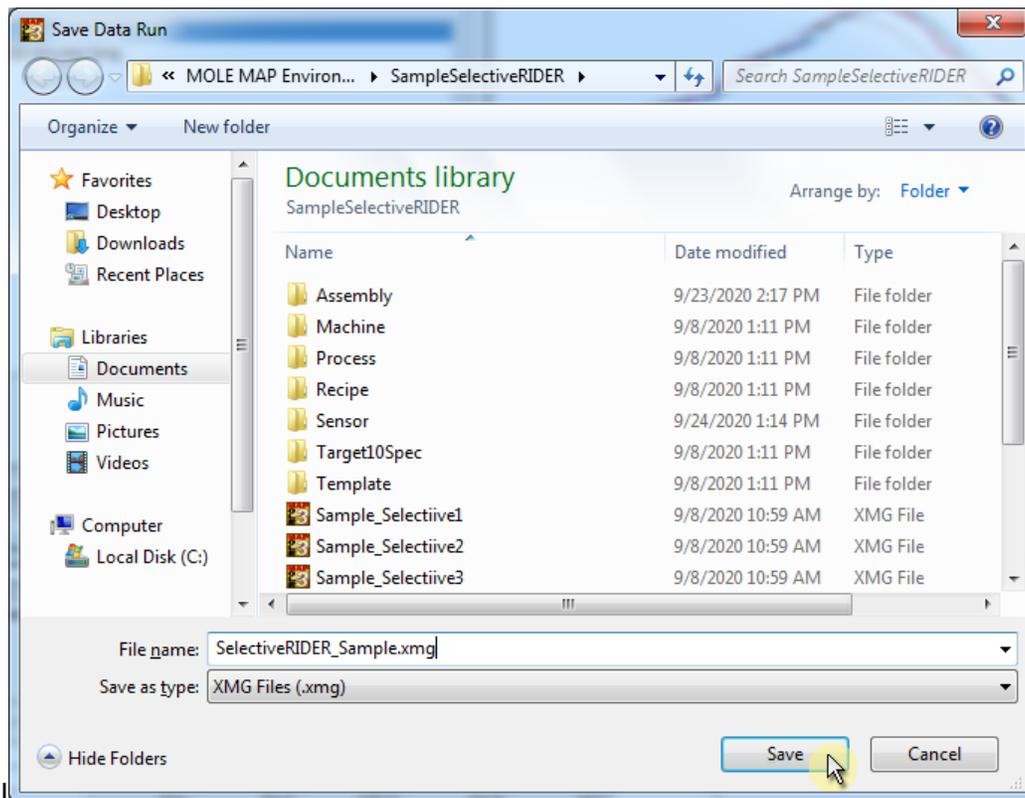
This step of the wizard allows the user to remove a selected data run from the M.O.L.E. Profiler by either selecting the **Delete After Reading** check box or selecting the **Delete** command button and removing it before downloading.



- 6) When the data run has been downloaded, the software prompts the user to specify new file name (\*.XMG).



If a data run (\*.XMG) is saved in a different Environment Folder other than the currently selected, the software automatically activates the new Environment Folder. This process does not delete any data run files in the previously set Environment Folder and can be quickly accessed using the [Recent Environment Folders](#) on the **File** menu.



- 7) When finished, click the **Save** command button to complete the process. The information is automatically saved in the data run file (.XMG).

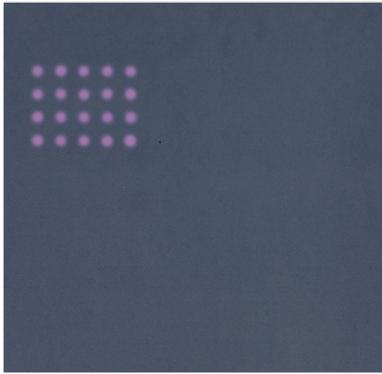
## STEP 5: INTERPRETING THE DATA

### Mini Fluxometer Data:

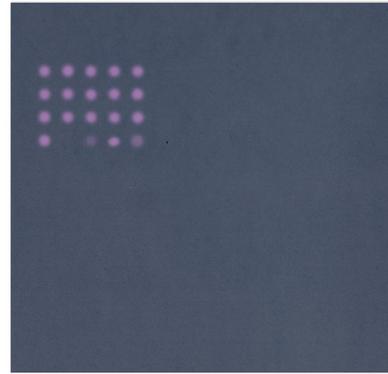
“Good” flux spray patterns are consistent and fully shaped. “Bad” flux patterns are missing, mis-aligned, insufficient, excessive, inconsistent are highlighted by variation.

### V-Gauge Test Mesh Measurements:

#### **Purge (Click image to zoom):**

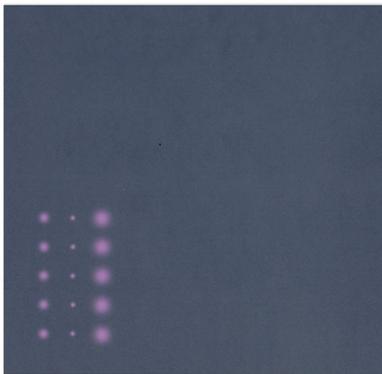


GOOD

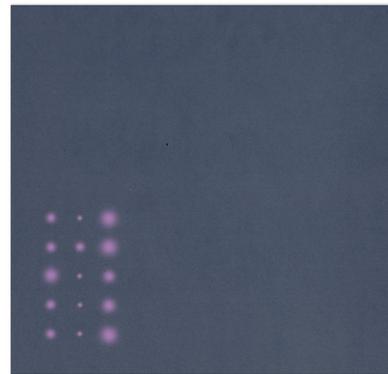


BAD

#### **Dot Size (Click image to zoom):**

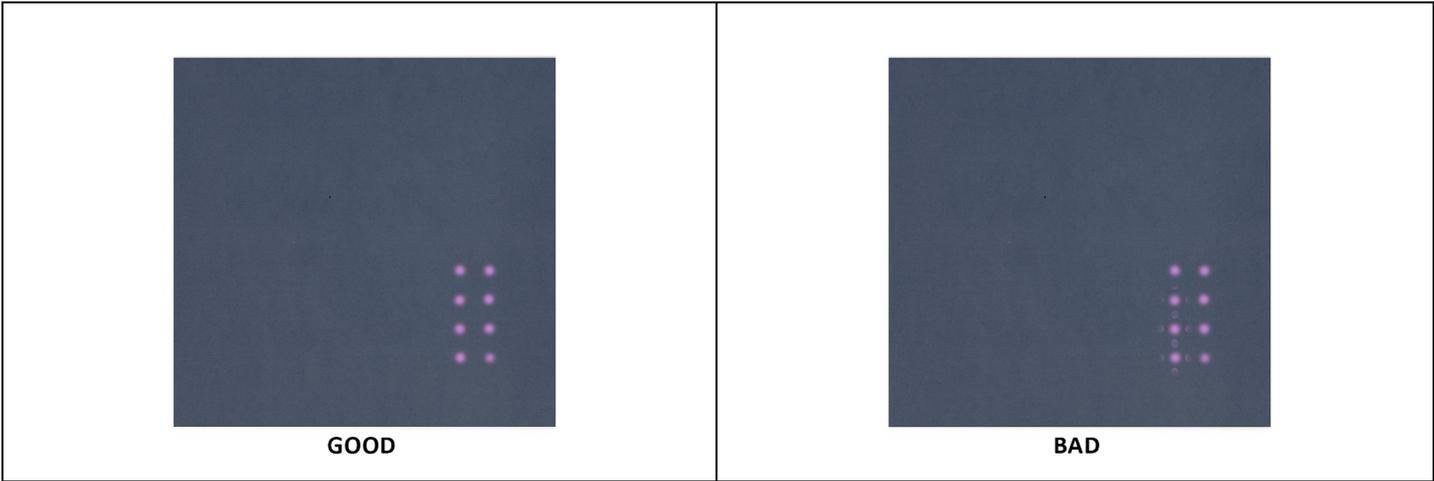


GOOD

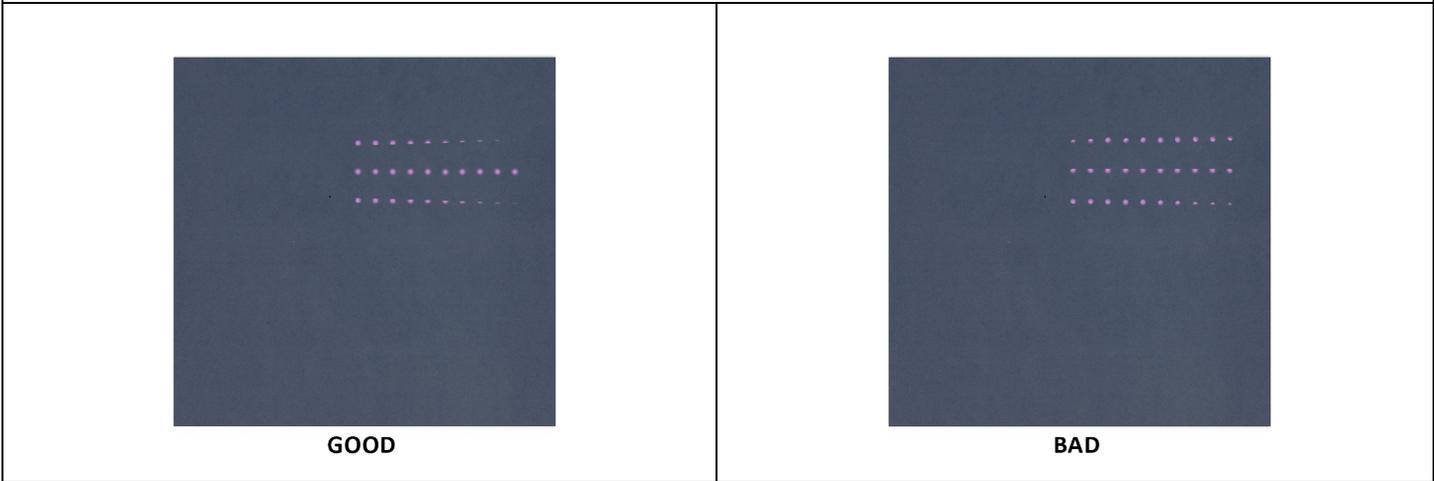


BAD

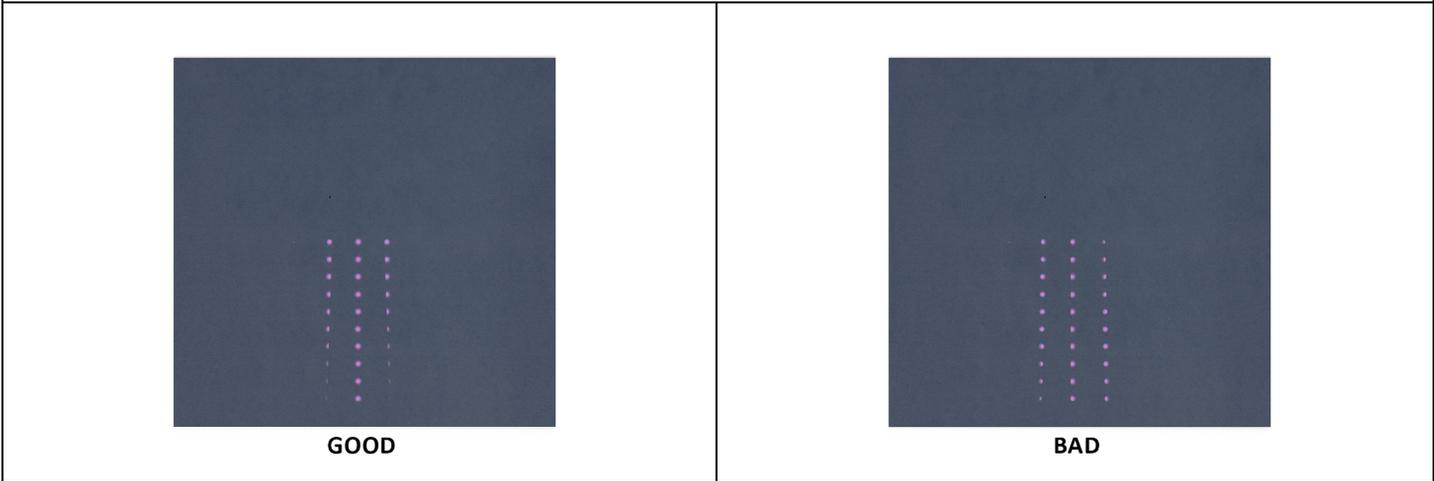
#### **Overspray (Click image to zoom):**



**Y-Axis (Click image to zoom):**

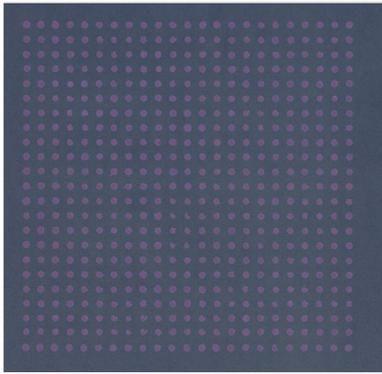


**X-Axis (Click image to zoom):**

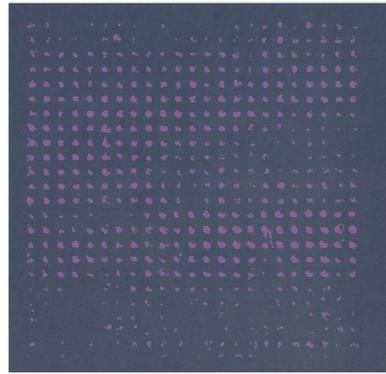


**UP Test Mesh Measurement:**

**Uniform Pattern:**



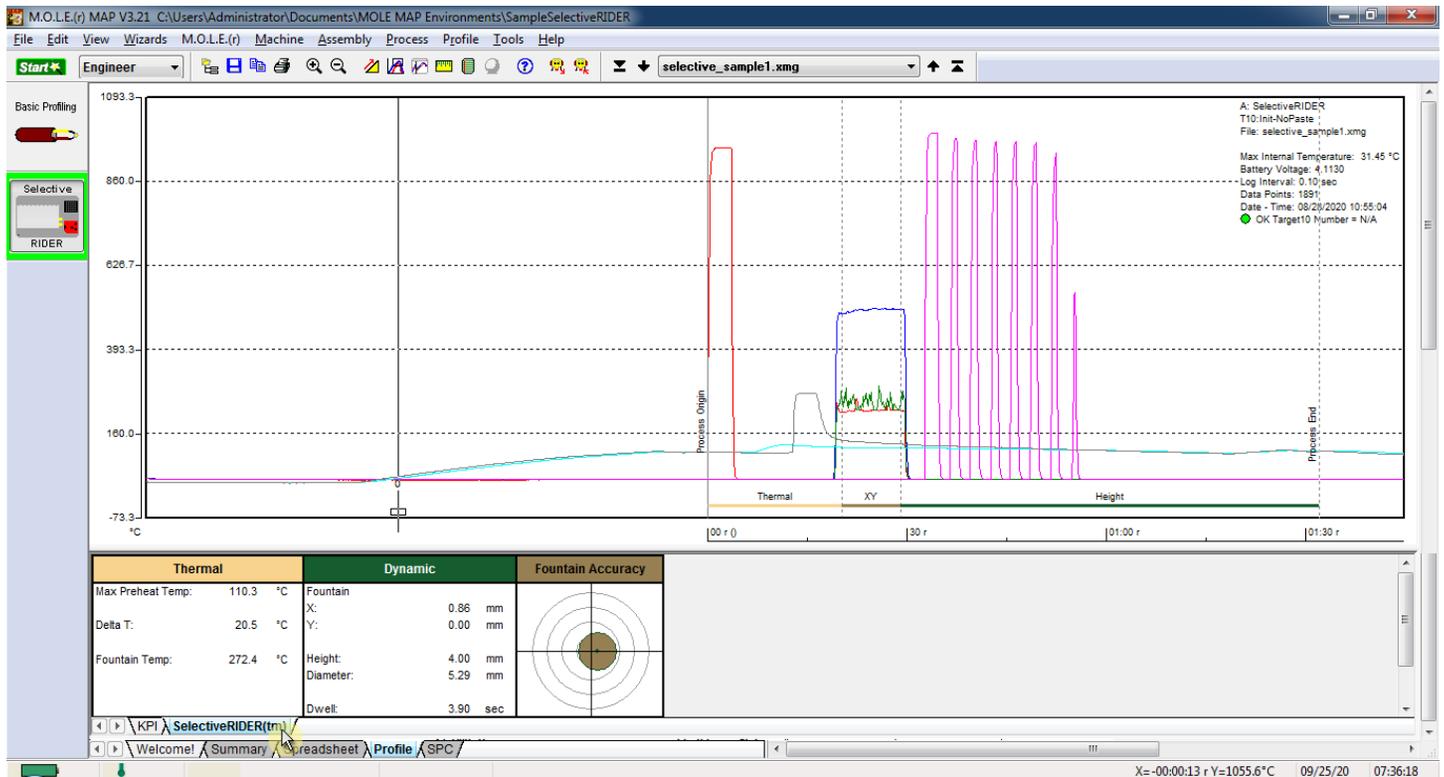
**GOOD**



**BAD**

## Selective Solder:

Select the Profile page and then the SelectiveRIDER™ Data Table.



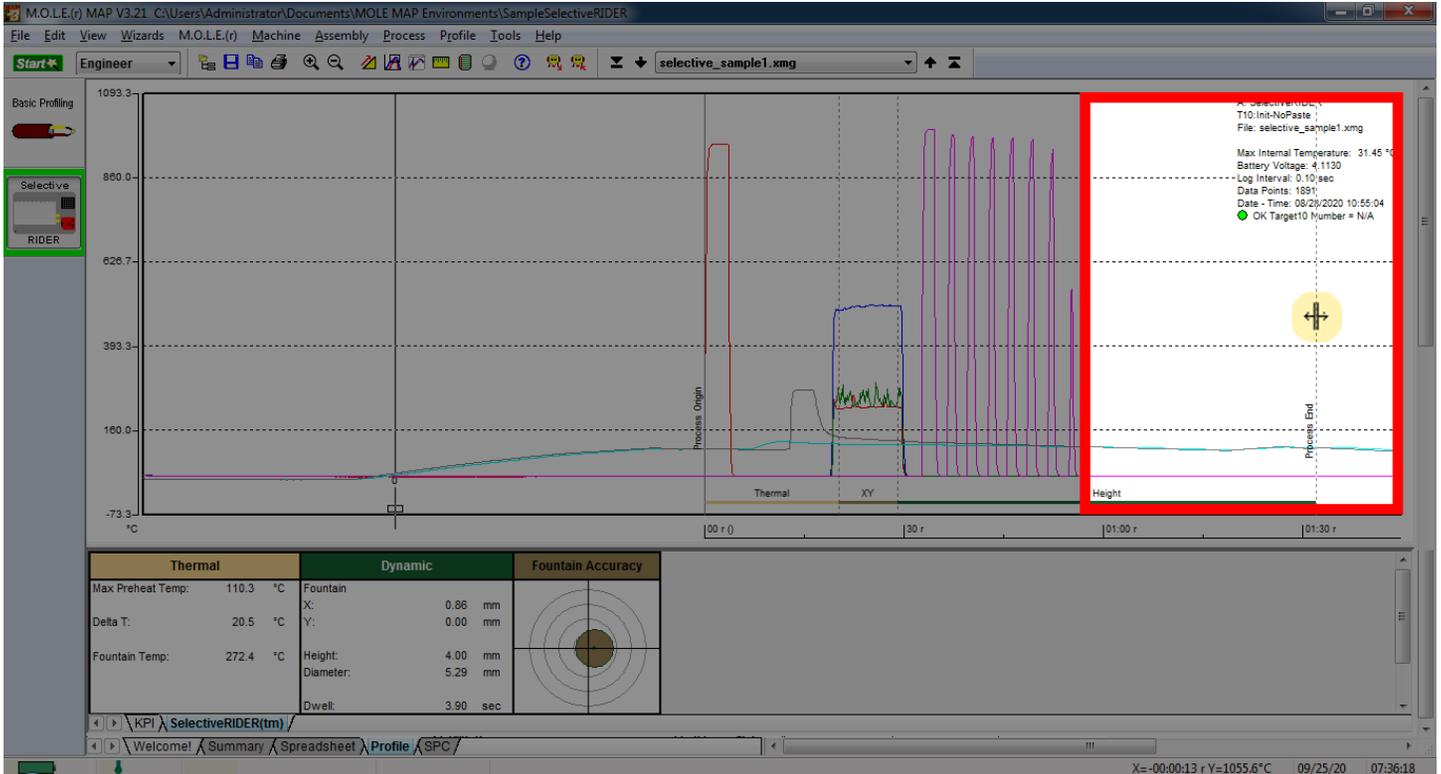
All the respective measures happen automatically. If not, the Process End and X/Y zone boundaries may need to be adjusted.



If the Process Origin does not start at the first peak (Channel 1) or did not achieve the minimum required temperature threshold that indicates the solder did not come into proper contact with the sensor.

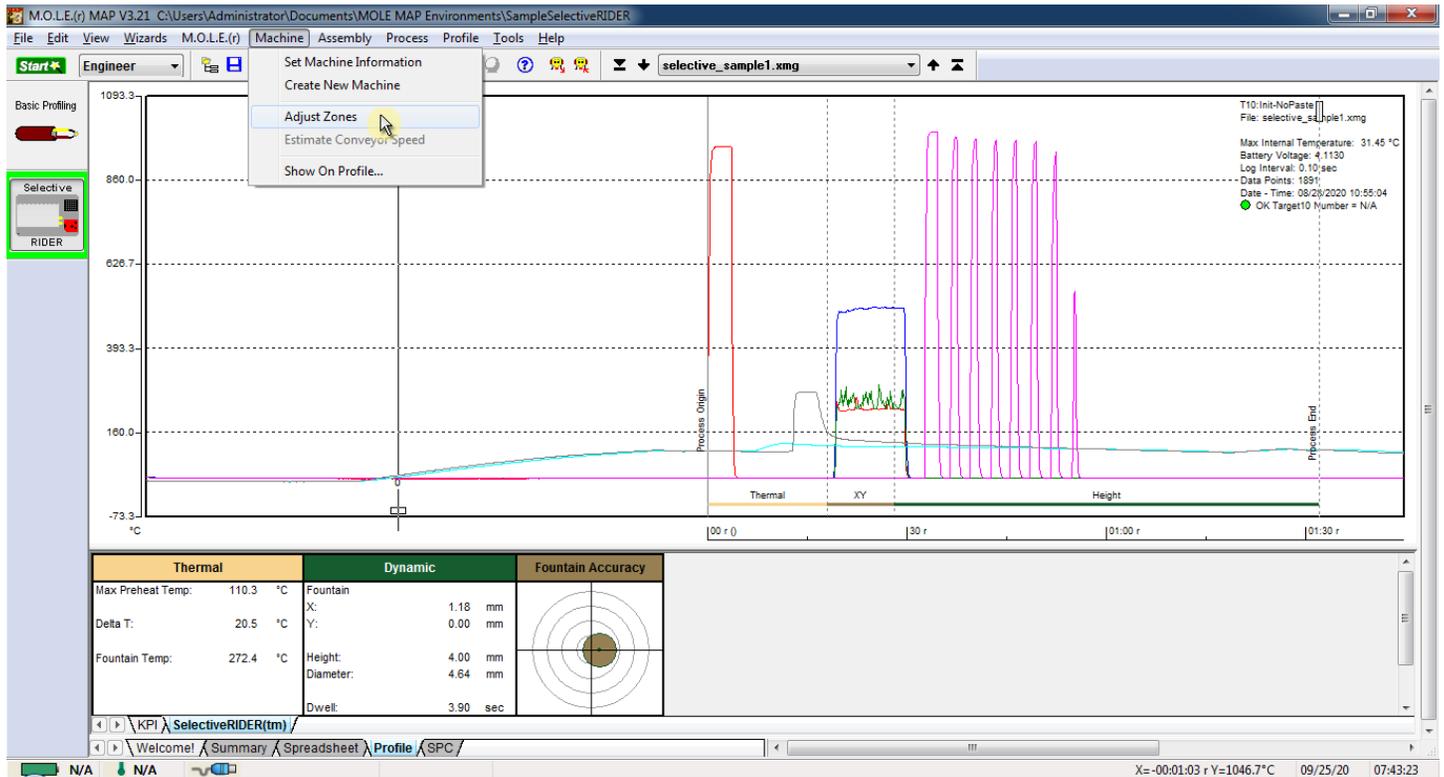
## To adjust the Process End:

- 1) Position the mouse pointer over the Process End (vertical line).
- 2) When the mouse pointer becomes a , click and hold the left mouse button to drag it left or right releasing the mouse button at the desired location. The Process End should be anywhere after the last Height sensor spike (magenta color).



## To adjust zones:

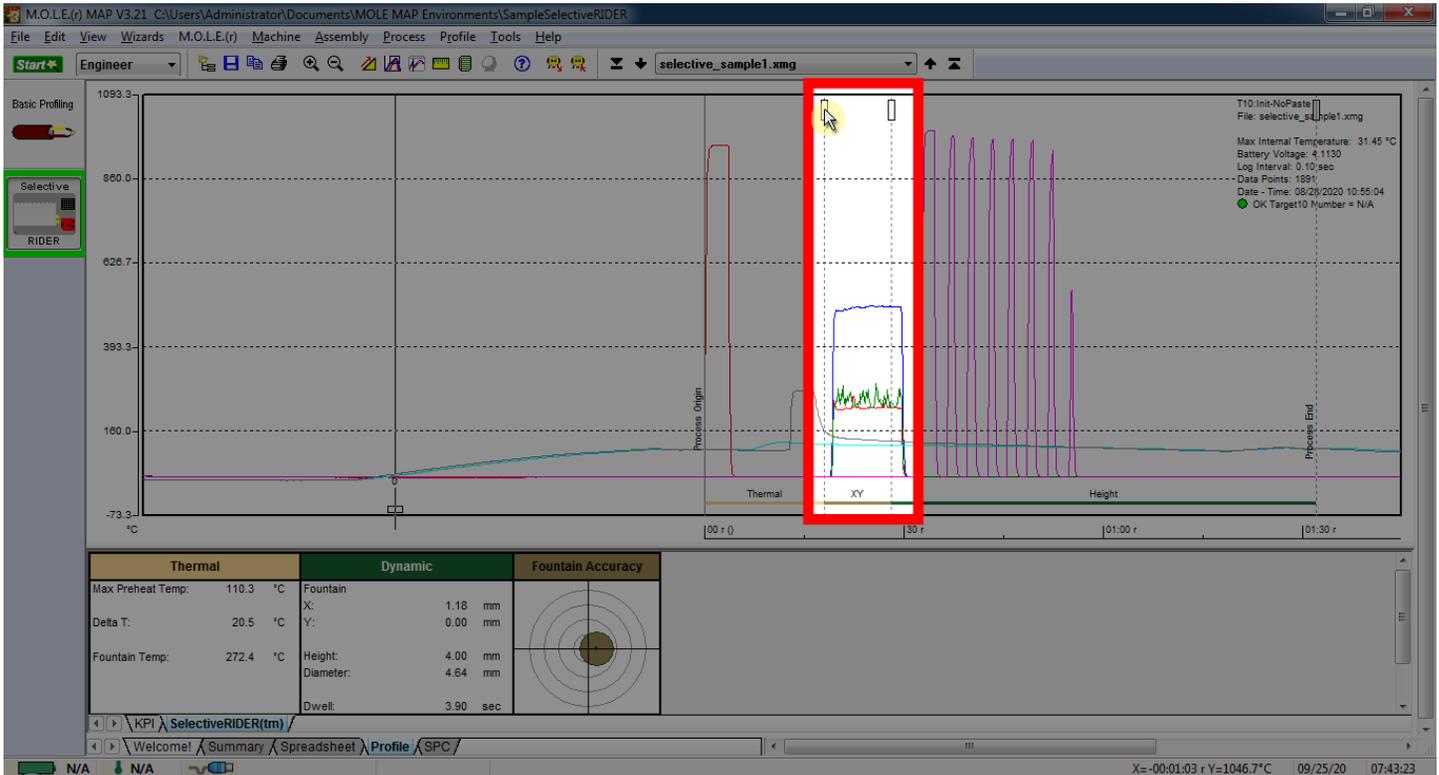
- 1) One the **Machine** menu, click **Adjust Zones** to activate. A check mark appears to the left of the command indicating the software is in Adjust Zones mode.



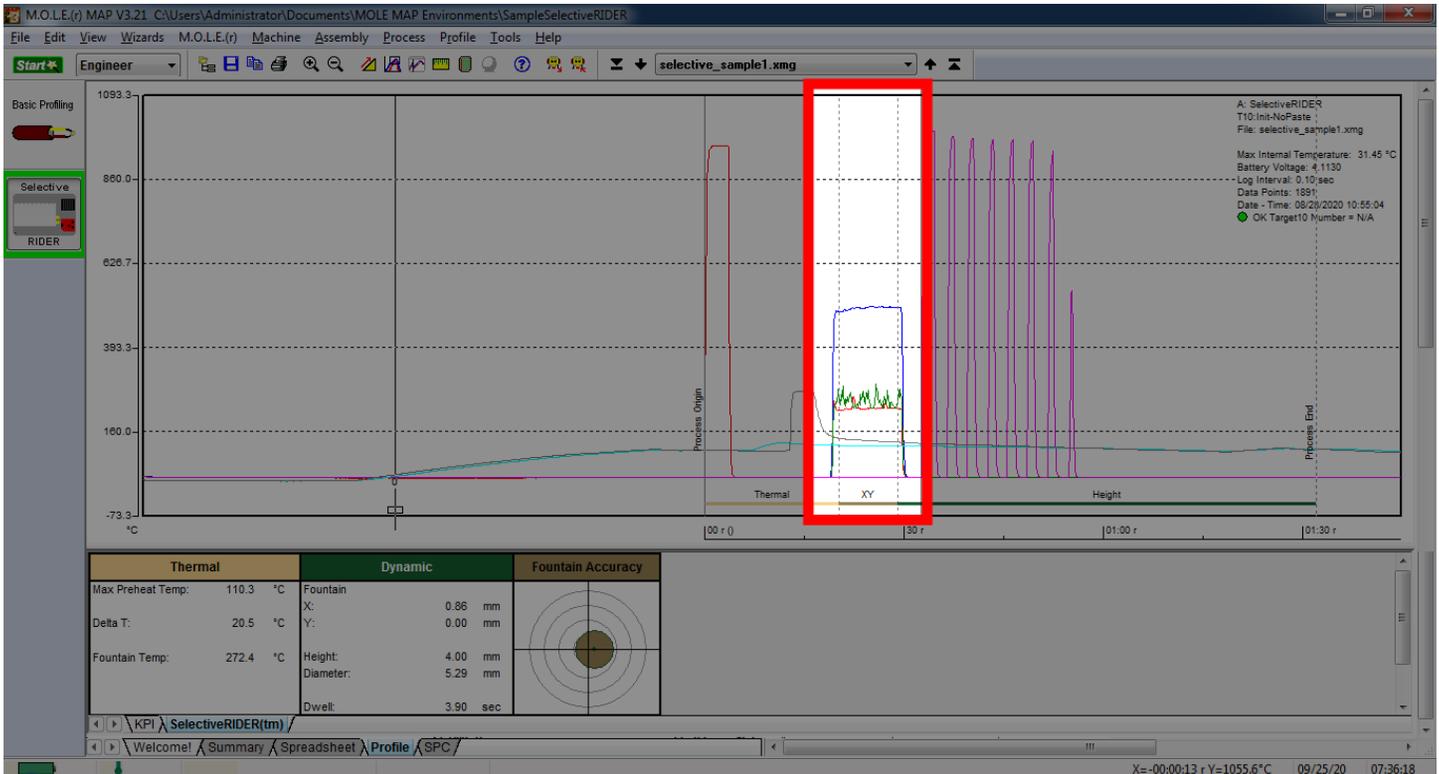
- 2) Position the mouse pointer over the left X/Y zone boundary line.
- 3) Click and hold the left mouse button to drag it left or right releasing the mouse button when the zone line is at the desired location and repeat for the right zone boundary line. The X/Y zone boundaries should be placed just inside the rising/falling edges of the peaks that lay between Process Origin spike and the Height sensor spikes.



If the solder does not contact the Dynamic X/Y Sensor, the contact plateaus will be at room temperature indicating no contact.



- 4) Lock the new zone settings by selecting the **Adjust Zones** command again. This removes the check mark next to the command indicating the software is out of the Adjust Zones mode.



The software prompts the user to save the changes to be used on other data runs. This is useful when downloading new data runs so the user can apply the saved Machine recipe to the next data run.

