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Changeover Tool 4 User Manual

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General safety

Follow these rules to ensure general safety:

- Observe good housekeeping in the area of the machines during and after maintenance.
- When lifting any heavy object:
 - Make sure that you can stand safely without slipping.
 - Distribute the weight of the object equally between your feet.
 - Use a slow lifting force. Never move suddenly or twist when you attempt to lift.
 - Lift by standing or by pushing up with your leg muscles; this action removes the strain from the muscles in your back. Do not attempt to lift any object that weighs more than 16 kg (35 lb) or that you think is too heavy for you.
- Do not perform any action that causes hazards to the customer, or that makes the equipment unsafe.
- Before you start the machine, make sure that other service technicians and the customer's personnel are not in a hazardous position.
- Place removed covers and other parts in a safe place, away from all personnel, while you are servicing the machine.
- Keep your tool case away from walk areas so that other people will not trip over it.
- Do not wear loose clothing that can be trapped in the moving parts of a machine. Make sure that your sleeves are fastened or rolled up above your elbows. If your hair is long, fasten it.
- Insert the ends of your necktie or scarf inside clothing or fasten it with a nonconductive clip, about 8 centimeters (3 inches) from the end.
- Do not wear jewelry, chains, metal-frame eyeglasses, or metal fasteners for your clothing.
Attention: Metal objects are good electrical conductors.
- Wear safety glasses when you are hammering, drilling, soldering, cutting wire, attaching springs, using solvents, or working in any other conditions that might be hazardous to your eyes.
- After service, reinstall all safety shields, guards, labels, and ground wires. Replace any safety device that is worn or defective.
- Reinstall all covers correctly before returning the machine to the customer.
- Fan louvers on the machine help to prevent overheating of internal components. Do not obstruct fan louvers or cover them with labels or stickers

Electrical safety

Observe the following rules when working on electrical equipment.

Important: Use only approved tools and test equipment. Some hand tools have handles covered with a soft material that does not insulate you when working with live electrical currents. Many customers have, near their equipment, rubber floor mats that contain small conductive fibers to decrease electrostatic discharges. Do not use this type of mat to protect yourself from electrical shock.

- Find the room emergency power-off (EPO) switch, disconnecting switch, or electrical outlet. If an electrical accident occurs, you can then operate the switch or unplug the power cord quickly.
- Do not work alone under hazardous conditions or near equipment that has hazardous voltages.
- Disconnect all power before:
 - Performing a mechanical inspection
 - Working near power supplies
 - Removing or installing main units

- Before you start to work on the machine, unplug the power cord.
- If you need to work on a machine that has exposed electrical circuits, observe the following precautions:
 - Ensure that another person, familiar with the power-off controls, is near you.
Attention: Another person must be there to switch off the power, if necessary.
 - Use only one hand when working with powered-on electrical equipment; keep the other hand in your pocket or behind your back.
Attention: An electrical shock can occur only when there is a complete circuit. By observing the above rule, you may prevent a current from passing through your body.
 - When using testers, set the controls correctly and use the approved probe leads and accessories for that tester.
 - Stand on suitable rubber mats (obtained locally, if necessary) to insulate you from grounds such as metal floor strips and machine frames. Observe the special safety precautions when you work with very high voltages; Instructions for these precautions are in the safety sections of maintenance information. Use extreme care when measuring high voltages.
- Regularly inspect and maintain your electrical hand tools for safe operational condition.
- Do not use worn or broken tools and testers.
- Never assume that power has been disconnected from a circuit. First, check that it has been powered off.
- Always look carefully for possible hazards in your work area. Examples of these hazards are moist floors, non grounded power extension cables, power surges, and missing safety grounds.
- Do not touch live electrical circuits with the reflective surface of a plastic dental mirror. The surface is conductive; such touching can cause personal injury and machine damage.
- Do not service the following parts with the power on when they are removed from their normal operating places in a machine:
 - Power supply units
 - Pumps
 - Blowers and fans
 - Motor generators
 - Similar units to listed above**Attention: This practice ensures correct grounding of the units.**
- If an electrical accident occurs:
 - Use caution; do not become a victim yourself.
 - Switch off power.
 - Send another person to get medical aid.

Safety inspection guide

The purpose of this inspection guide is to assist you in identifying potentially unsafe conditions. As each machine was designed and built, required safety items were installed to protect users and service technicians from injury. This guide addresses only those items. You should use good judgment to identify potential safety hazards due to attachment of non-OEM features or options not covered by this inspection guide. If any unsafe conditions are present, you must determine how serious the apparent hazard could be and whether you can continue without first correcting the problem. Consider these conditions and the safety hazards they present:

- Electrical hazards, especially primary power (primary voltage on the frame can cause serious or fatal electrical shock)
- Explosive hazards, such as a damaged CRT face or a bulging capacitor
- Mechanical hazards, such as loose or missing hardware. To determine whether there are any potentially unsafe conditions, use the following checklist at the beginning of every service task. Begin the checks with the power off, and the power cord disconnected.

Checklist:

1. Check exterior covers for damage (loose, broken, or sharp edges).
2. Power off the computer. Disconnect the power cord.
3. Check the power cord for:
 - a. A third-wire ground connector in good condition. Use a meter to measure third-wire ground continuity for 0.1 ohm or less between the external ground pin and the frame ground.
 - b. The power cord should be the type specified in the parts list.
 - c. Insulation must not be frayed or worn.
4. Check for cracked or bulging batteries.
5. Remove the cover.
6. Check inside the unit for any obvious unsafe conditions, such as metal filings, contamination, water or other liquids, or signs of fire or smoke damage.
7. Check for worn, frayed, or pinched cables.
8. Check that the power-supply cover fasteners (screws or rivets) have not been removed or tampered with.

Handling devices that are sensitive to electrostatic discharge

Any computer part containing transistors or integrated circuits (ICs) should be considered sensitive to electrostatic discharge (ESD.) ESD damage can occur when there is a difference in charge between objects. Protect against ESD damage by equalizing the charge so that the machine, the part, the work mat, and the person handling the part are all at the same charge.

Notes:

1. Use product-specific ESD procedures when they exceed the requirements noted here.
2. Make sure that the ESD protective devices you use have been certified (ISO 9000) as effective.

When handling ESD-sensitive parts:

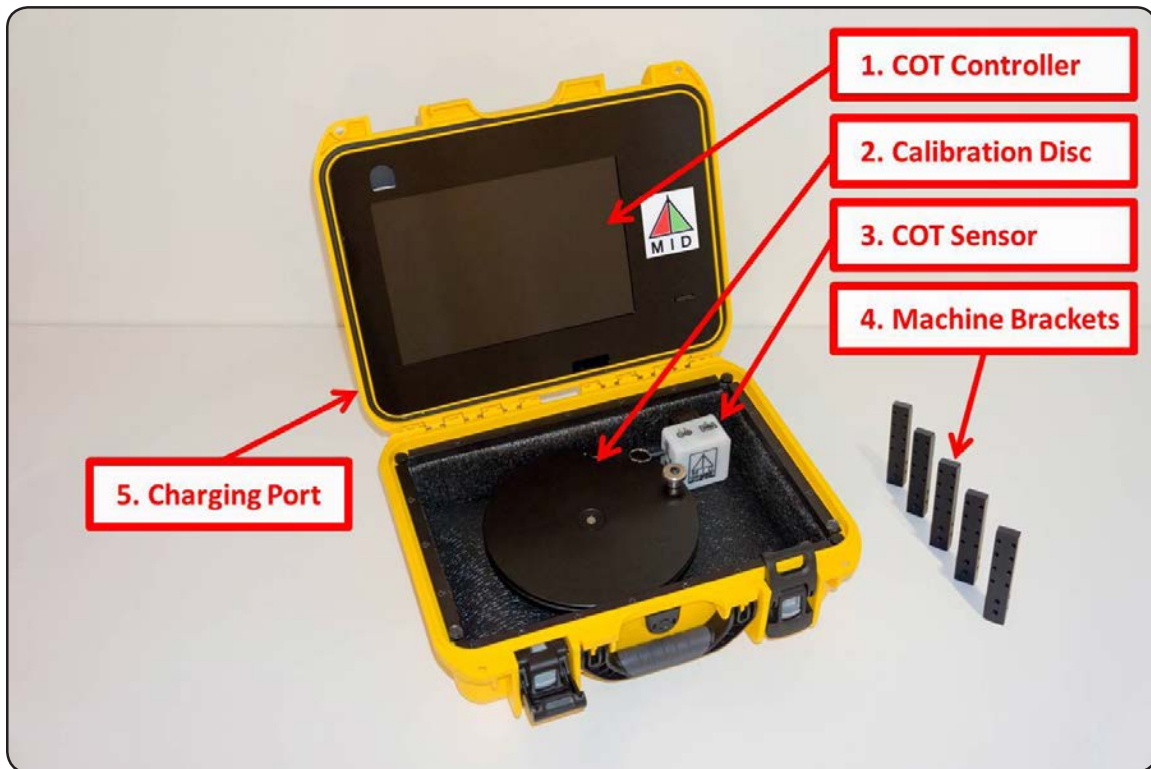
- Keep the parts in protective packages until they are inserted into the product.
- Avoid contact with other people.

- Wear a grounded wrist strap against your skin to eliminate static on your body.
- Prevent the part from touching your clothing. Most clothing is insulative and retains a charge even when you are wearing a wrist strap.
- Use a grounded work mat to provide a static-free work surface. The mat is especially useful when handling ESD-sensitive devices.
- Select a grounding system, such as those listed below, to provide protection that meets the specific service requirement.

Note: The use of a grounding system to guard against ESD damage is desirable but not necessary.

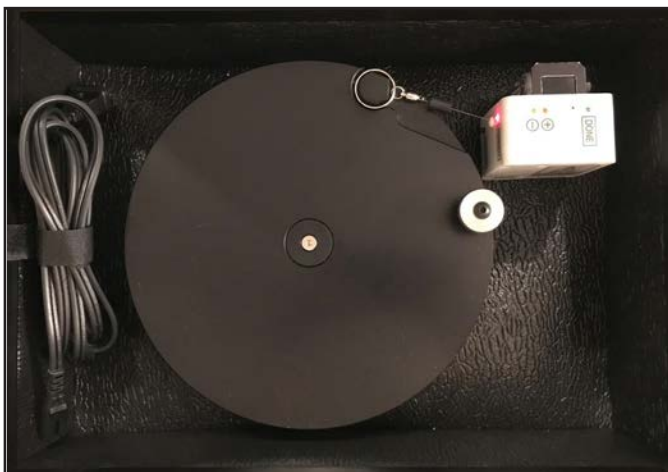
- Attach the ESD ground clip to any frame ground, ground braid, or green-wire ground.
- When working on a double-insulated or battery-operated system, use an ESD common ground or reference point. You can use coax or connector-outside shells on these systems.
- Use the round ground prong of the AC plug on AC-operated computers.

_System Overview:



1. COT Controller (Microsoft Surface):

The COT Controller is the users interface with the system software. Through this software, users are guided to perform changeover operations.



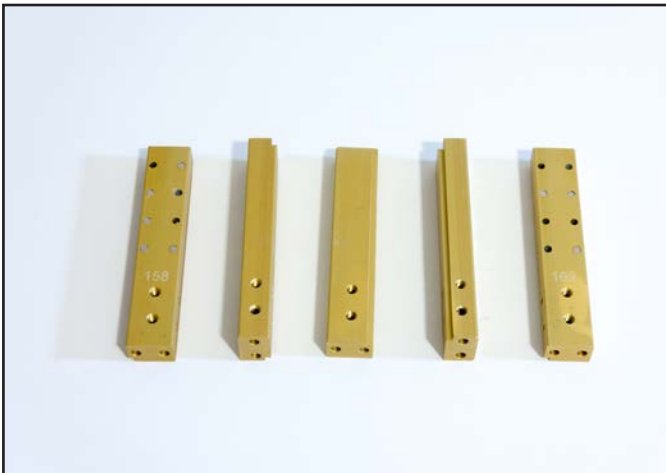
2. Calibration Plate:

The Calibration Plate is used to calibrate the COT Sensor in order to maintain consistency and accuracy from one system to another.



3. COT Sensor:

The COT Sensor is a wireless, mobile unit used by the operator to help him/her verify machine adjustments.



5. Machine Brackets:

Machine Brackets are components which are installed on the desired machines enabled for the Changeover Tools. The number of brackets vary based on configuration (Max configuration is 250 brackets across 5 machines).



5. Charging Cord:

The Charging Cord is used to charge the COT Controller. This cord plugs into the rear of the system.

Bracket Specs:



The installation of machine brackets is necessary to enable the Changeover Tool for adjustment guidance on a machine. The COT sensor is used by the operator to perform an adjustment at each changeover location with an installed bracket.

Each bracket is magnetically coded to have its own identification number. The Changeover Tool sensor reads this magnetic coding to determine the bracket location and display the correct target adjustment distance associated with the bracket location and product.

Each bracket consists of 6 tapped holes for mounting on the desired machine. Installation requires that two clearance holes are drilled on the machine. Once hole has been drilled, the screw (tap: 10-24" or 10-32") is used to tighten the bracket to the machine.

Factor	Metric	U.S.
Length	10.16 cm	4"
Width	1.90 cm	3/4"
Height	1.27 cm	1/2"
Metal	Aluminum (std.); other available at request	
Color	Gold (std.); other available at request	
Possible brackets (per config.)	max 250 per Changeover Tool system	



_Configuration Software Install / Uninstall

1.1

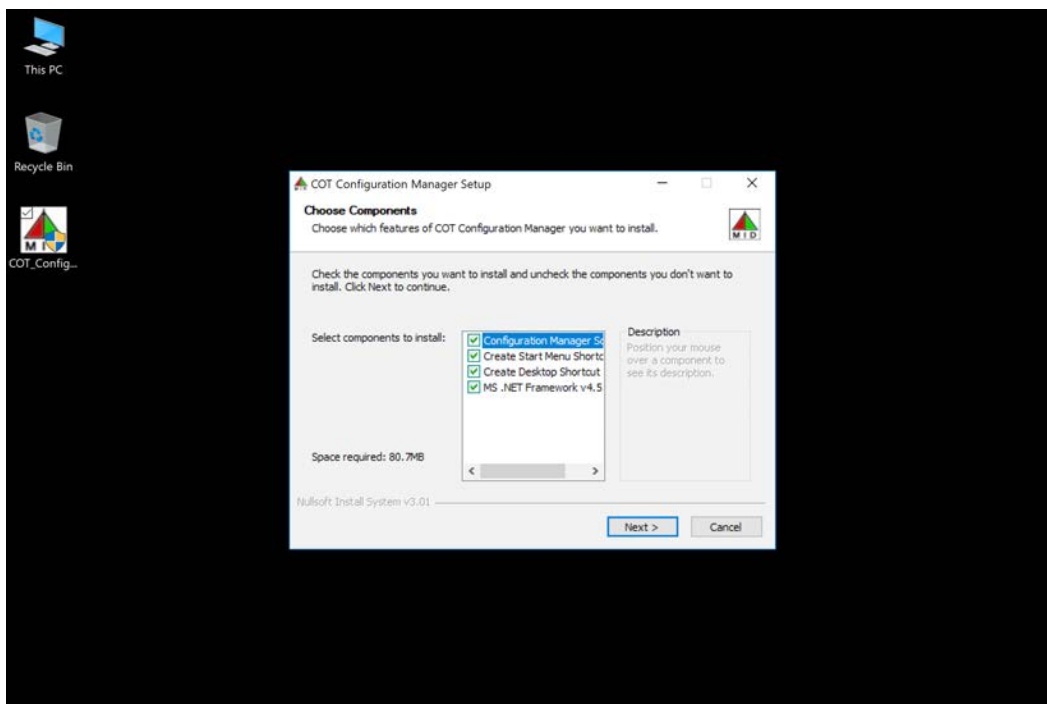
_Installing the COT Configuration Program

This chapter contains instructions for installing the COT Configuration Program. The COT Configuration Program is a helpful tool to create new COT system configurations or edit existing configurations. The user is able add/edit photos, help text files, tolerances and more.



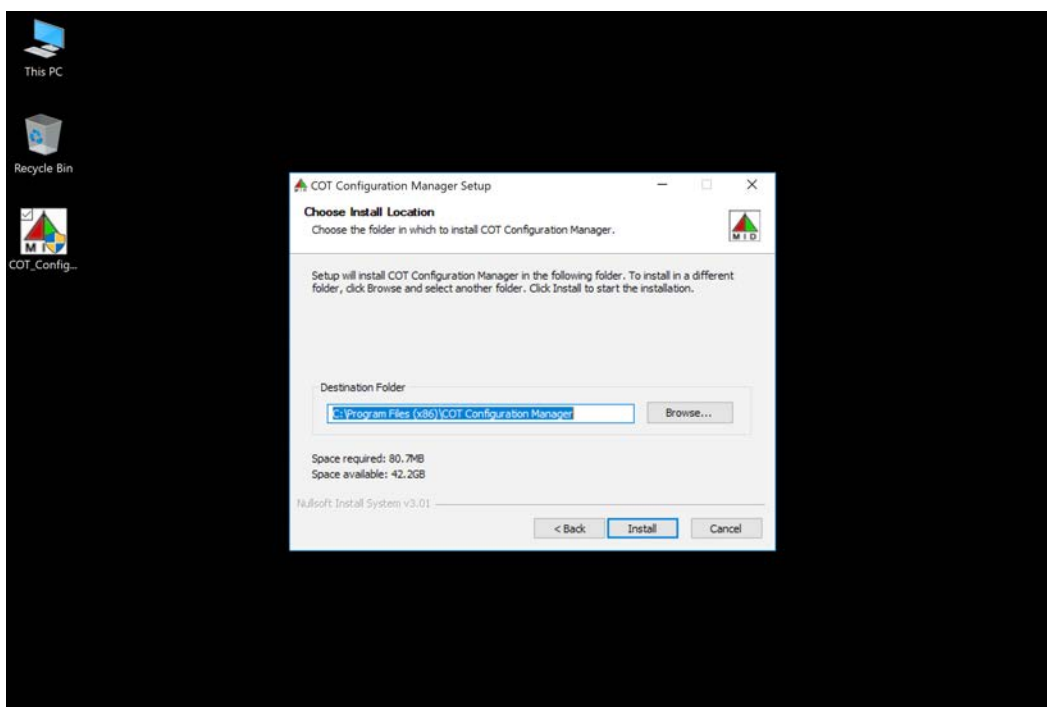
Step 1

Download the COT Configuration Program from the OEEIncrease.com website. Place downloaded file on desktop for ease of access.



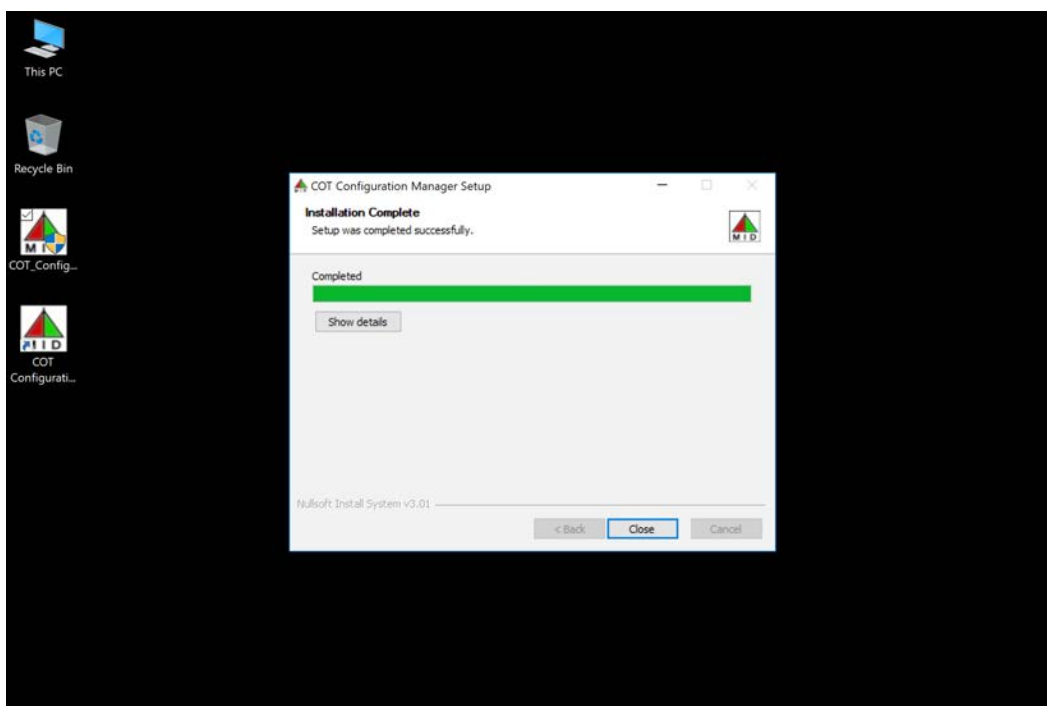
Step 2

Double click the downloaded file to begin installation of the COT Configuration Program. Make sure all options are selected and click “[Next](#)” to proceed.



Step 3

Select the desired install location of the COT Configuration Program. This is typically changed by advanced users, most will leave the installation location to the setup manager default. Click “Next” to proceed.



Step 4

The setup manager will perform the installation. When it is complete, click the “Close” button.

1.2

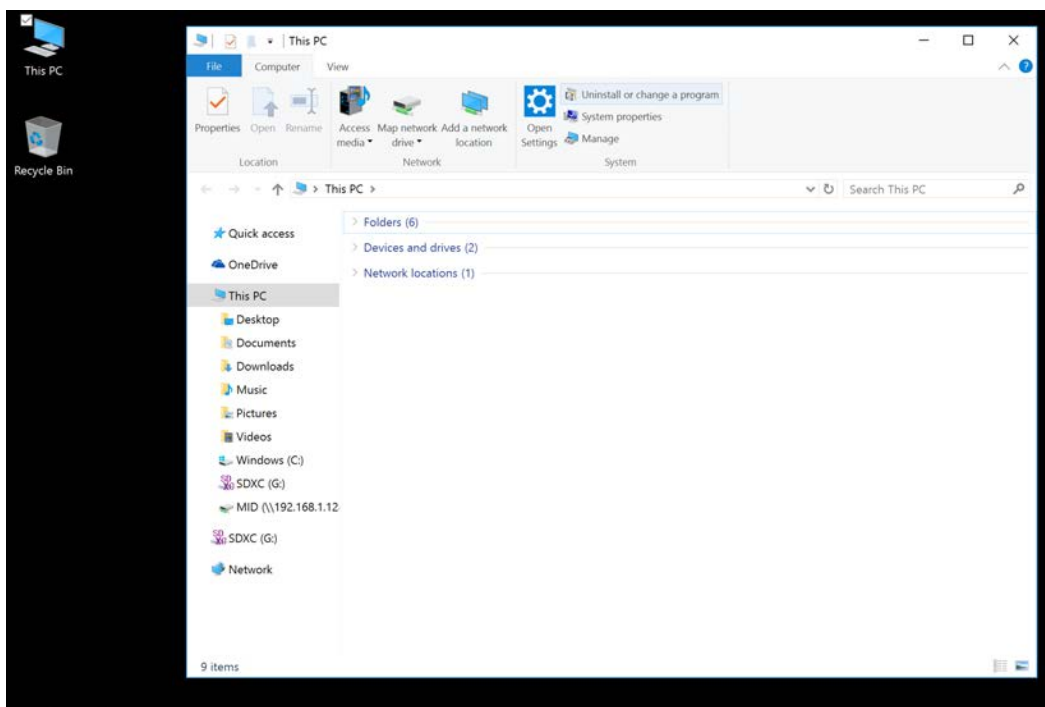
_Uninstalling the COT Configuration Program

This chapter contains instructions for uninstalling the COT Configuration Program.



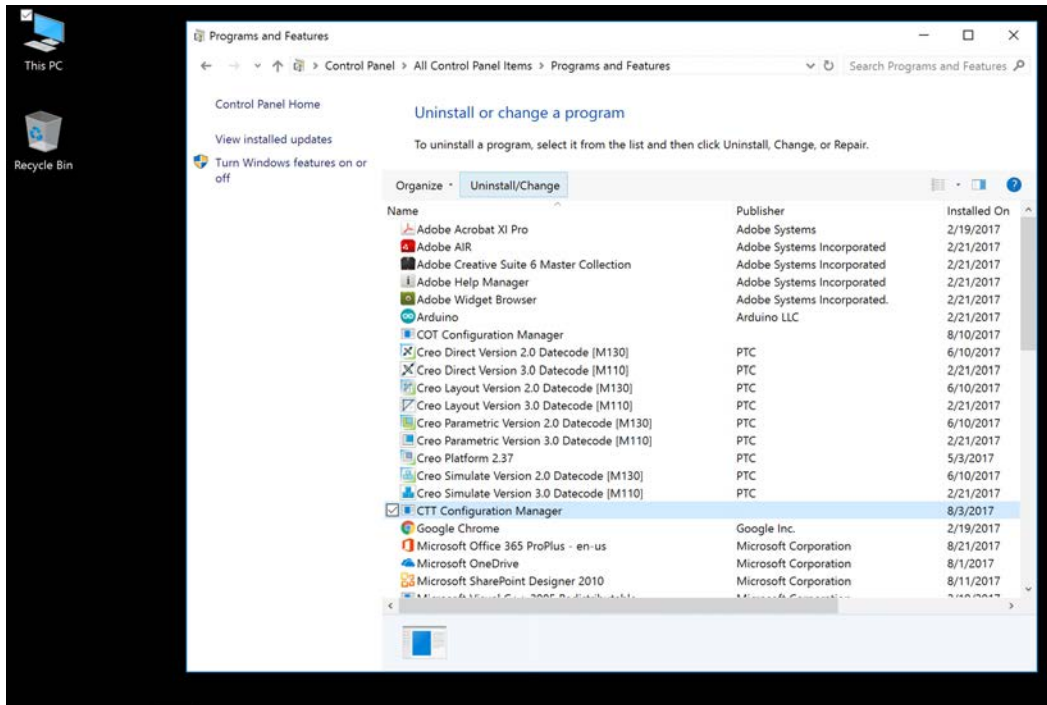
Step 1

Start at the computer desktop. Open *“My Computer”*.



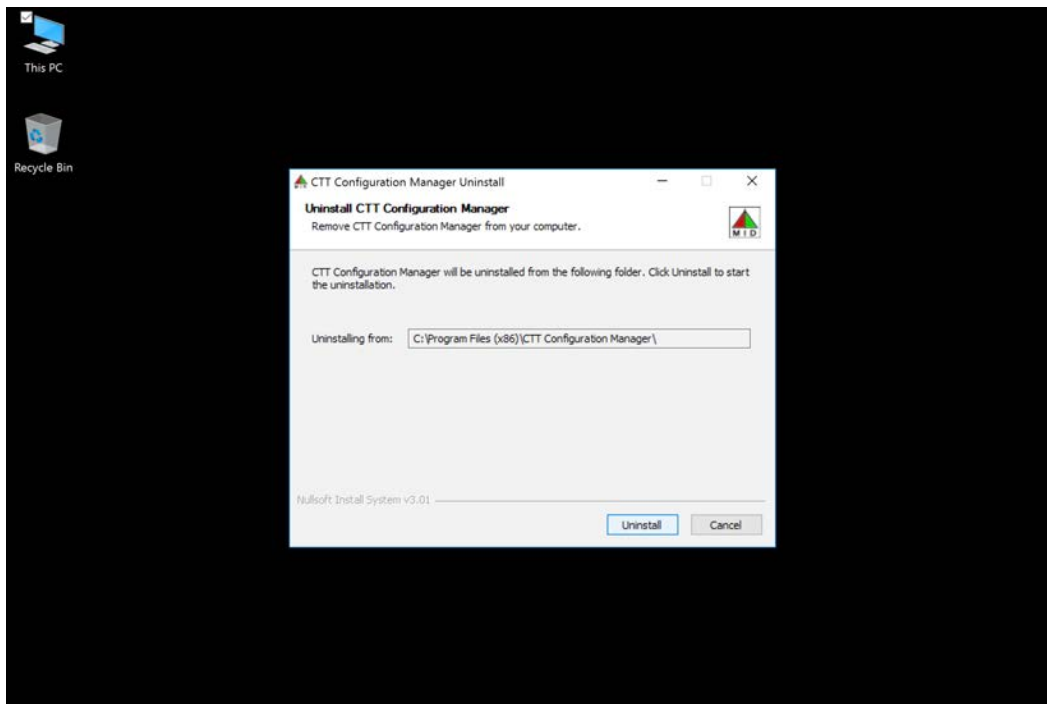
Step 2

Click *“Uninstall or change a program”* in the tool bar menu.



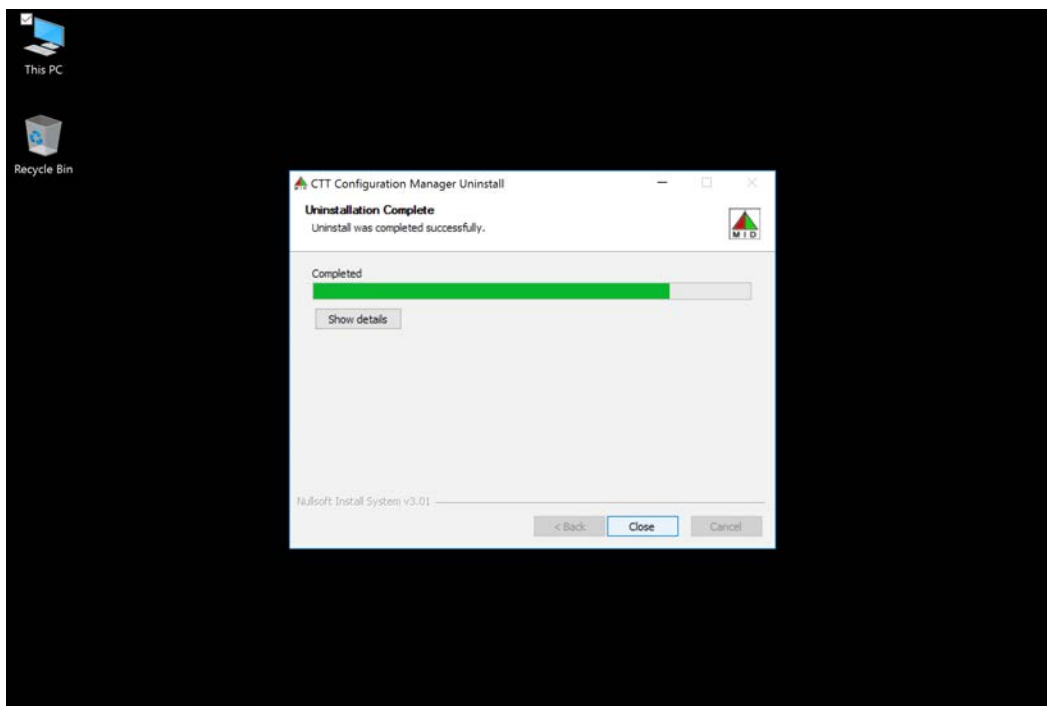
Step 3

Locate *“COT Configuration Manager”* in the Uninstall menu. Highlight the *“COT Configuration Manager”* program and click *“Uninstall/Change”*..



Step 4

Click the *“Uninstall”* button to begin.



Step 5

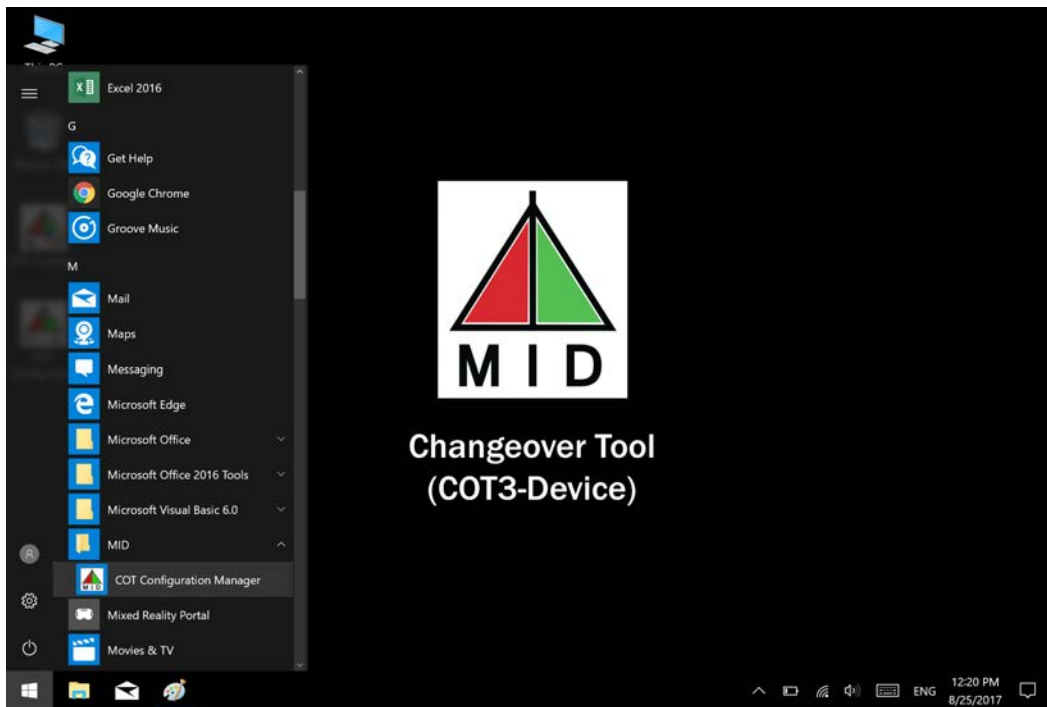
Click the “Close” button when the process is complete.

_Configuration Software Operation

2.1

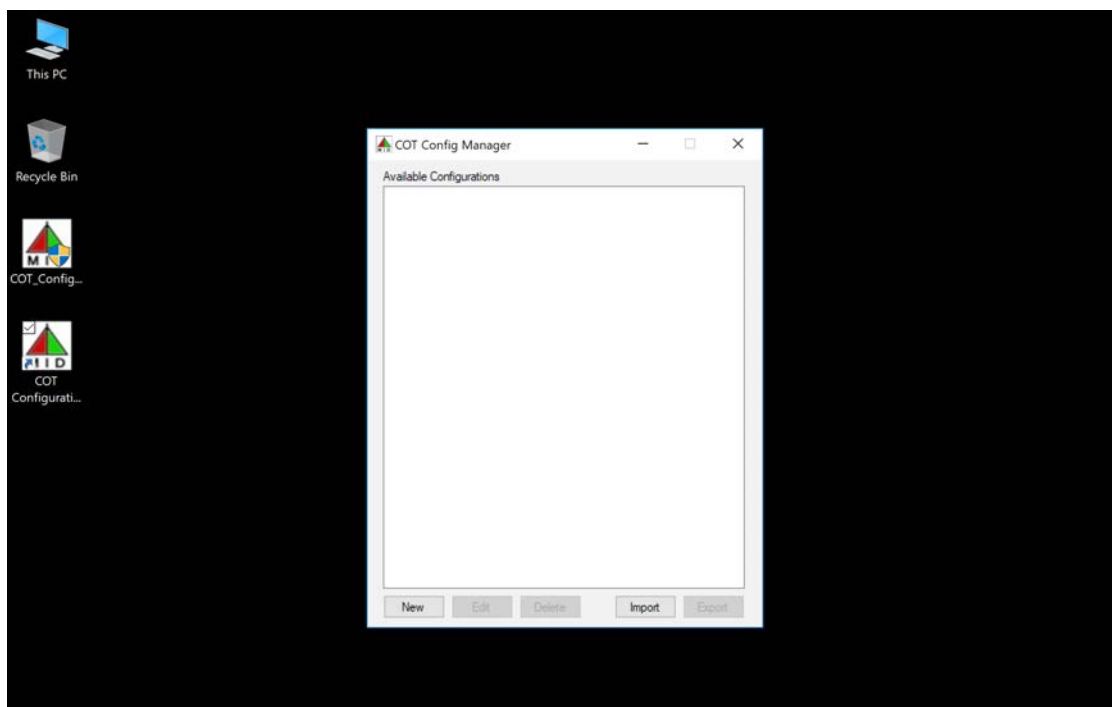
_Opening COT Configuration Manager

This chapter will highlight the steps necessary to open the COT Configuration Manager. The COT Configuration Manager program is a helpful tool to create new COT system configurations or edit existing COT system configurations. The user is able add/edit photos, help text files, define adjustment tolerances and more.



Step 1

Click on the “**Start**” button and navigate to “**COT Configuration Manager**” contained in the “**MID**” folder



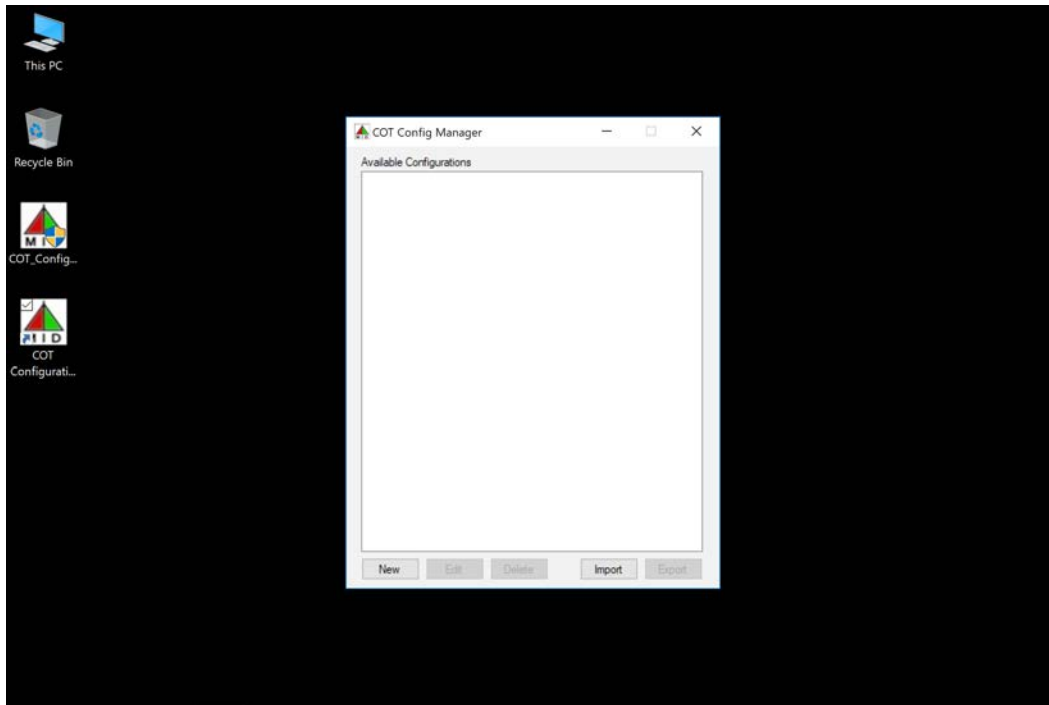
Step 2

The COT Configuration Manager will load into its main menu.

2.2

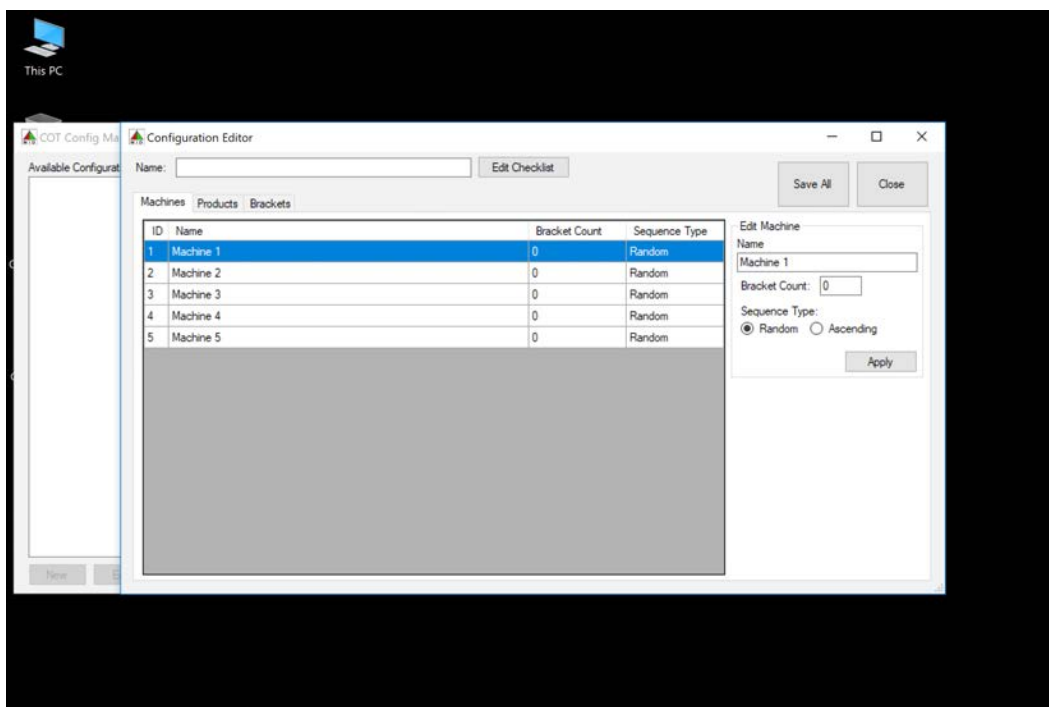
_Creating New Configuration

This chapter will highlight the steps of creating a new configuration for the COT tool. Instructions for editing machine and product names, number of brackets per machine, photos for each bracket and help files for each bracket are covered.



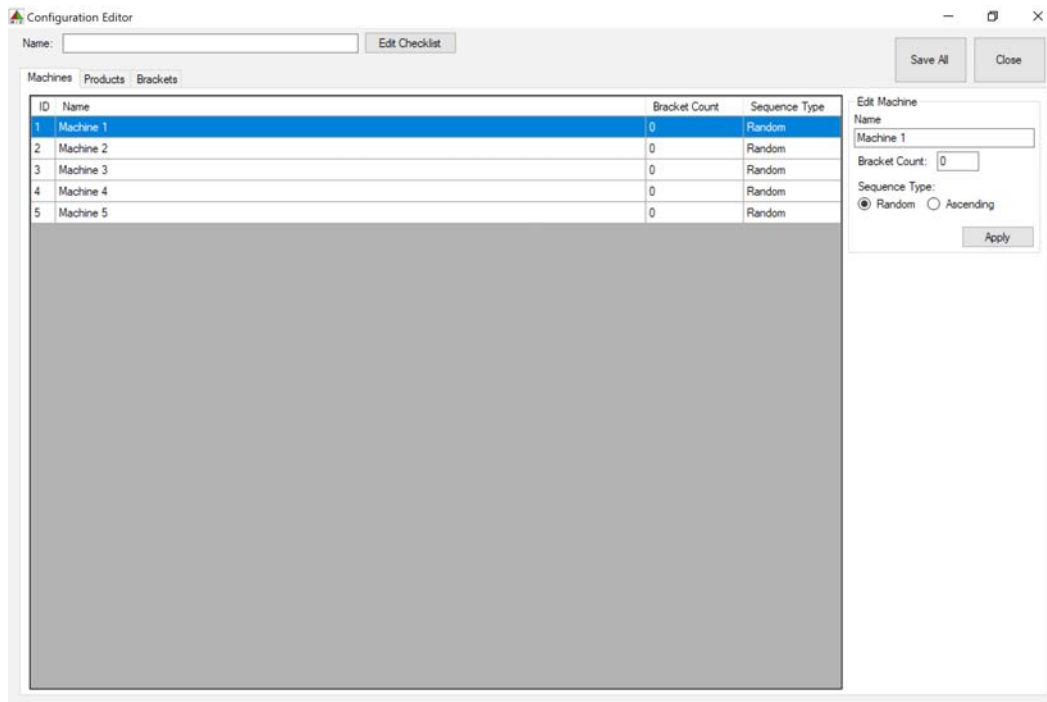
Step 1

To create a new configuration, click on the button labeled “New” at the main menu.



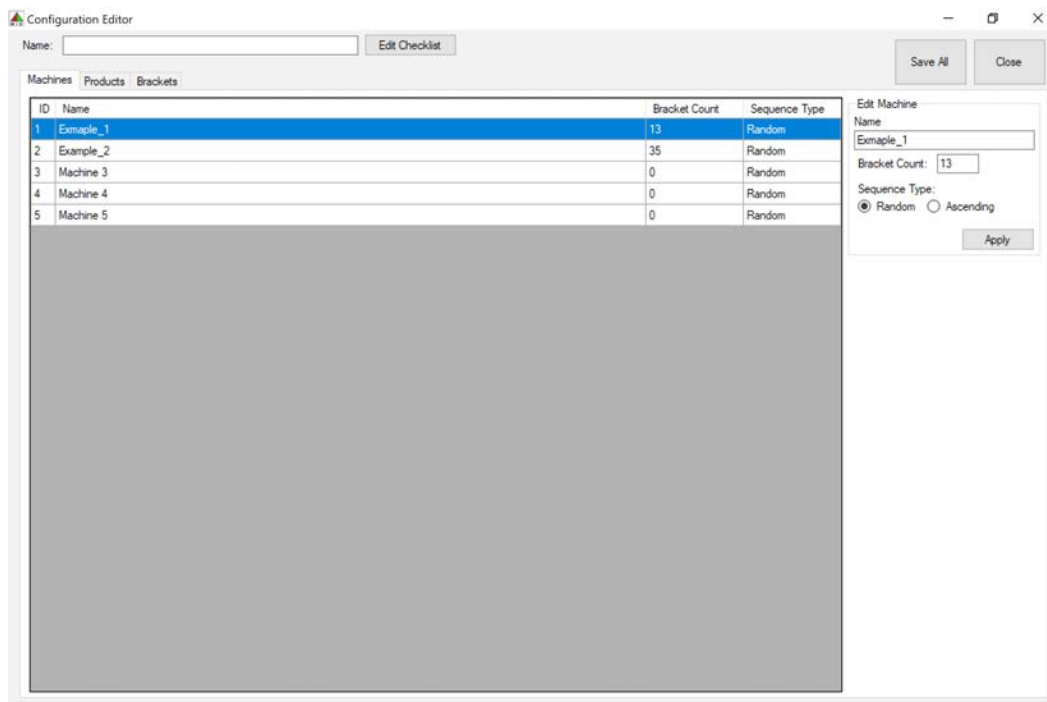
Step 2

The program will open a new window allowing the user to create a new configuration. Maximizing the window allows for easier navigation and program operation (as shown in next step)..



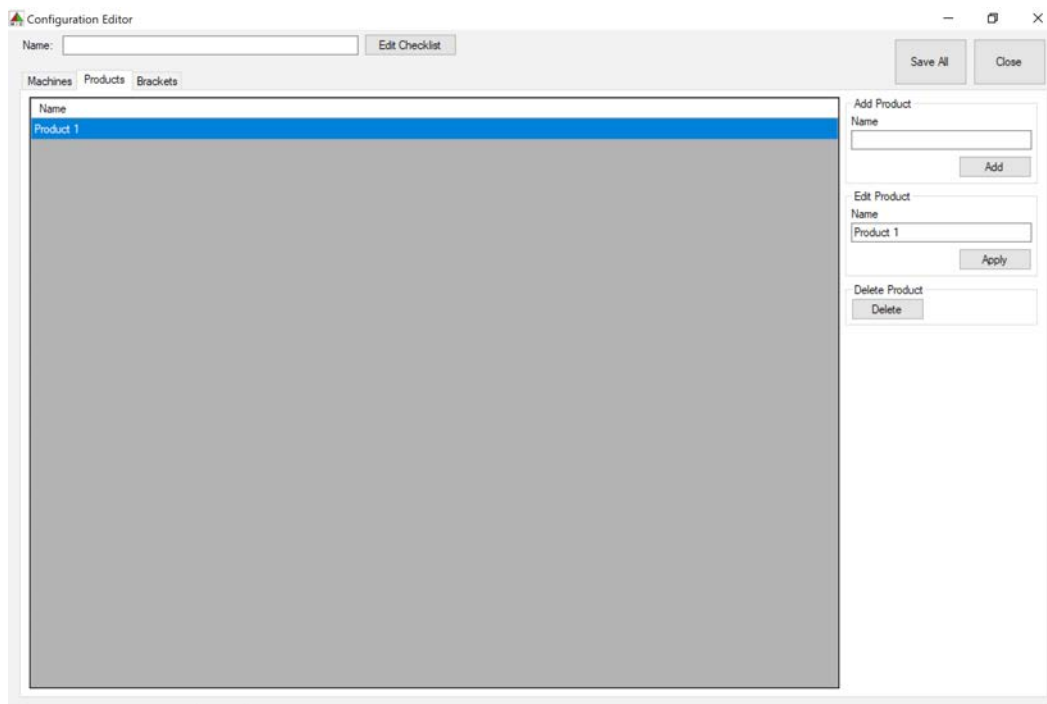
Step 3

The first field the user should populate is the Configuration save name. Enter a descriptive configuration name and click the “**Save All**” button.



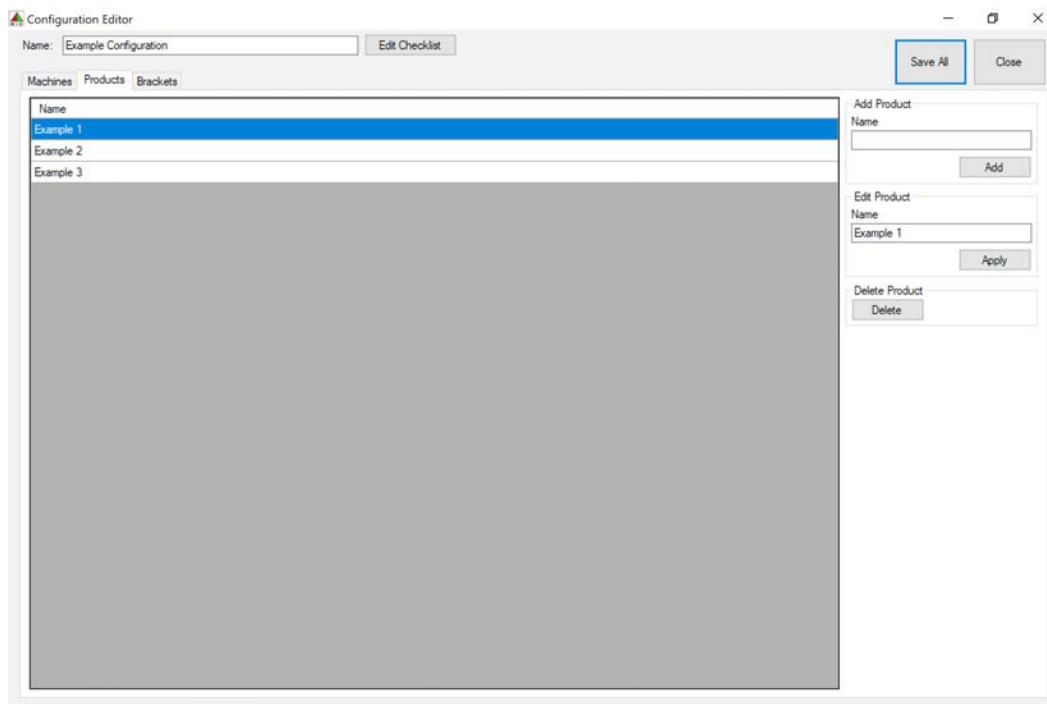
Step 4

In the “**Edit Machine**” field, enter the names of the machines on which the COT is installed. Define the number of brackets installed on each machine and the desired adjustment sequence. To apply inputted data, click the “**Apply**” button.



Step 5

Clicking the “**Products**” tab opens the next menu. This menu allows for the addition of new product sizes, editing of product names and deletion of products.



Step 6

To **add** a product, enter the desired product name and click the “**Add**” button.

To **edit** a product name, click (to highlight) the product name and rename the product in the edit field.

To **delete** a product, click (to highlight) the product and click the “**Delete**” button.

Configuration Editor

Name: Example Configuration Edit Checklist Save All Close

Machines Products Brackets

Machine: Example_1 Product: Example 1 Brackets: 13 Adjustment Sequence: Random

	Target Position	Tolerance	Has Photo	Has Help
1	0	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	0	0	<input type="checkbox"/>	<input type="checkbox"/>
3	0	0	<input type="checkbox"/>	<input type="checkbox"/>
4	0	0	<input type="checkbox"/>	<input type="checkbox"/>
5	0	0	<input type="checkbox"/>	<input type="checkbox"/>
6	0	0	<input type="checkbox"/>	<input type="checkbox"/>
7	0	0	<input type="checkbox"/>	<input type="checkbox"/>
8	0	0	<input type="checkbox"/>	<input type="checkbox"/>
9	0	0	<input type="checkbox"/>	<input type="checkbox"/>
10	0	0	<input type="checkbox"/>	<input type="checkbox"/>
11	0	0	<input type="checkbox"/>	<input type="checkbox"/>
12	0	0	<input type="checkbox"/>	<input type="checkbox"/>
13	0	0	<input type="checkbox"/>	<input type="checkbox"/>

Instructions

Target Position: 0

Tolerance: 0 mm (multiple of 7) Save

Photo

Edit Clear Load Edit Clear Load Photo Mode

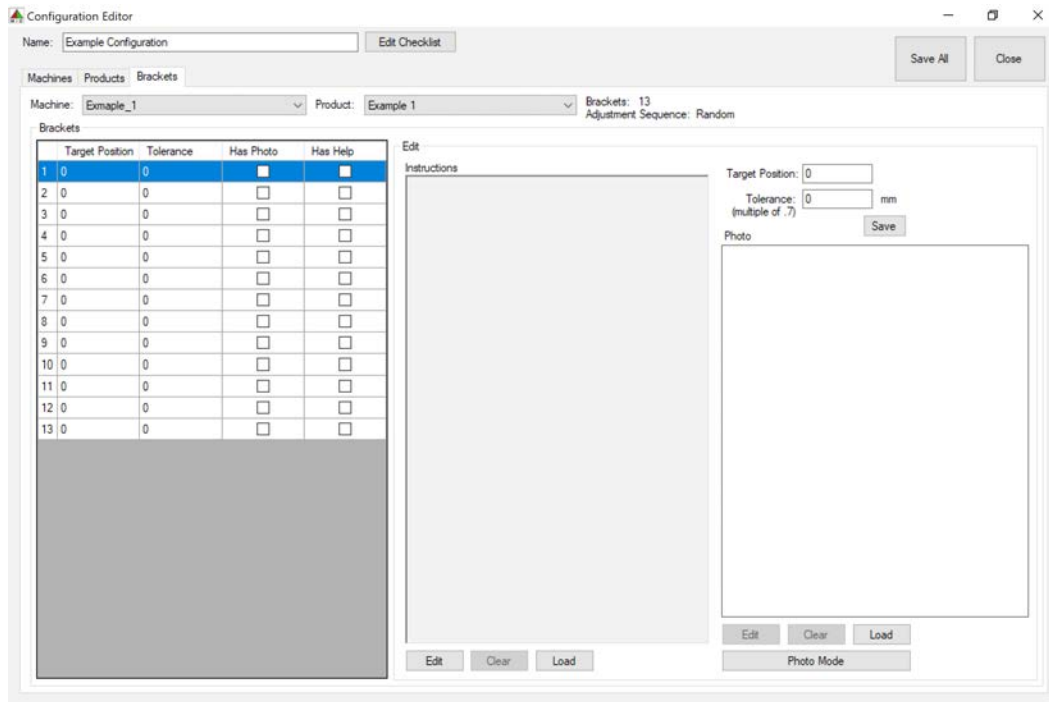
Step 7

The “**Brackets**” tab allows the user to input target position value, adjustment tolerances, location photos and text help files for each changeover location.

2.3

_Editing Help Text Documents

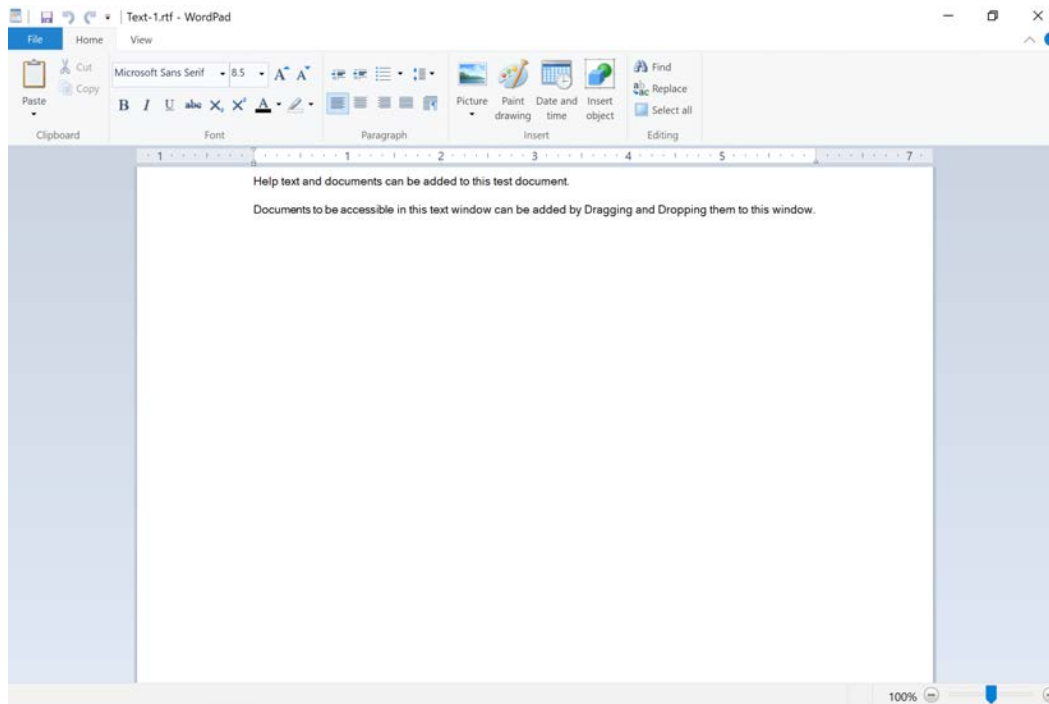
This chapter will guide the user through the steps for adding, editing and deleting text help files. Text help files are important to aid an operator during the use of the COT system.



Step 1

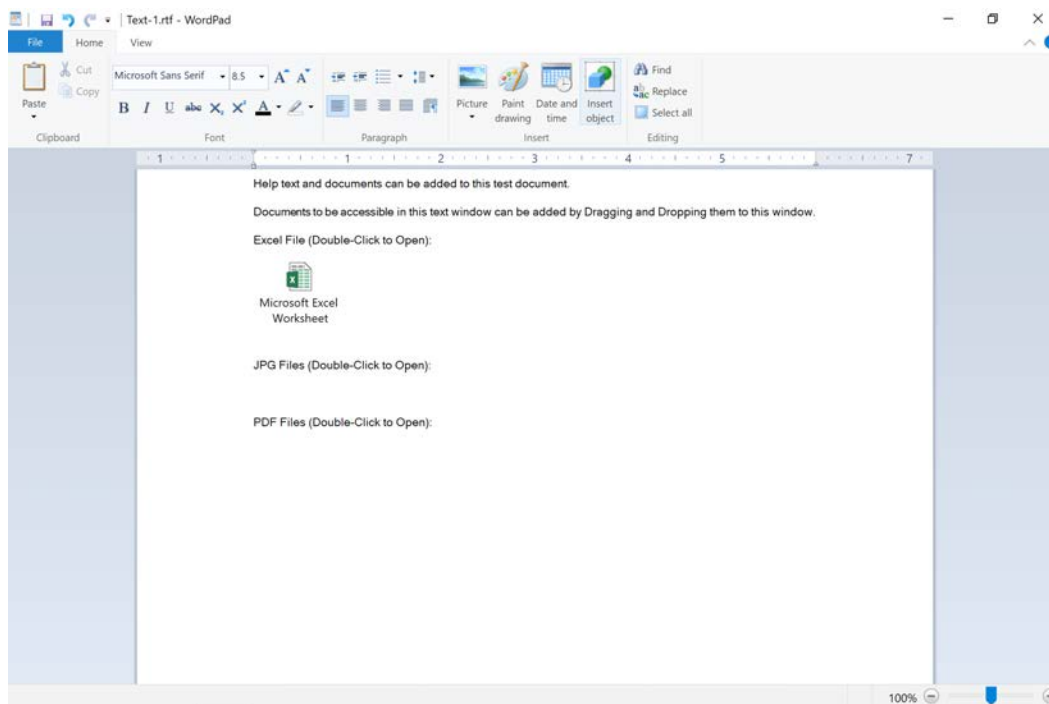
To add help text data for the highlighted sensor location, click the “Edit” button under the “Instructions” window. Clicking edit in this instance would open a blank help text file for bracket location 1 (currently highlighted in the Bracket # field).

NOTE: It is possible to load in externally created .rtf files by clicking the “Load” button.



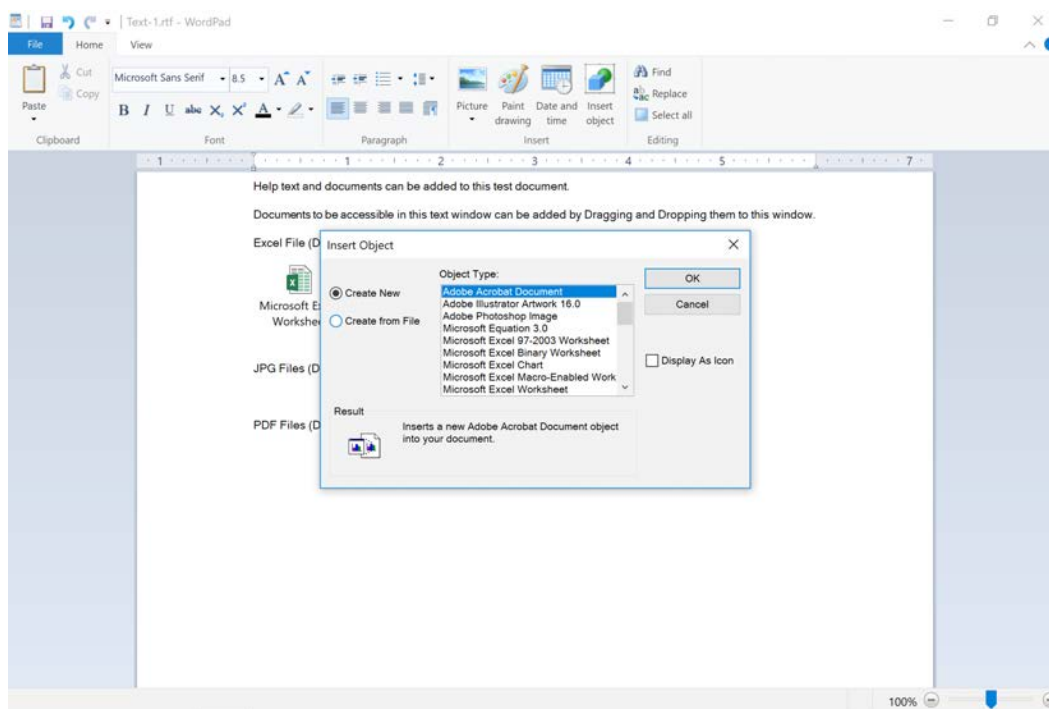
Step 2

WordPad will appear allowing the editing of the text instructions and attached documents (images, pdf, ppt, etc.) The operator can access this file during the changeover procedure using the COT..



Step 3

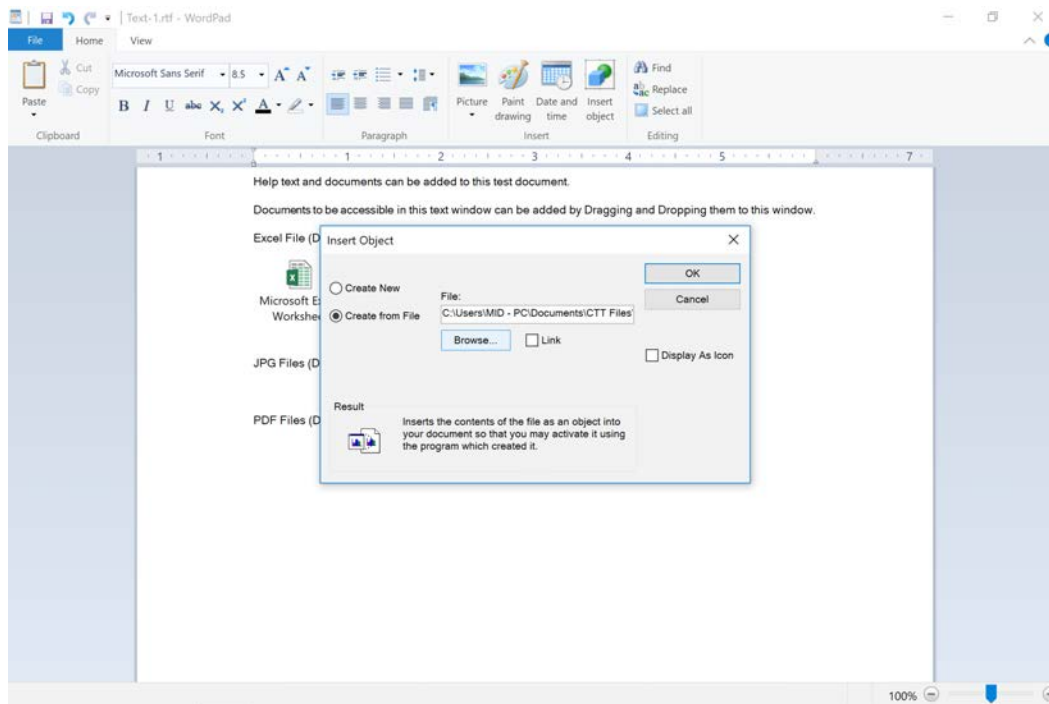
Adding attached files and documents can be done by clicking the “Insert Object” button in the tool bar.



Step 4

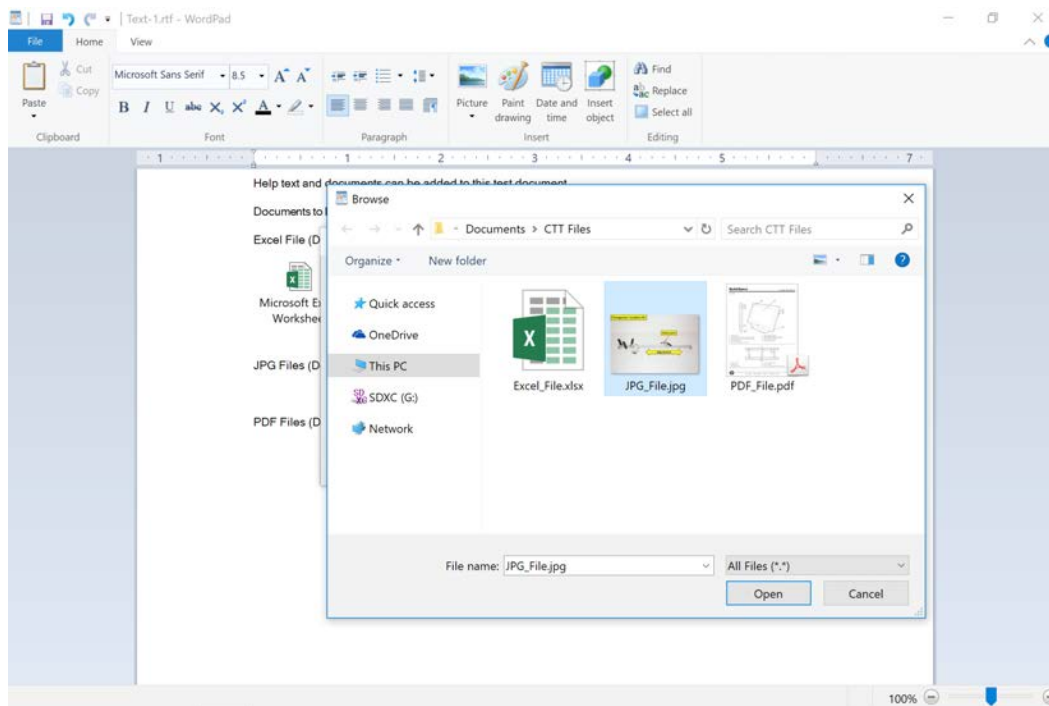
The “Insert Object” will appear. Click “Create from File” to proceed to file navigation screen.

Chapter 2



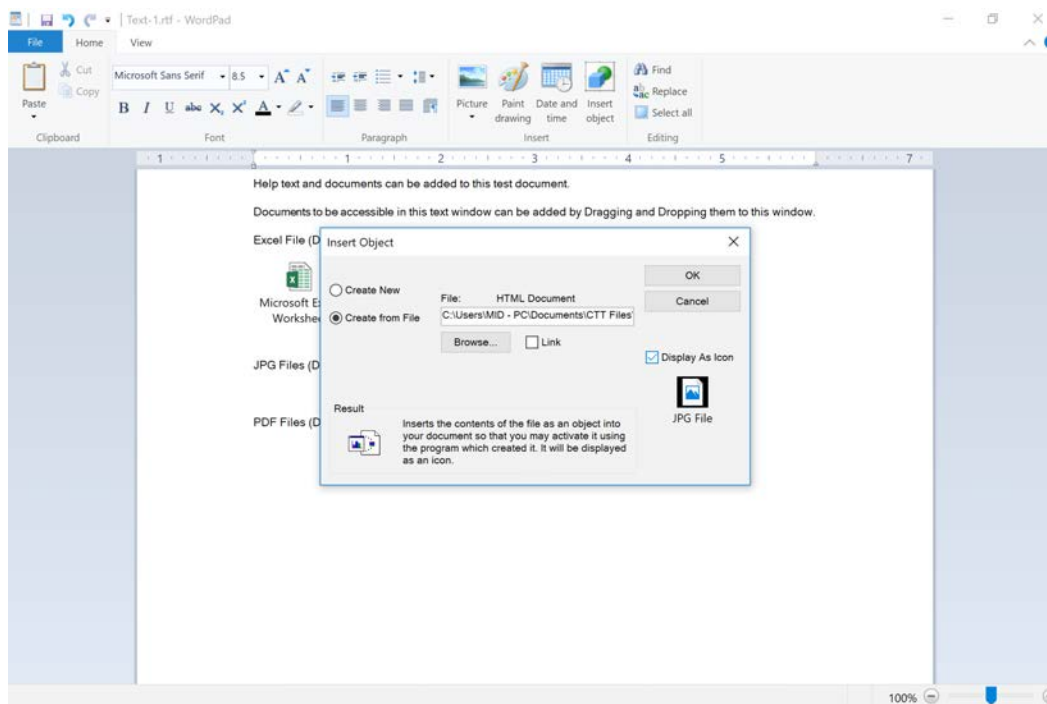
Step 5

Click the “Browse” button to open the file explorer.



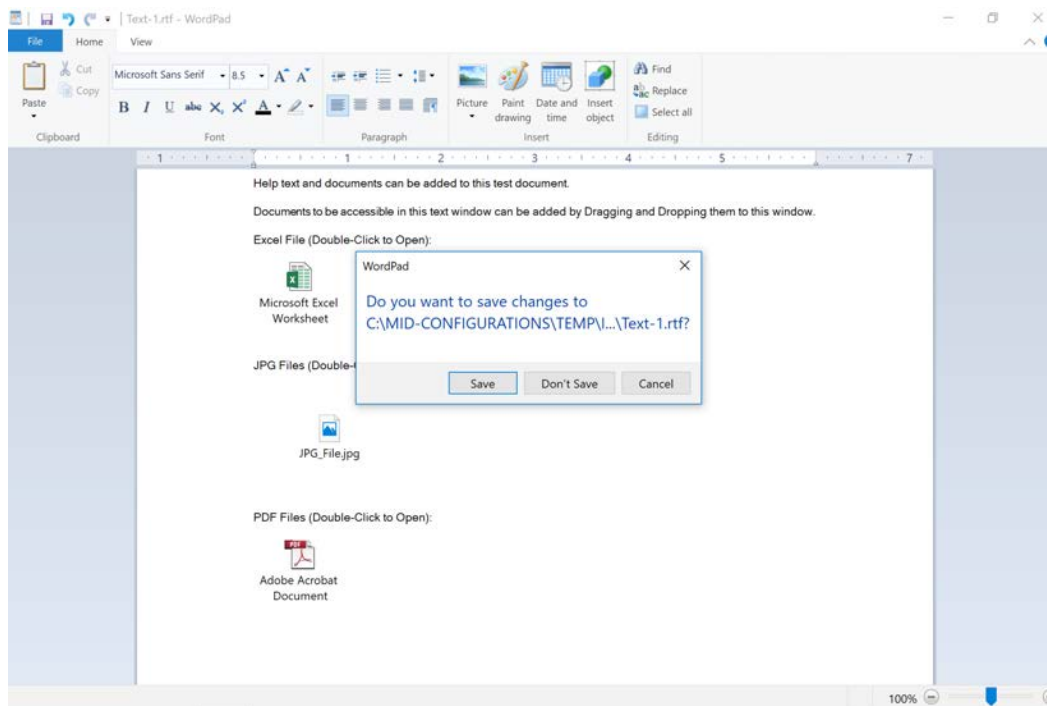
Step 6

Within the file explorer, search for the desire file to be attached in the help text document. Highlight the file and click the “Open” button.



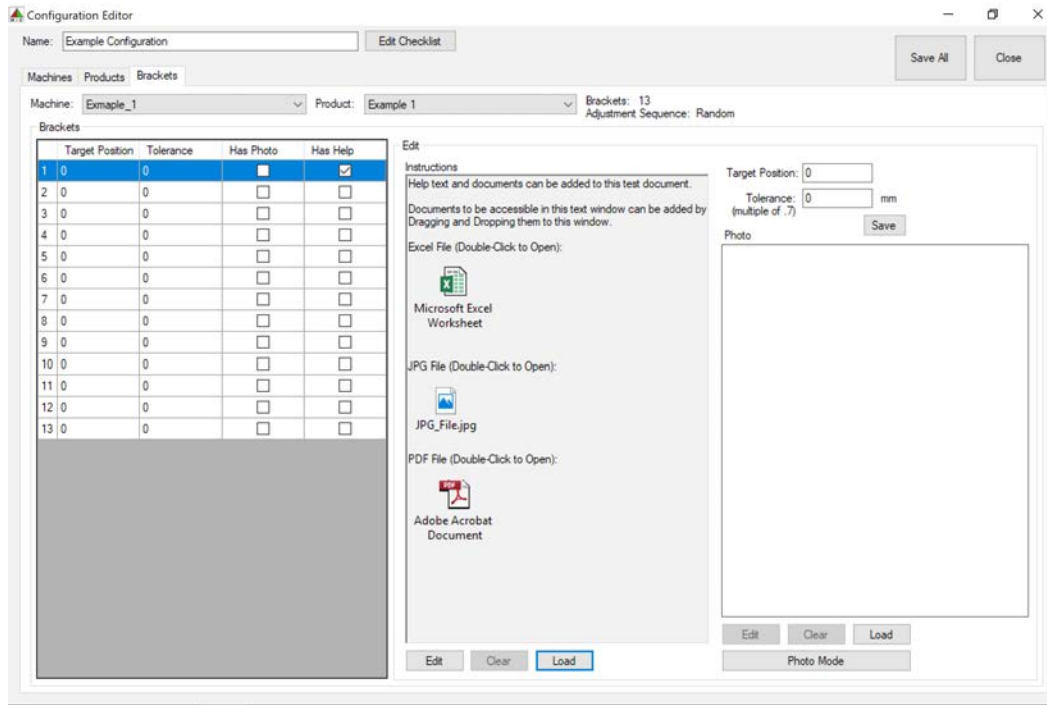
Step 7

Check the “Display As Icon” option to allow for easier touchscreen selection (during operation).



Step 8

Once completed, click the **X** in the top right corner and click the “Save” button to save changes made to the document.



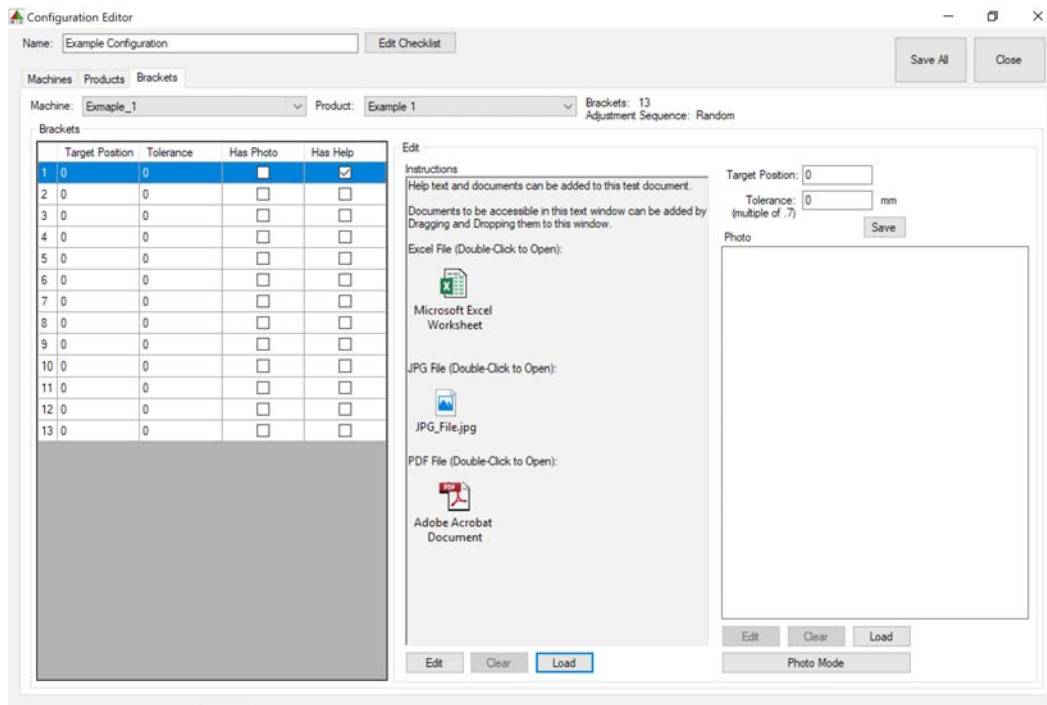
Step 9

Changes to the text document can be viewed in the preview box for “Instructions”.

2.4

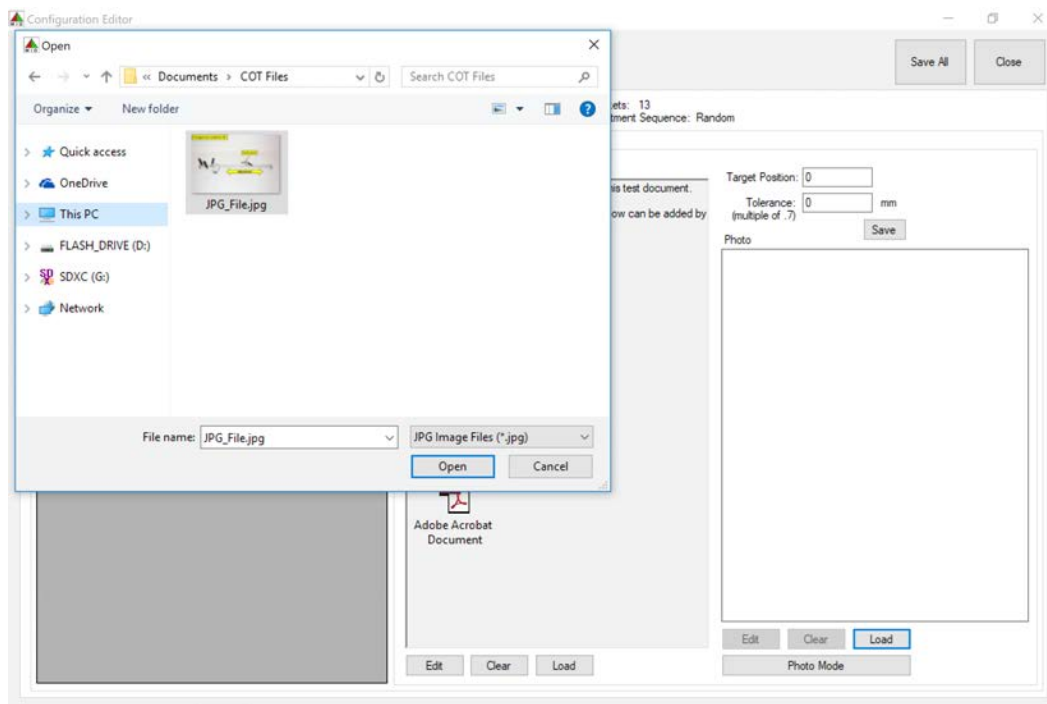
Adding/Editing Location Photos

This chapter will guide the user through the steps for adding, editing and deleting photos. Photos are important features to aid an operator during the use of the COT system.



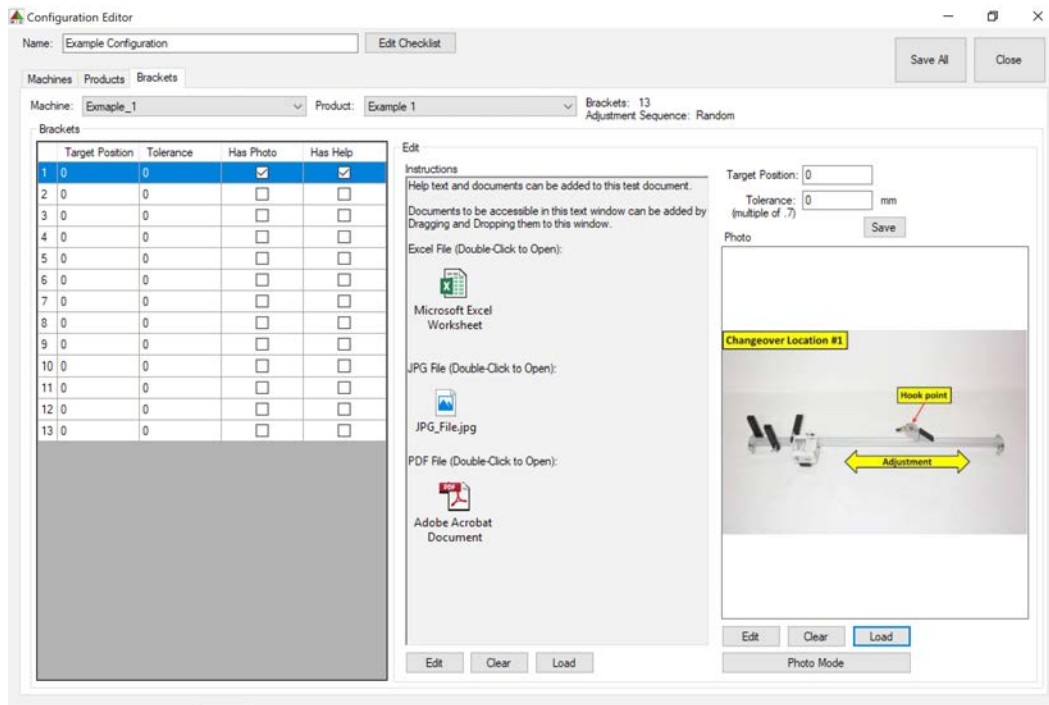
Step 1

To load a photo for Bracket Location 1, click the “Load” button under the photo box.



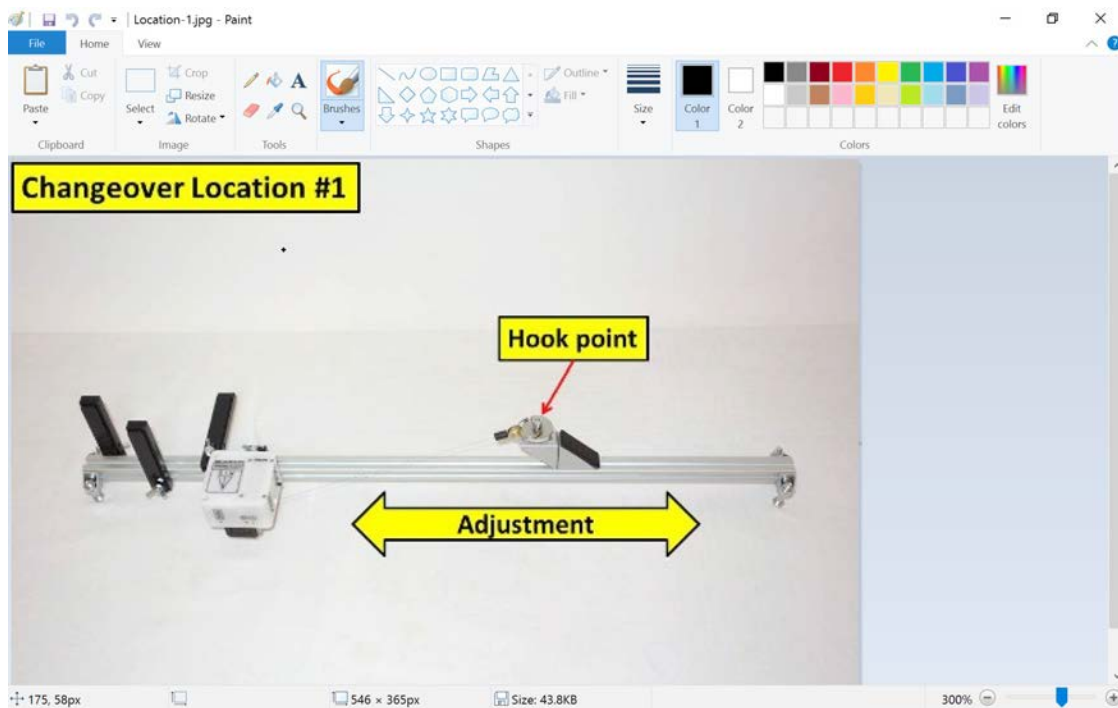
Step 2

Clicking “Load” will open a file explorer for the user to navigate to the desire location photo. Once the desired photo is selected, click the “Open” button.



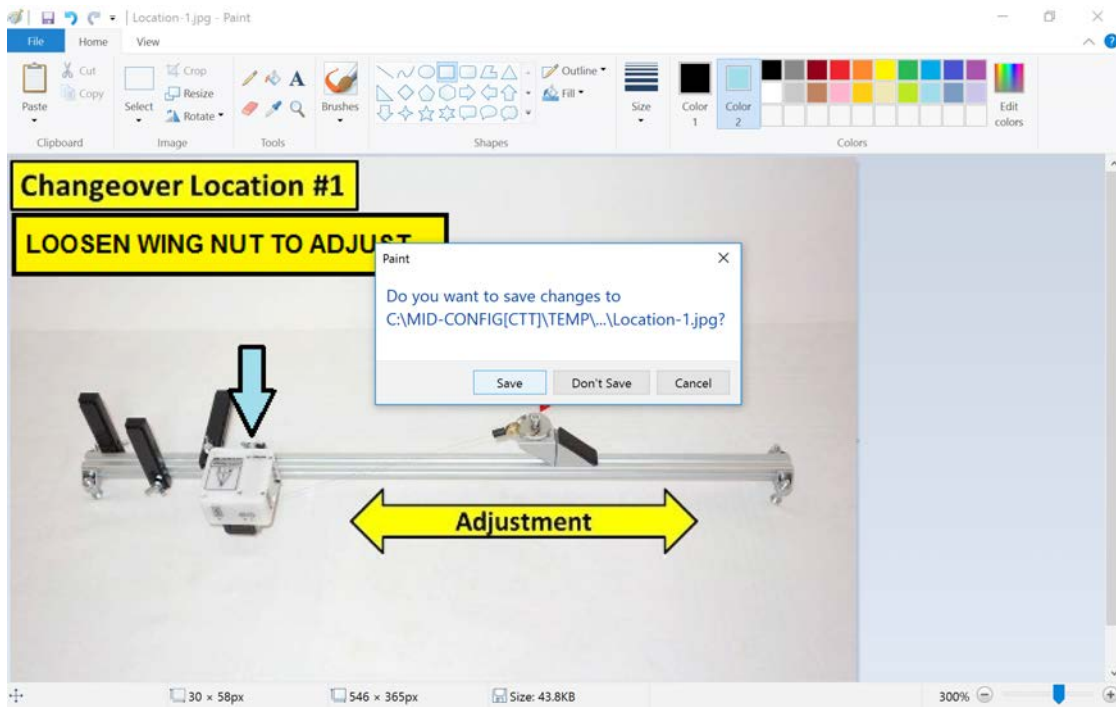
Step 3

The photo will load into the photo box. If editing of the photo is required, click the “Edit” button.



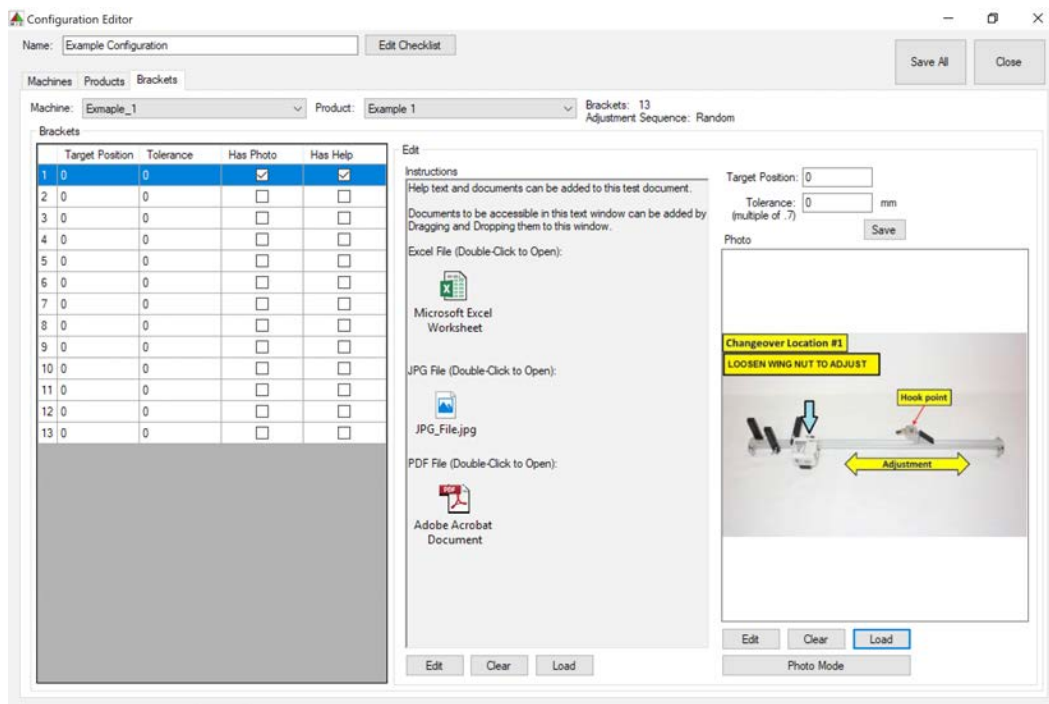
Step 4

Clicking the “Edit” button will load the image into Microsoft Paint. Using the available tools in Paint, the user can add a title and highlight features an operator should note for the sensor location.



Step 5

Once editing is complete, click the **X** button in the top right corner to exit Paint and return the COT Configuration software. When prompted with a Save dialog, click **“Save”**.



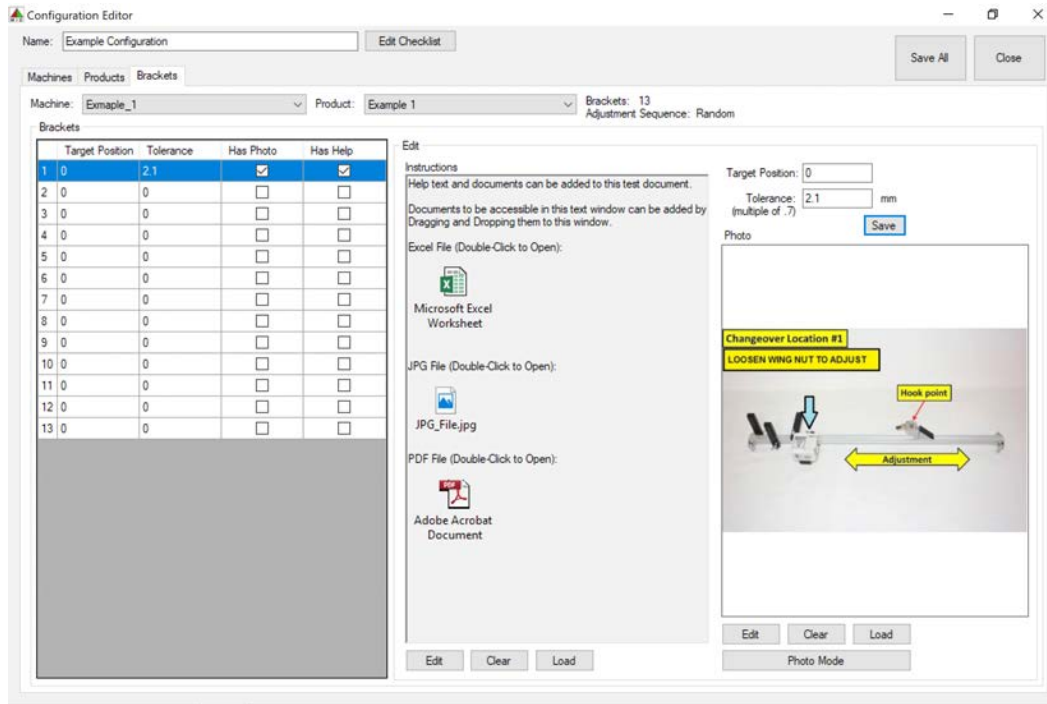
Step 6

The edited image will now be present in the Photo box. The photo can be cleared by clicking the **“Clear”** button or a different photo can be loaded by clicking the **“Load”** button.

2.5

_Modifying Adjustment Tolerances

This chapter will guide the user through the steps for editing adjustment tolerances for each bracket adjustment locations.



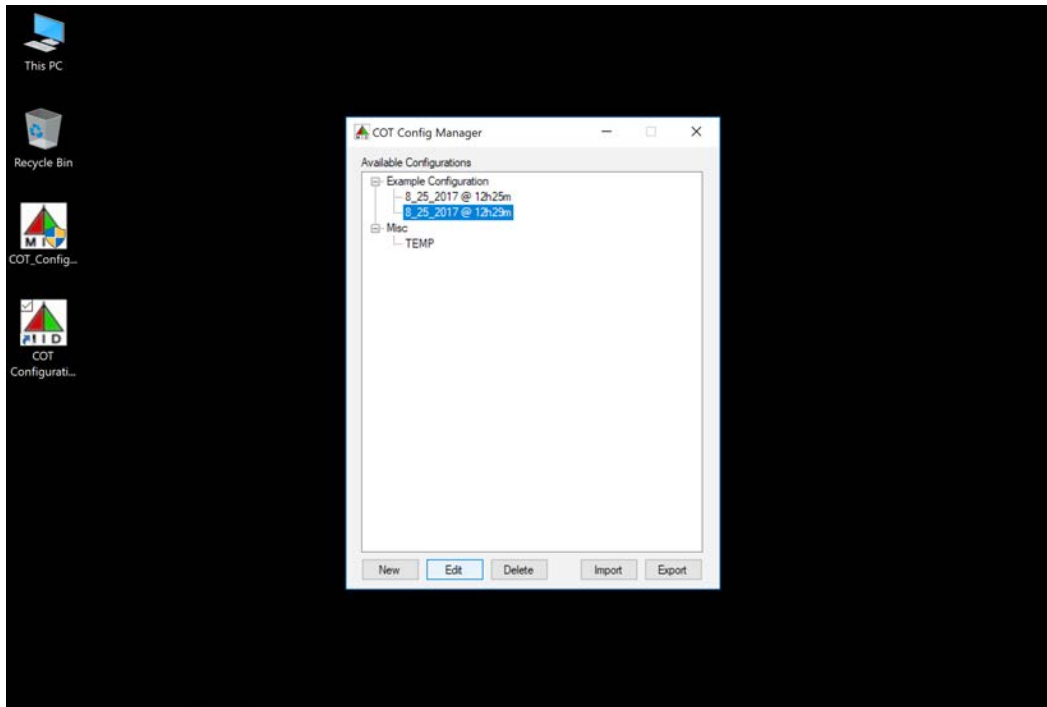
Step 1

Editing the tolerance is done by entering the desired range (mm) in the field labeled “Tolerance”. Click the “Save Data” button to save these settings for the highlighted bracket location.

2.6

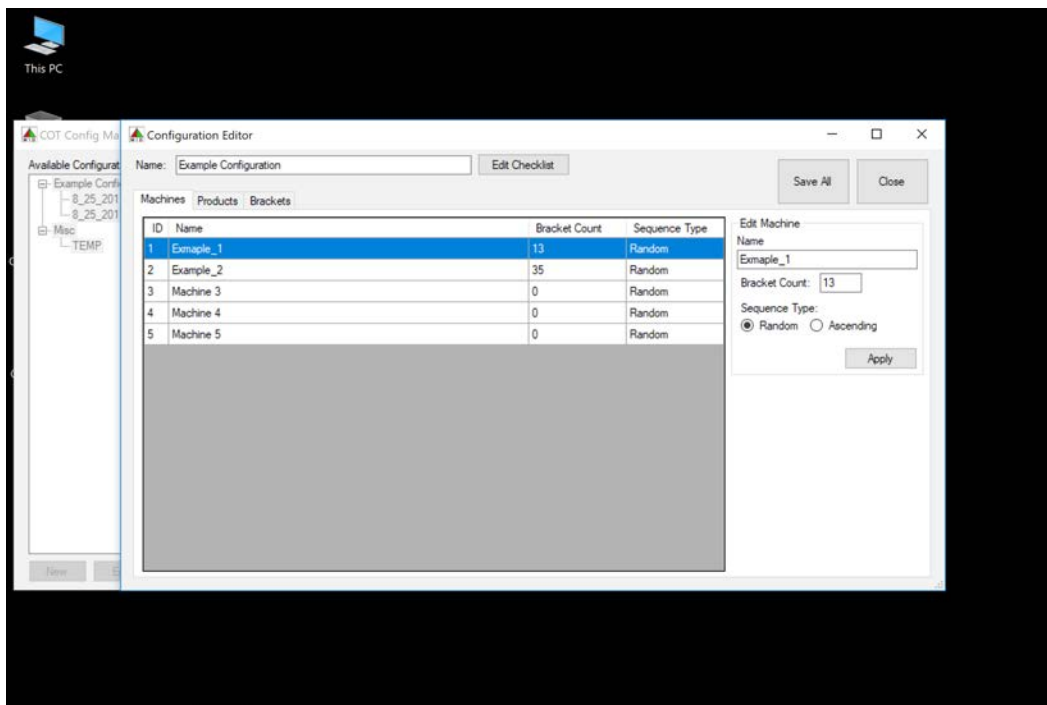
Editing Existing Configuration

This chapter will guide the user through the steps on how to edit an existing configuration.



Step 1

At the main menu, select the desired configuration to edit. Click the “Edit” button to continue to the editing menu.



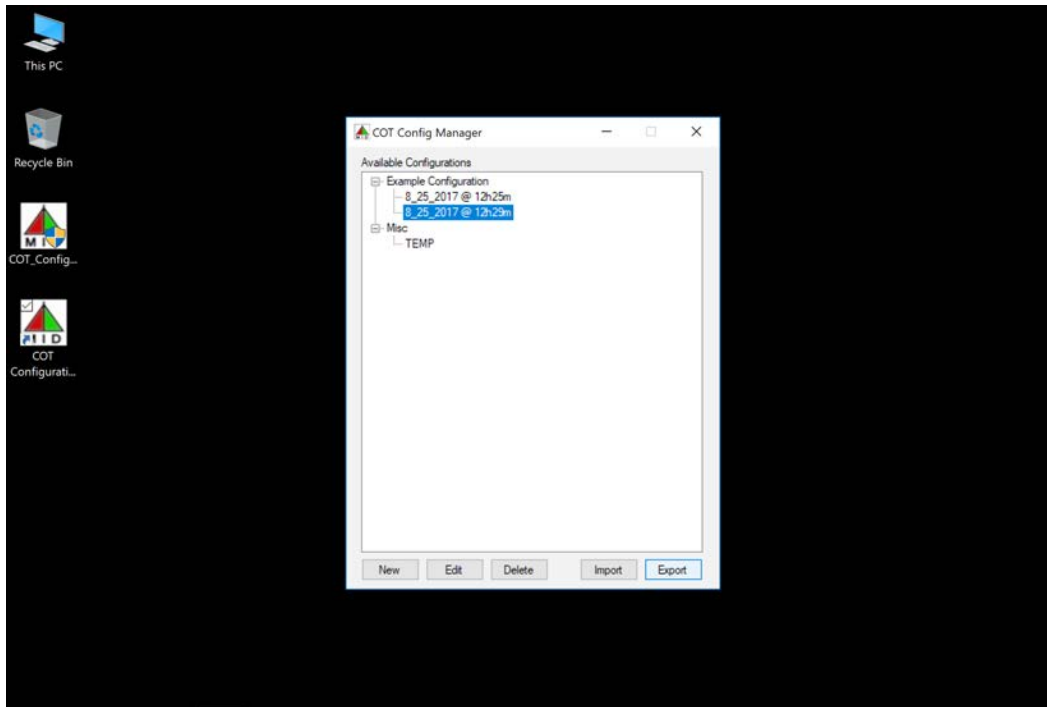
Step 2

Editing of the selected configuration is similar to the procedure detailed in Chapter 2.2 to Chapter 2.5.

2.7

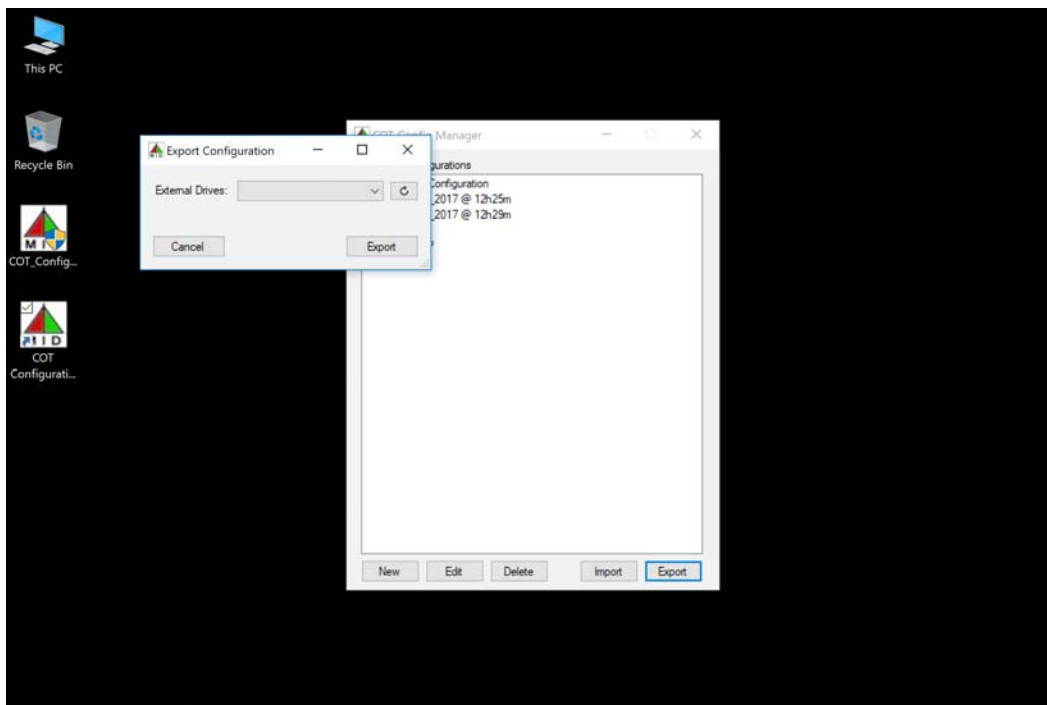
Transferring of Configurations

This chapter will cover the steps to transfer newly created or edited configuration files from the PC to Removable Media and finally to the Changeover Tool.

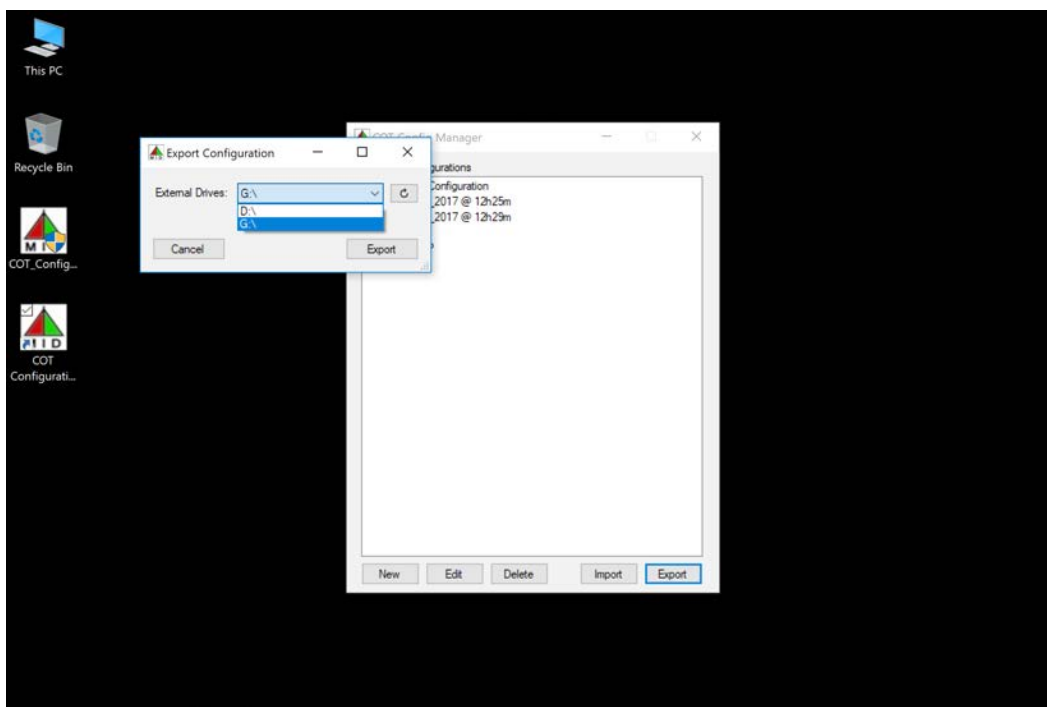


Step 1

Begin at the main menu of the COT Configuration Manager. Select the desired configuration to be transferred and click the “Export” button.

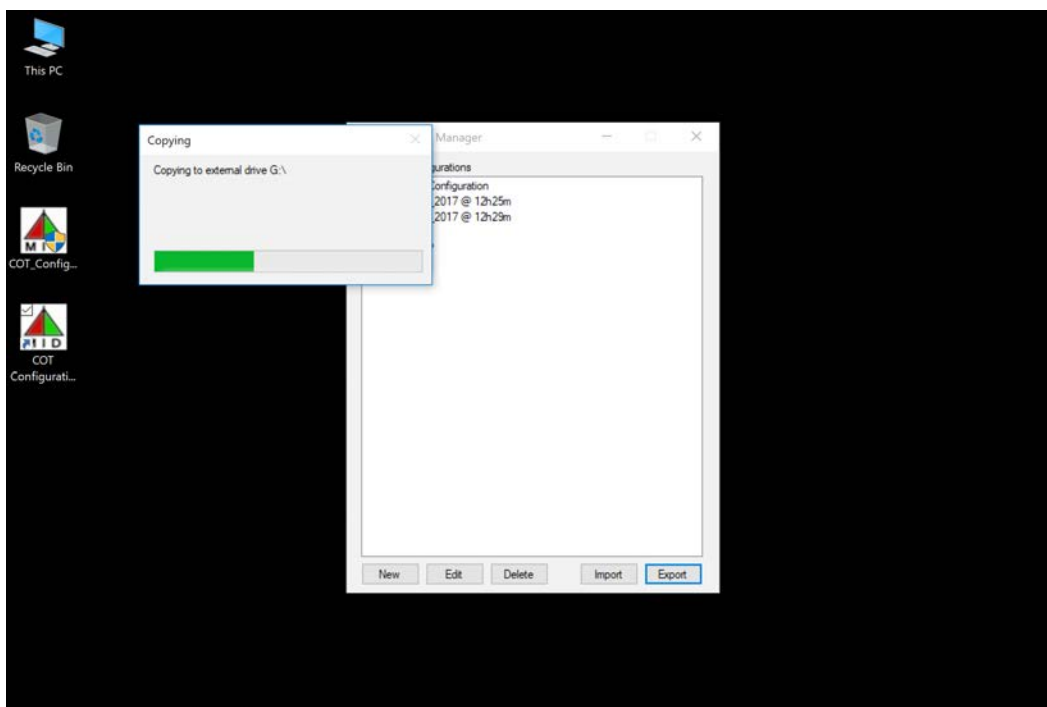


An Export Configuration menu will appear. Using the drop-down menu, select the removable media to which the configuration will be transferred.



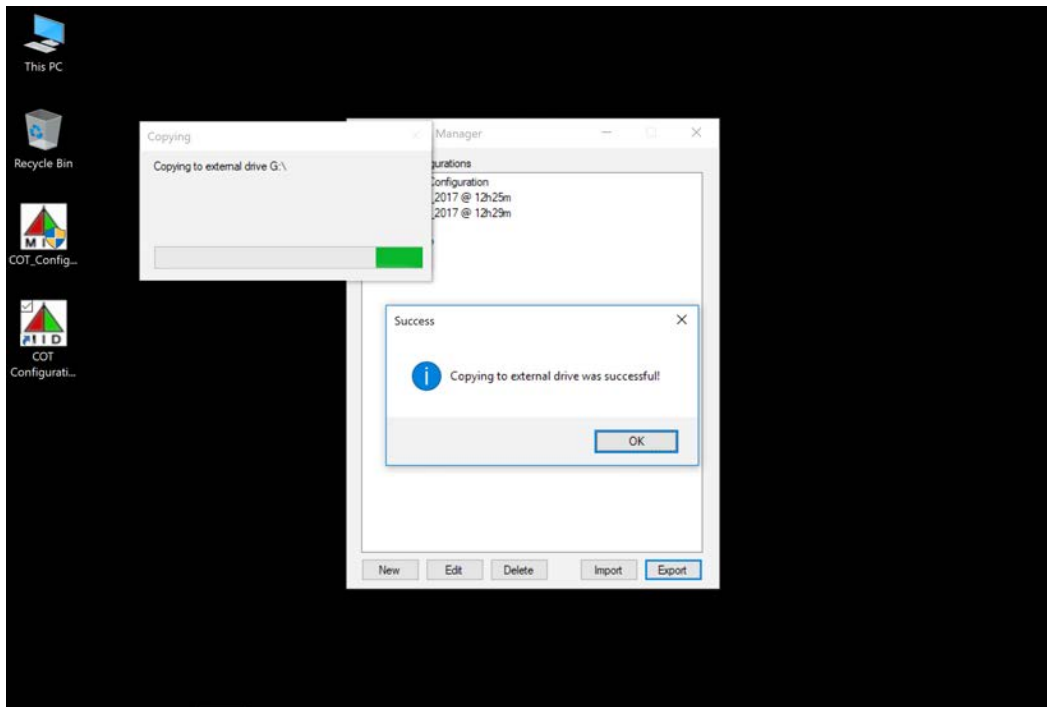
Step 3

Once the removable media is selected in the drop-down menu, click the “Export” button to transfer the files.



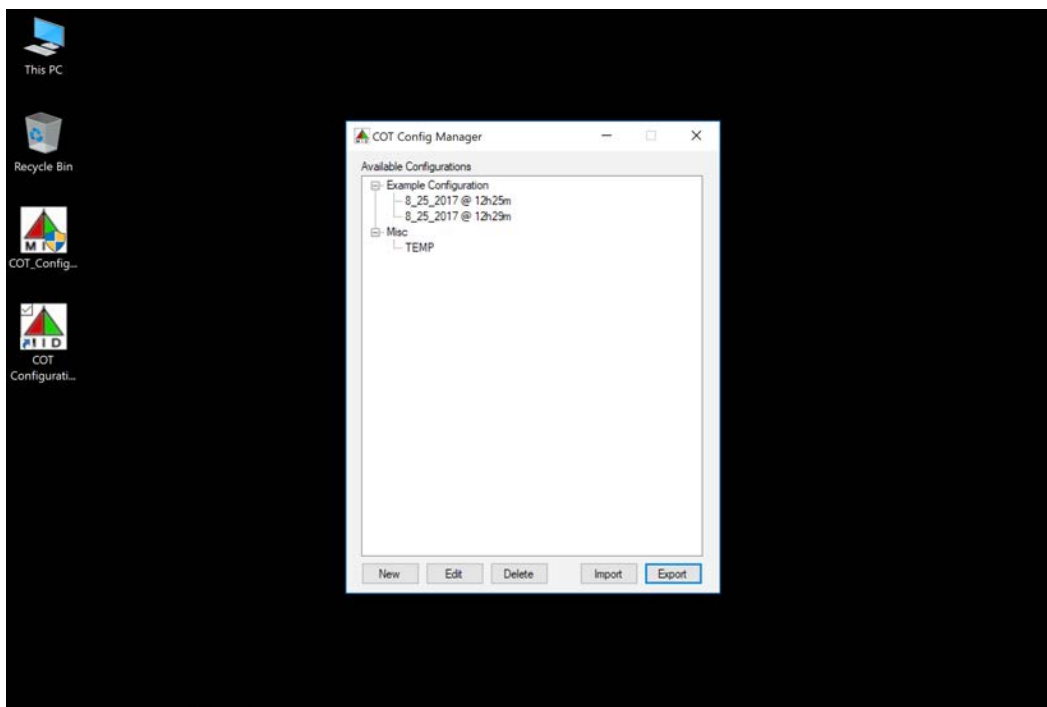
Step 4

A scrolling bar will appear indicating the Export Configuration menu is transferring the configuration to the removable media.



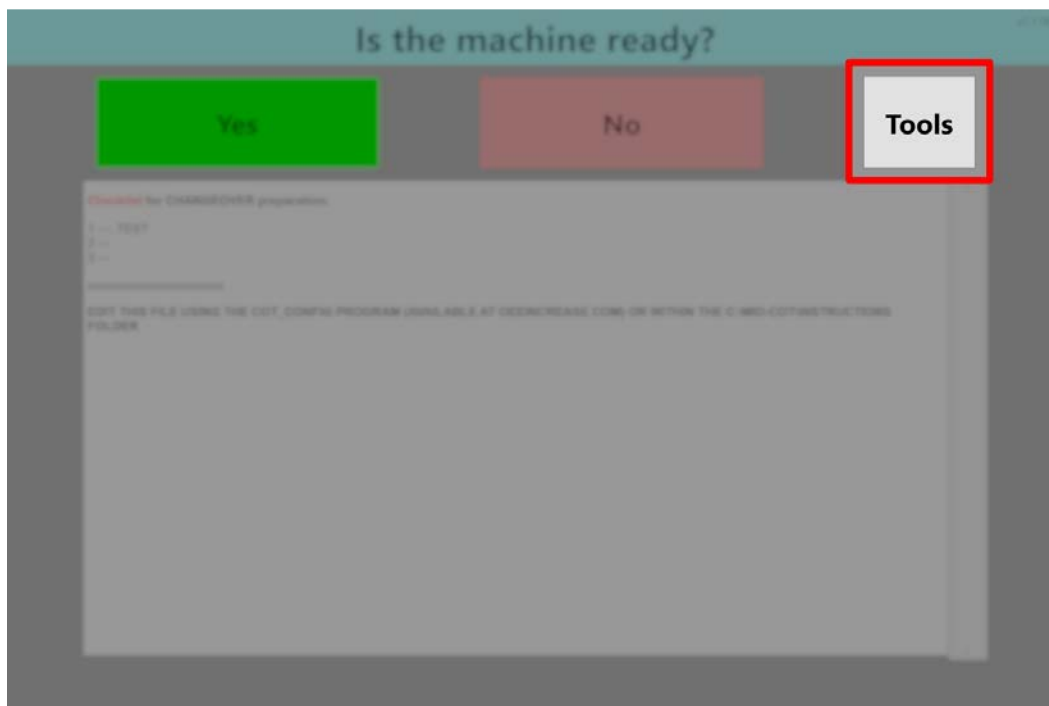
Step 5

Once complete, a popup message will indicate that the files have been successfully transferred. Click “OK” to proceed back to the main menu,



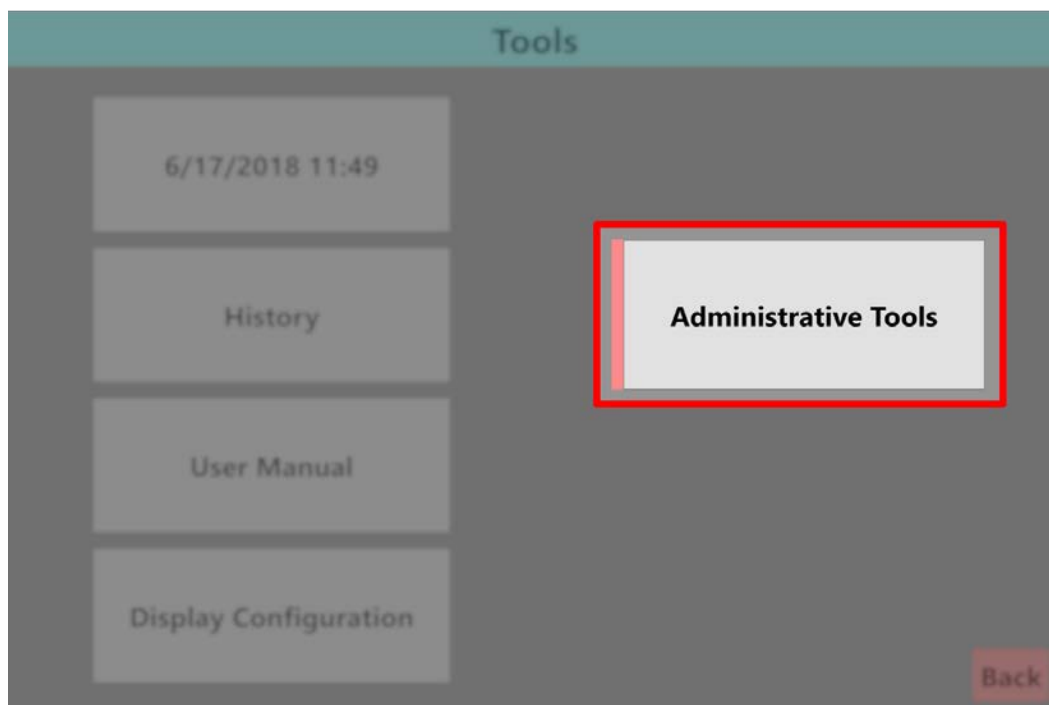
Step 6

The user can now eject the removable media from the PC and insert the removable media into the COT system to transfer the configuration.



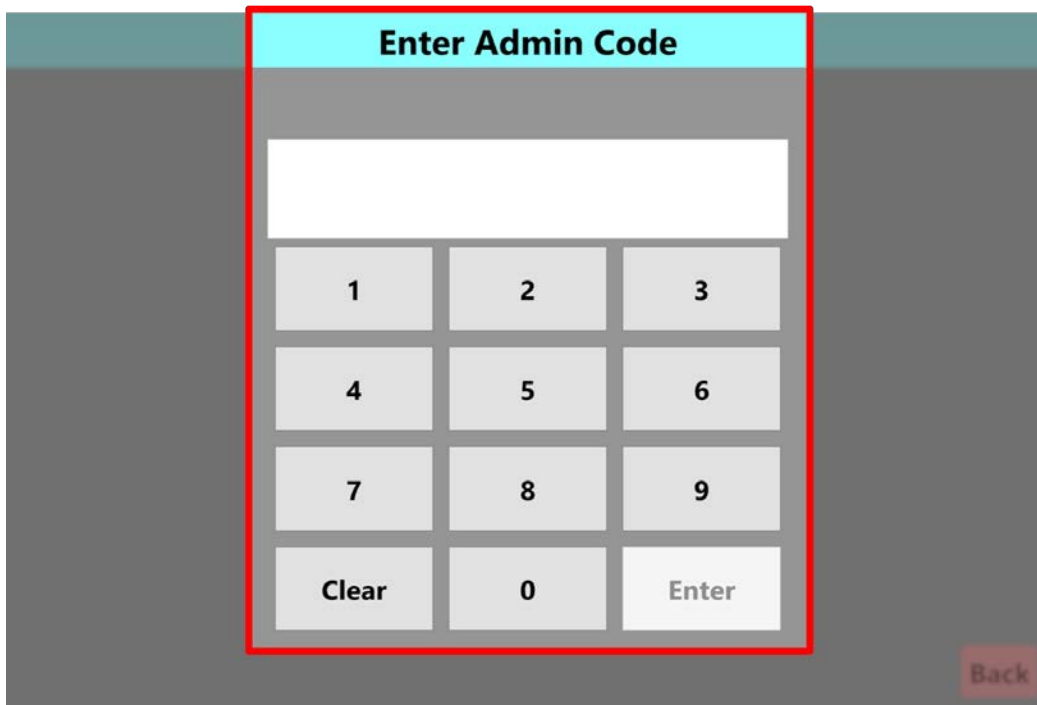
Step 7

Begin at the main screen by clicking on the *"Tools"* button.



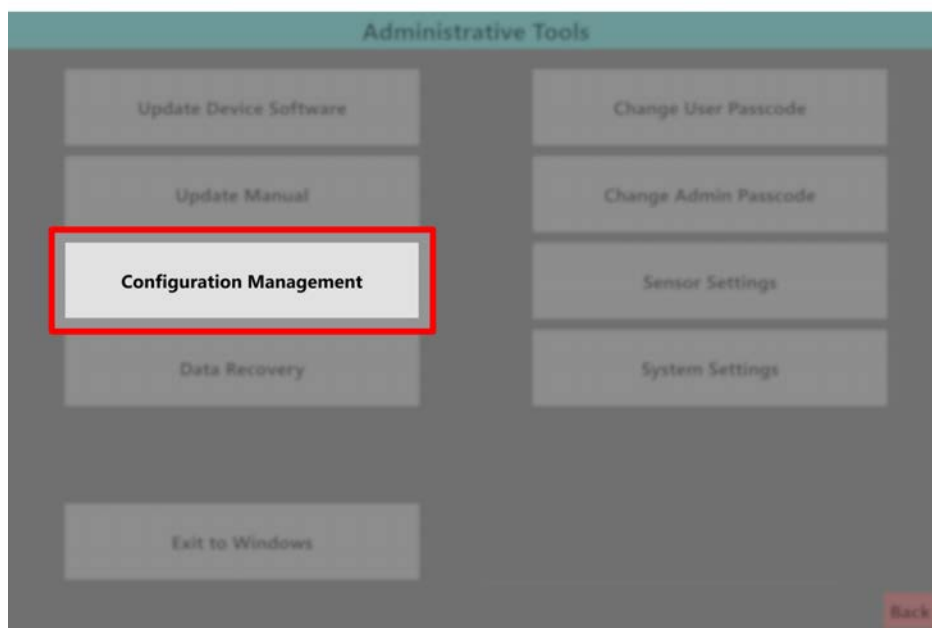
Step 8

In the *"Tools"* menu, select the *"Administrative Tools"* button.



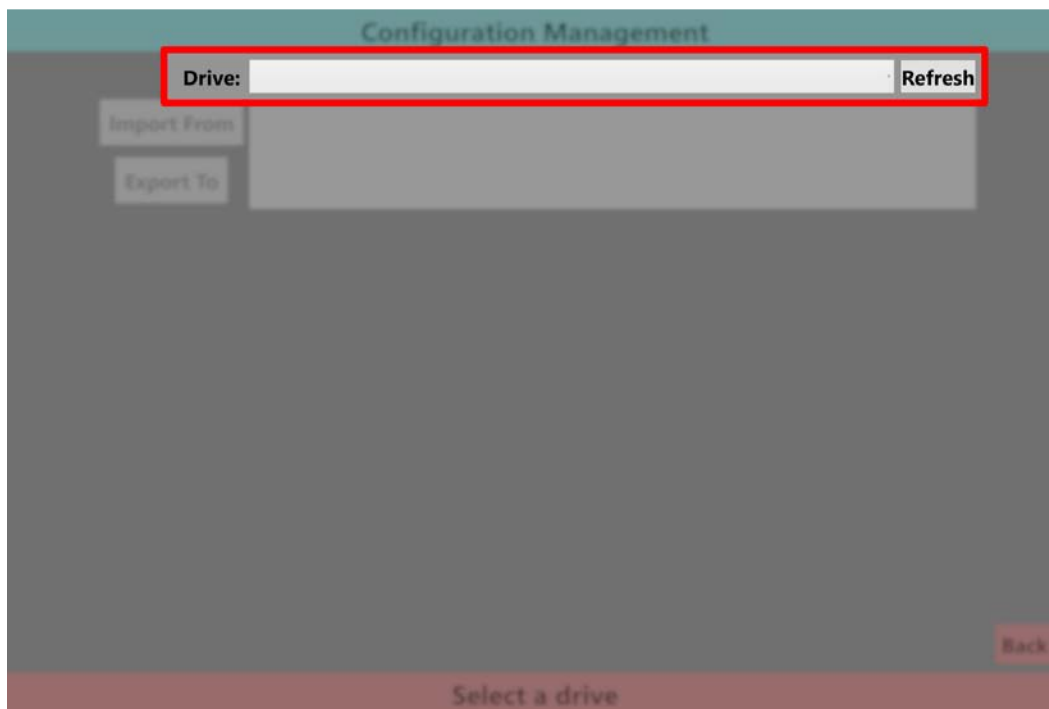
Step 9

To gain access to the *“Administrative Tools”* menu, the admin code must be entered. If the admin code has not been changed since the unit was purchased, then the code is by default *90710*. If this code does not work, please contact MID for a temporary master code.



Step 10

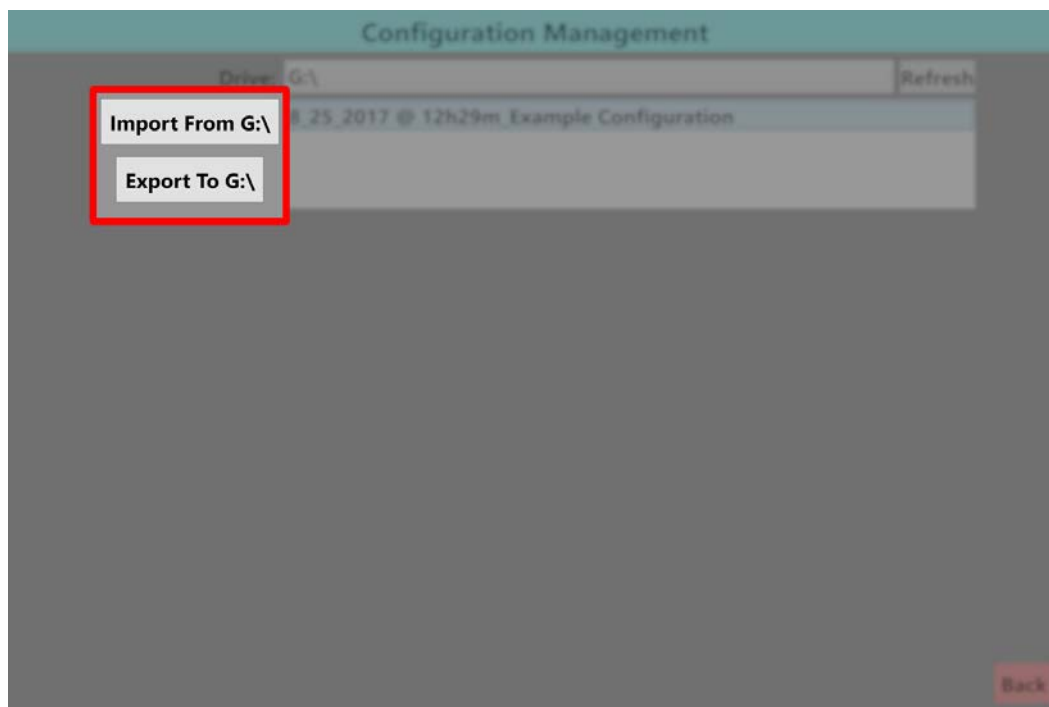
Once the user is in the *“Administrative Tools”* menu, click on the *“Configuration Management”* button.



Step 11

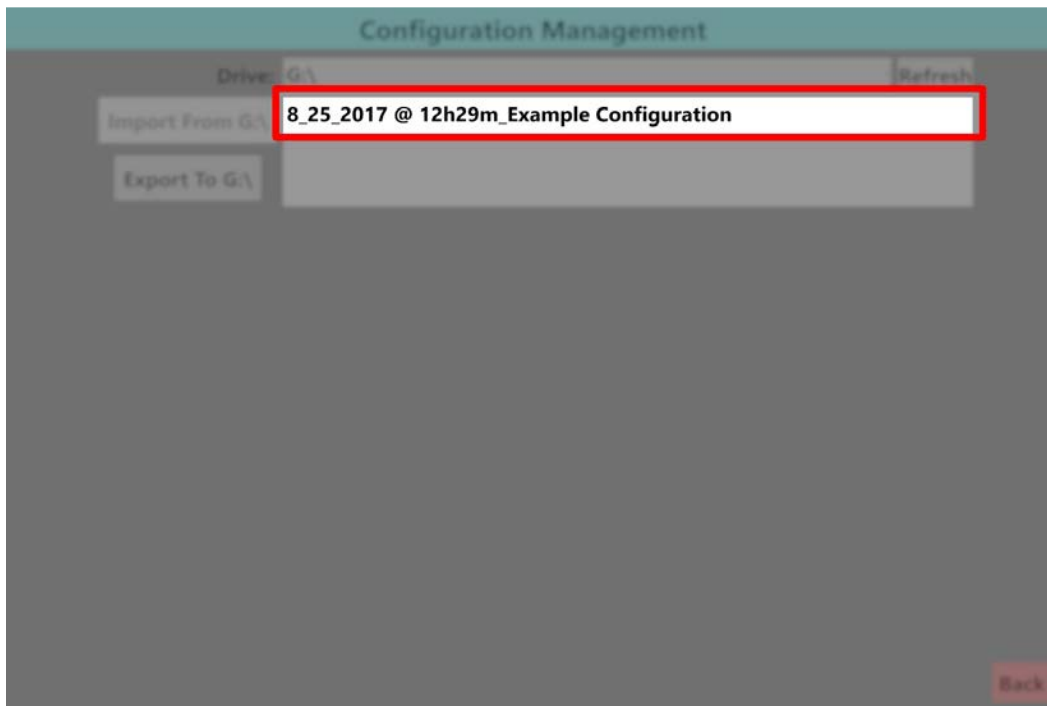
The “*Drive:*” drop down will be defaulted to no option. Click the drop down menu and select the external device that contains the desired configuration file.

TIP: The default drive letter for the SD card reader is G:



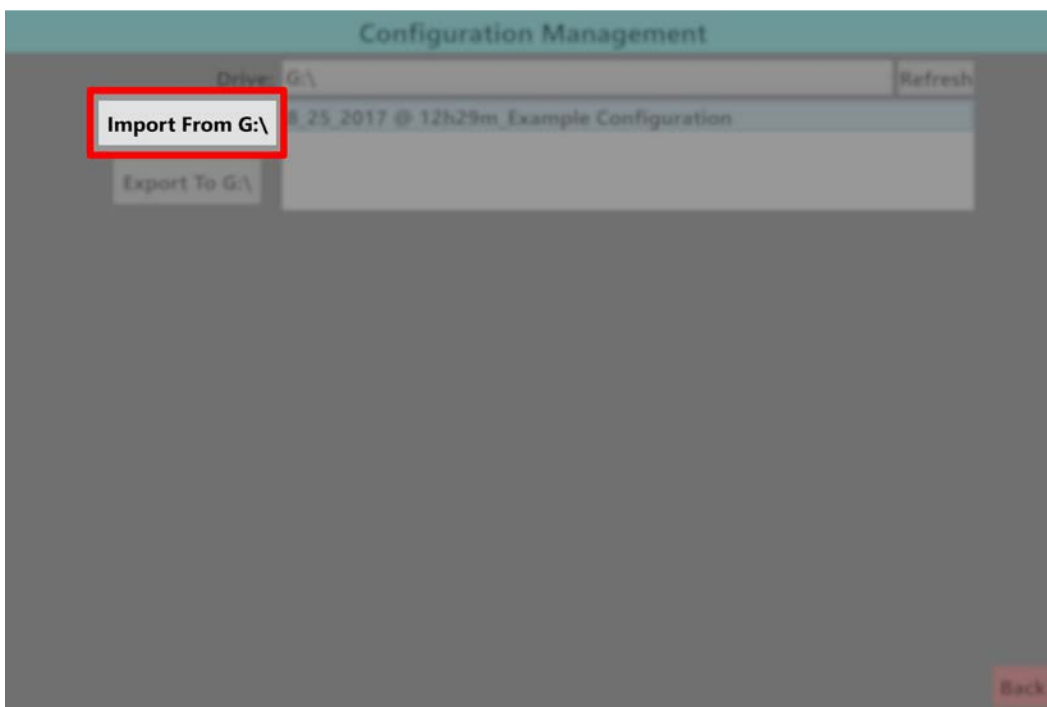
Step 12

Once the “*Drive:*” has been defined, the action buttons next to the Configuration List will be enabled allowing to user to import/export configurations. To transfer a configuration from the local system to the external drive, select the “*Export to (Letter of Drive Selected)*”



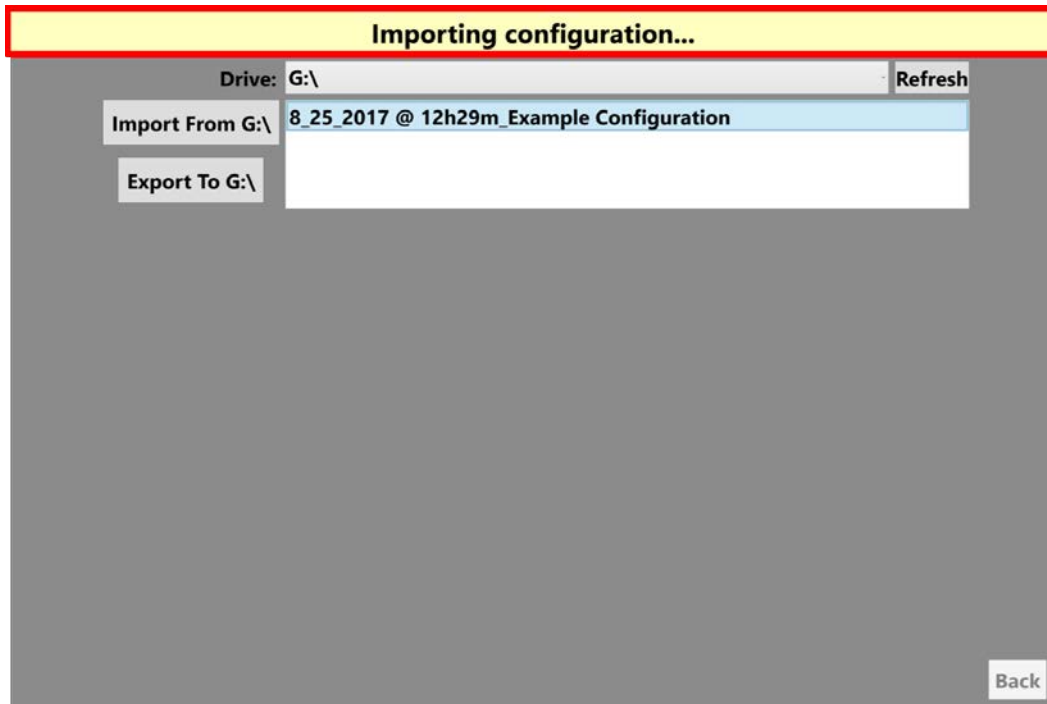
Step 12

If the user wishes to import a configuration file from the external drive, select the configuration in the populated field. Configuration files are named with the date, time (created) and system name they originated from.



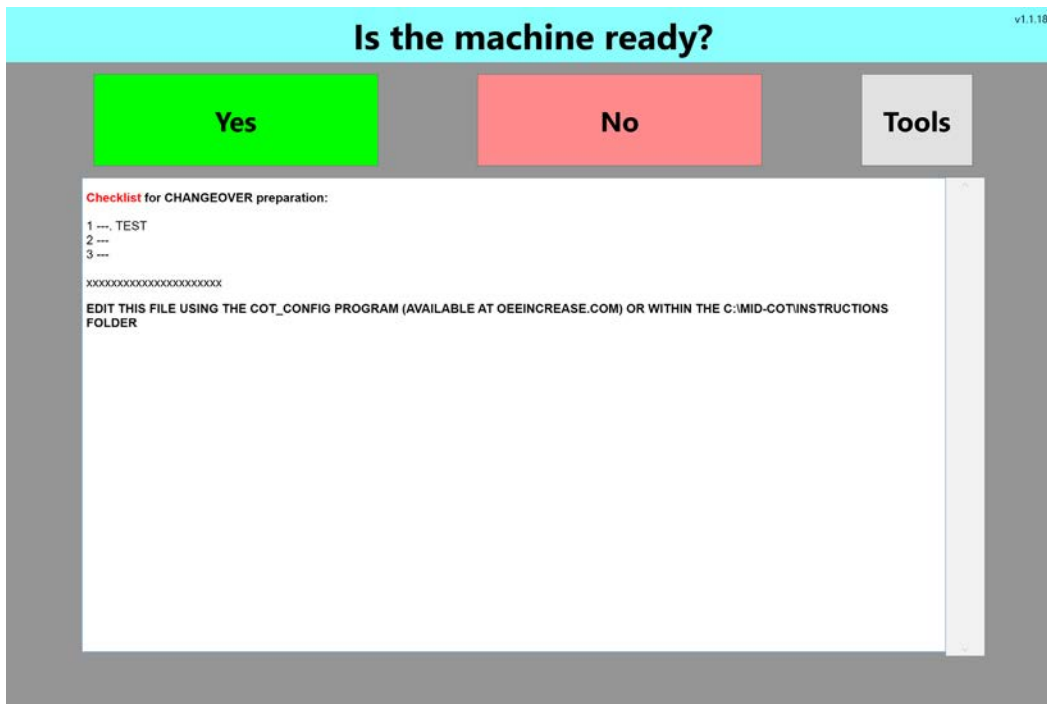
Step 13

With the desired configuration selected, clicking the *"Import From (Letter of Drive Selected)"* button will begin the transfer to the system.



Step 14

During the transfer, the top message banner will indicate that the transfer is in progress. Please wait for the transfer to complete fully.



Step 14

Once the banner has confirmed that transfer is complete, the user will be returned to the startup Yes/No screen.

_ System Operation

3.1

_ Power up/down COT Controller and Sensor

This section will explain how to power on and off both the COT Controller and COT sensor.

Powering up/down COT Controller:



Step 1

Open the Changeover Tool case.



Step 2

The power button is located on the top left corner of the lid. Press the power switch to power on the COT Controller.



Step 3

The system may take up to a minute to boot.



Step 4

The COT Controller has fully booted once the main screen is displayed. To power down COT Controller, press and hold the power button until the unit powers down.

Powering up COT sensor:



Step 1

To power on the sensor, press and release the OFF/ON button.



Step 2

Make sure the red LED turns on and remains on. The red LED will remain on as long as the COT sensor is on.

3.2

_ How to read LED indicators on COT sensor

This section will explain the functionality of the LED indicators located on the COT sensor.



The COT sensor has 4 LED indicators to provide guidance to the operator. This allows for adjustments to be performed without the visual aid of the COT Tablet PC screen.



The COT sensor has a “power” LED indicator. This indicator is lit when the COT sensor is powered on.

The COT sensor may require up to 10 seconds to establish communication with the COT Tablet PC.



The COT sensor has three LED indicators. These LED indicators consist of a “minus”, a “plus” and a “done” LED.

These LEDs have certain flashing sequences to help guide the operator. Their flashing sequences are detailed on pg65.

Top LEDs explained

LED indicator	Flashing Order
"minus"	<p>SOLID "minus" LED indicates to decrease the distance to achieve target position.</p> <p>FLASHING "minus" LED indicates to slowly decrease the distance to achieve target position.</p>
"plus"	<p>SOLID "plus" LED indicates to increase the distance to achieve target position.</p> <p>FLASHING "plus" LED indicates to slowly increase the distance to achieve target position.</p>
"minus" AND "plus"	<p>SOLID "minus" and "plus" LED's indicate that target position has been reached. After 5 seconds at target position, "DONE" LED indicator will start to flash.</p> <p>FLASHING "minus" and "plus" LED's indicate two possibilities:</p> <ul style="list-style-type: none"> - COT sensor is not placed at any bracket - Product has not been selected <p>ALTERNATE FLASHING of "minus" and "plus" LED's indicate that COT sensor is at incorrect bracket (occurs only if adjustment sequence is set to strict ascending order: for Machine #1 adjustment sequence must be Bracket #1, Bracket #2. Bracket #3, etc.)</p>
"DONE"	<p>SOLID "DONE" LED indicates entire machine adjustment is completed successfully</p> <p>FLASHING "DONE" LED indicates a single bracket adjustment has been complete.</p>

3.3

_ Charging the COT Controller

This section will explain how to charge the COT Controller with the provided cable. Charging is recommended after every 4 hours of operation.

Charging the COT Controller:



Step 1

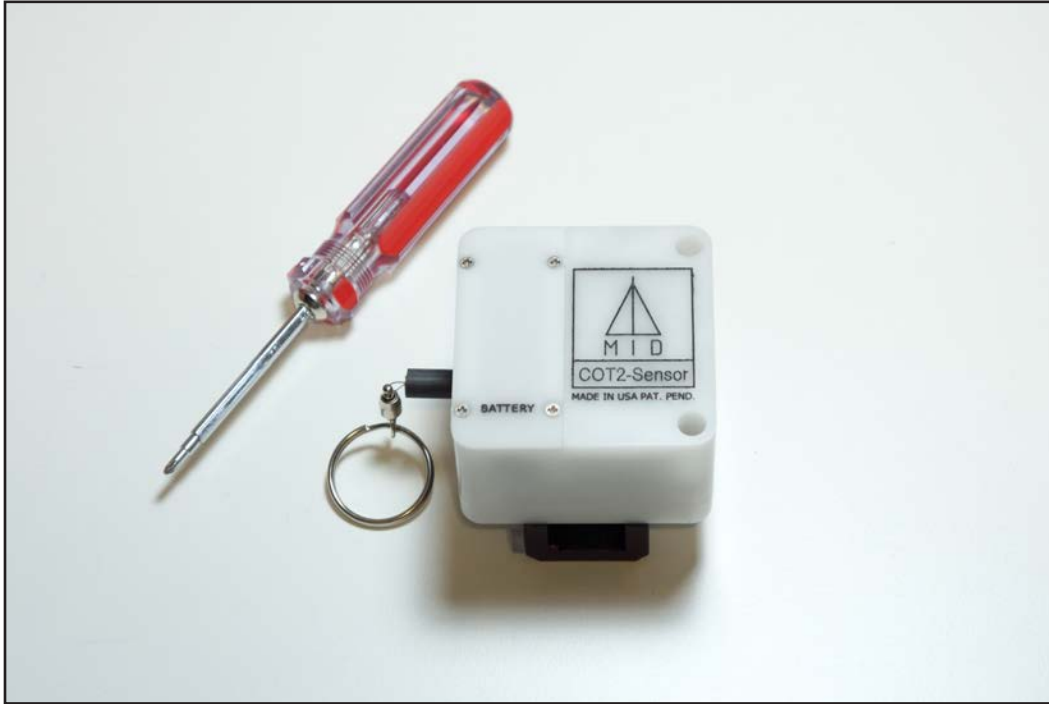
Close the Changeover Tool case, and rotate the case to view the side. Plug the cord into the power brick located on the side. Then plug the two prong plug into an outlet.

3.4

_ How to replace COT sensor battery

This section will explain how to replace the COT sensor's battery.

Replacing the COT sensor battery:



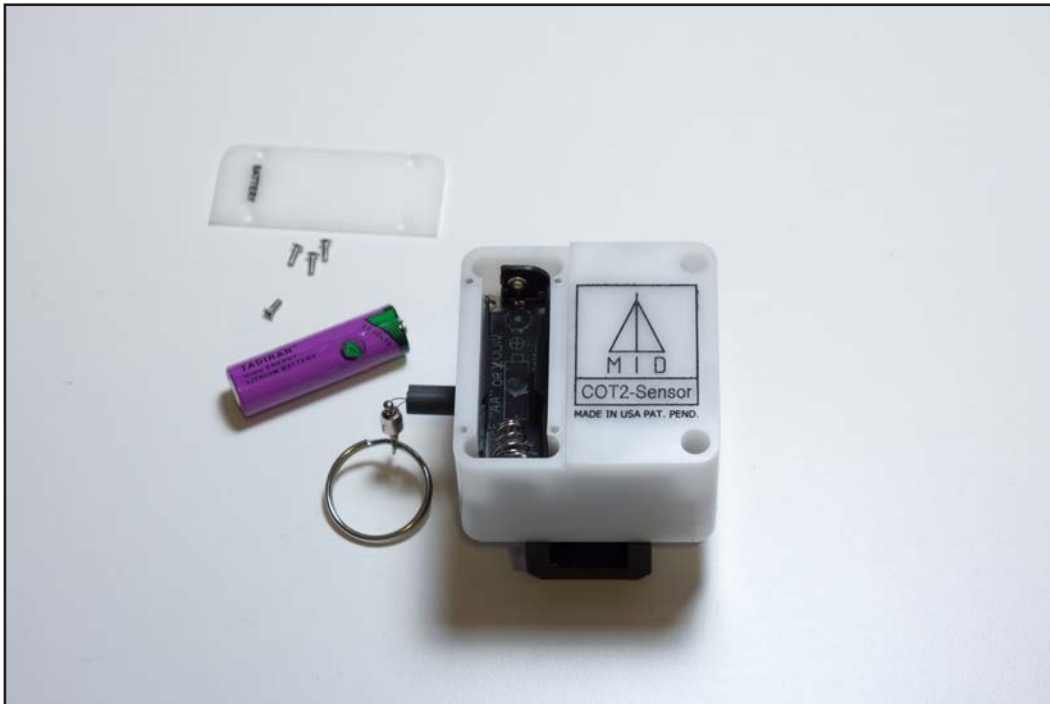
Step 1

Unscrew the 4 Phillips screws on the battery cover.



Step 2

Remove the cover.



Step 3

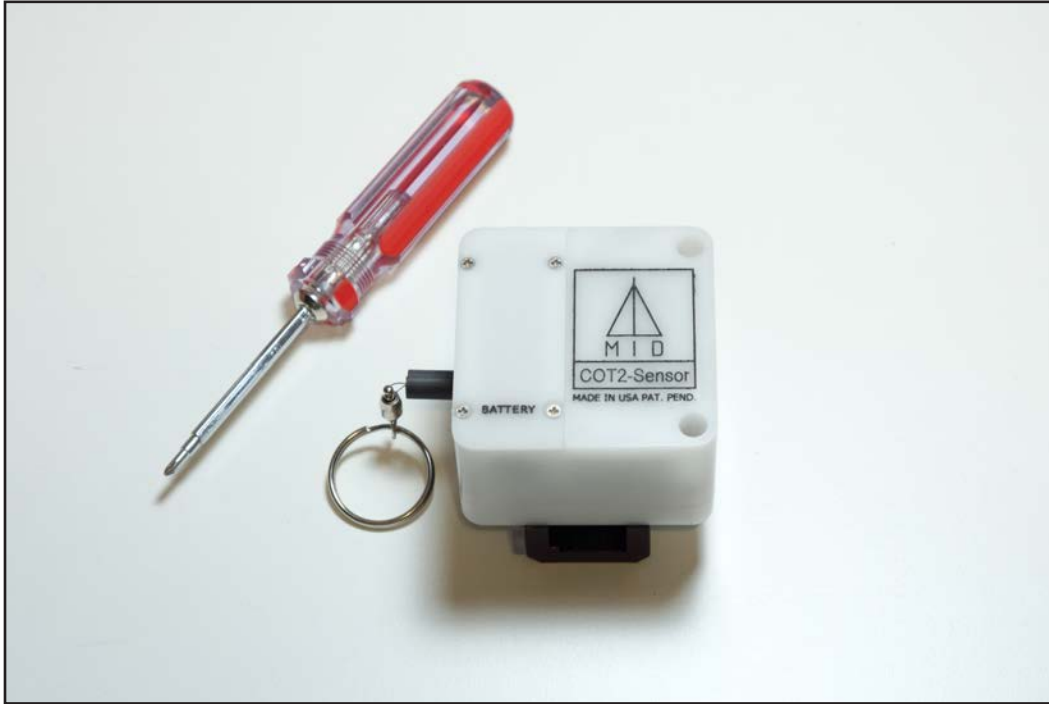
Remove battery, and replace with a *3.6V Lithium* battery.

3.5

_ How to replace COT sensor potentiometer

This section will explain how to replace the COT sensor's potentiometer.

Replacing COT sensor potentiometer:



Step 1

Unscrew the 4 Phillips screws on the battery cover.



Step 2

Remove battery cover and battery. Use a $9/64$ " hex wrench, and unscrew the 4 enclosure screws.



Step 3

Remove top half of the enclosure to gain access to PCB and potentiometer.



Step 2

Unplug potentiometer and replace.

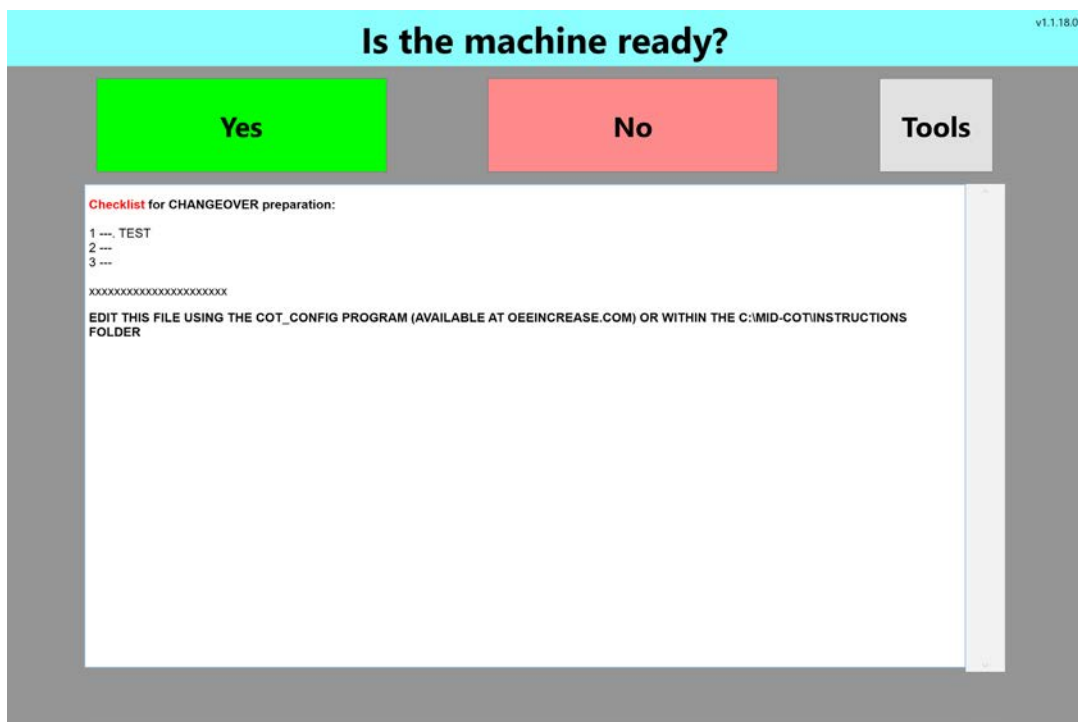
Model: Micro-Epsilon WPS-750-MK30-P-MID

_ Software

4.1

_ “Is machine READY” screen explained

This section will explain the first screen an operator will see once the COT device has fully powered up.

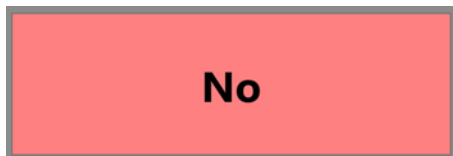


When the COT controller has powered up completely, the operator is greeted with *“Is the machine ready?”* menu. The *“Is the machine ready?”* menu is used to make sure that the machine has been prepared for a changeover. A checklist is viewable at this menu.

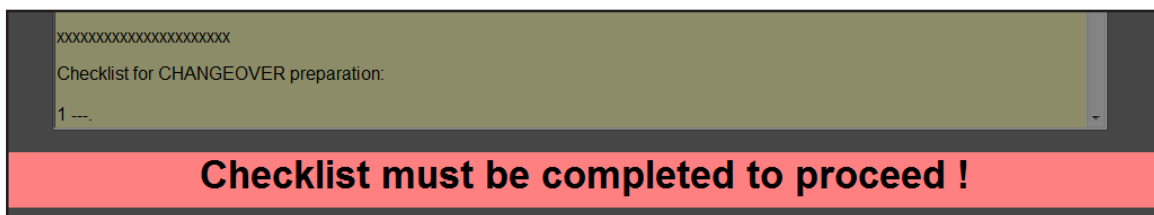
Buttons explained:



Once the Checklist has been completed, the *“YES”* button should be pressed. Pressing the *“YES”* button will open the changeover menu (page 84).



Pressing the *“NO”* button will prompt a message telling the operator to first complete the checklist in order to proceed to the changeover menu.



The *“Tools”* button will open a menu with options for both the operator and the administrator. Please see page 75 for a detailed overview of *“Tools”* menu.

Checklist for CHANGEOVER preparation:

1 ---, TEST
2 ---
3 ---

XXXXXXXXXXXXXXXXXXXX

EDIT THIS FILE USING THE COT_CONFIG PROGRAM (AVAILABLE AT OEEINCREASE.COM) OR WITHIN THE C:\MID-COT\INSTRUCTIONS FOLDER

The checklist text box is used by operators to aid in properly preparing the machine(s) for a changeover procedure.

Is the machine ready?

The text banner displays messages which help guide an operator to the changeover screen.

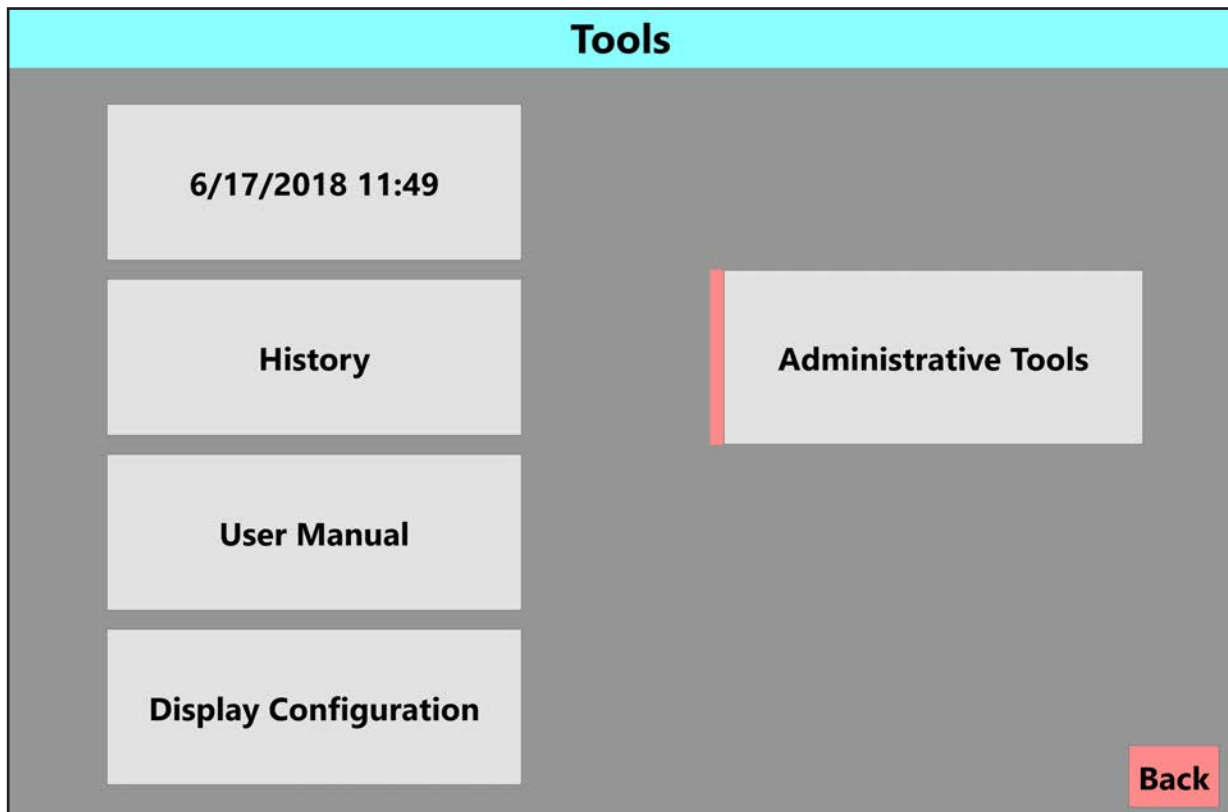
v1.1.18.0

The current software version is helpful for making sure system is up to date.

4.2

_ Tools menu explained

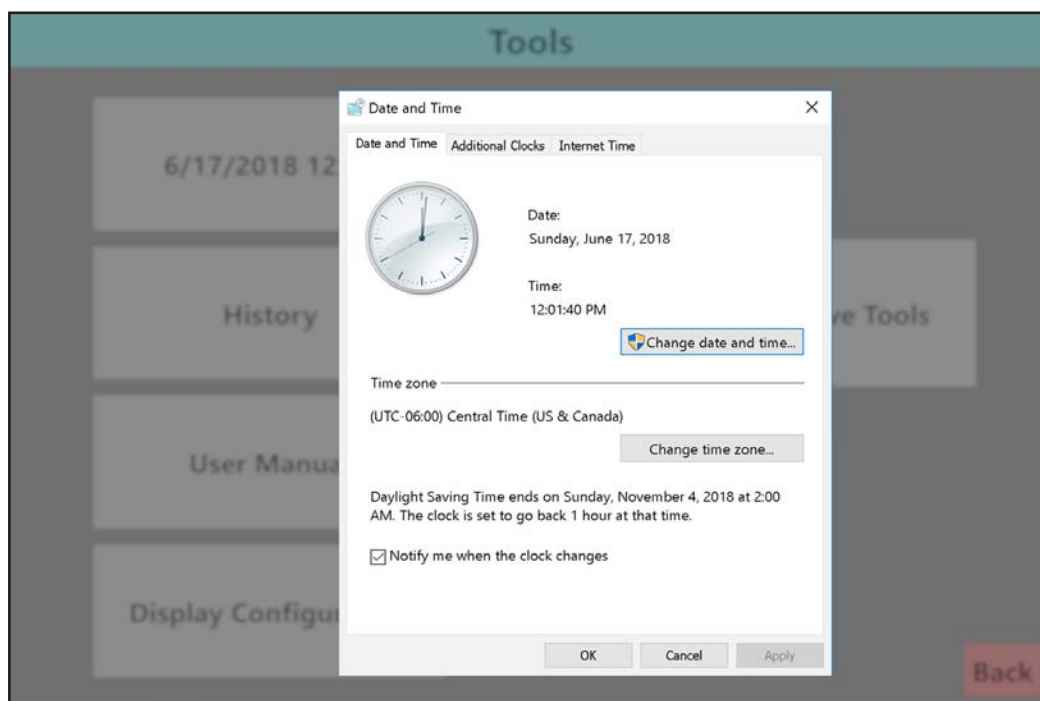
This section will explain the tools menu located on the welcome screen. The tools menu has many options which are helpful for operators and administrators alike.



Buttons explained:

6/17/2018 11:49

The “*Date and Time*” menu is used to change the COT controller’s date and time as well as time zone. This is necessary in order to have correct date and time on backup files which are created at the end of each successful changeover.



History

The *"History"* button is used to view the last twenty changeover operations performed. This list of changeovers is descending (newest to oldest). This list contains all changeovers successfully completed or not.

The information provided for each changeover is as follows:

- Completed On (Date / time)
- Machine name
- Product (selected for changeover)
- Duration (of successful / unsuccessful changeovers)
- Bracket numbers completed with Date / Time stamp

Changeover History			
Completed On	Machine Name	Product	Duration: 00:00:48
	Machine 3	Test Product #1	Bracket Completed On
	Machine 3	Test Product #1	3 03/28/2018 22:27:07
	Machine 4	Test Product #1	10 03/28/2018 22:27:29
	Machine 2	Test Product #1	
	Machine 1	Test Product #1	
	Machine 1	Test Product #1	
	Machine 2	Test Product #1	
	Machine 1	Test Product #1	
03/30/2018 16:10	Machine 1	Test Product #1	
	Machine 1	Test Product #1	

User Manual

The *"User's MANUAL"* button is where operators and administrators can view this manual from the COT controller.

Display Configuration

The *"Current CONFIGURATION"* button is used to view the current installed system configuration on the COT Controller.

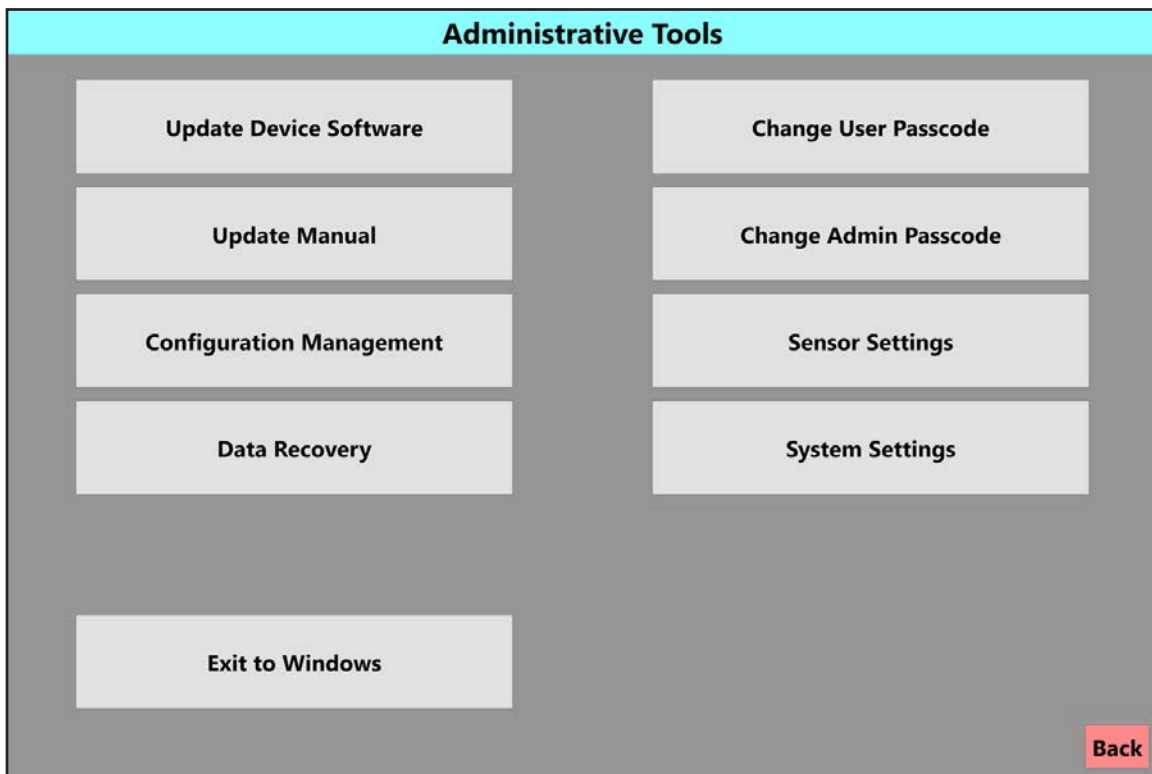
Administrative Tools

The *"Administrative Tools"* button is used by the administrator to make system changes. The *"Administrative Tools"* menu is explained in more detail on page 79.

4.3

_ Administrative Tools menu explained

This section will explain the “*Administrative Tools*” menu located in the tools menu. The “*Administrative Tools*” menu has many options which are helpful for administrators.



Buttons explained:

Update Device Software

The **“UPDATE Device Software”** menu is used to update the COT software. An update file must be loaded onto the computer via the SD card slot. Updates can be found online at the MID WEB-site: www.oooincrease.com

Clicking the **“Update Device Software”** button, the computer will automatically search the inserted SD card for a newer software version. If one is found, the software update will begin automatically.

If the update file cannot be found, the software will open a file navigator. Using the file navigator, the user should navigate to the update file, select the update file and click the **“OPEN”** button to confirm selection.

After a successful update, the COT controller will restart.

Update Manual

The **“UPDATE Manual”** menu is used to update the user’s manual. The update .ppsx file must be loaded onto the computer via the SD card slot. Updates can be found online at the MID WEB-site: www.oooincrease.com

Clicking the **“Update Manual”** button, the computer will automatically search the inserted SD card for a newer version of the user manual. If one is found, the User Manual update will begin automatically.

If the update file cannot be found, the software will open a file navigator. Using the file navigator, the user should navigate to the User Manual update file, select the update file and click the **“OPEN”** button to confirm selection.

Configuration Management

The “*Configuration Management*” menu is used to import and export system configurations to and from an SD card. Please refer to page 43 for the detailed procedure on how to perform configuration imports/exports.

Data Recovery

After each successful changeover procedure, an Excel backup file is saved to the computers SD card. This backup file only contains the target position values for all the products saved on the devices. No photos and help instructions are saved.

The “*Data Recovery*” menu is used to restore the raw file system from previously completed changeovers if no configuration files are available.

Exit to Windows

The “*Exit to Windows*” button is used to exit COT program and gain access to the Windows 10 environment. This is used only by admins to make system changes on the operating system level.

Change User Passcode

The “*Change User Passcode*” menu is used by admins to change the security code used by non-admins. This code is entered by non-admins when the target position is being set during the changeover portion of the program.

Change Admin Passcode

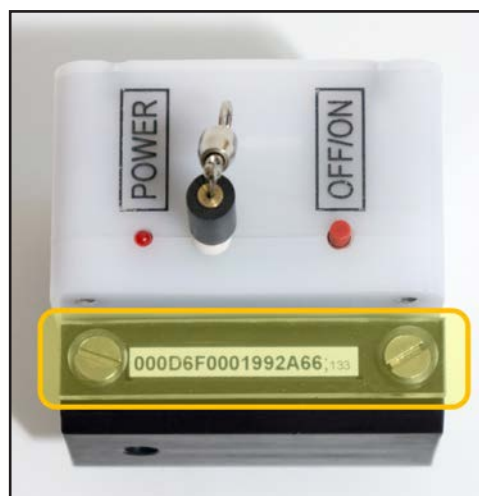
The “*Change Admin Passcode*” menu is used by admins to change the security code used by admins. This code is required to perform any changes to system settings.

Sensor Settings

The “*Sensor Settings*” menu is used to view the last paired sensor ID, select the COT Sensor’s COM port and define the timeout for the COT Sensor to automatically power off. This menu is used if a new COT sensor is installed on the

COT device. The administrator must define the COM port of the COT sensor before communication can be established. Using the drop down menu, the administrator can select the available COM port from the drop down menu. Communication will then be established..

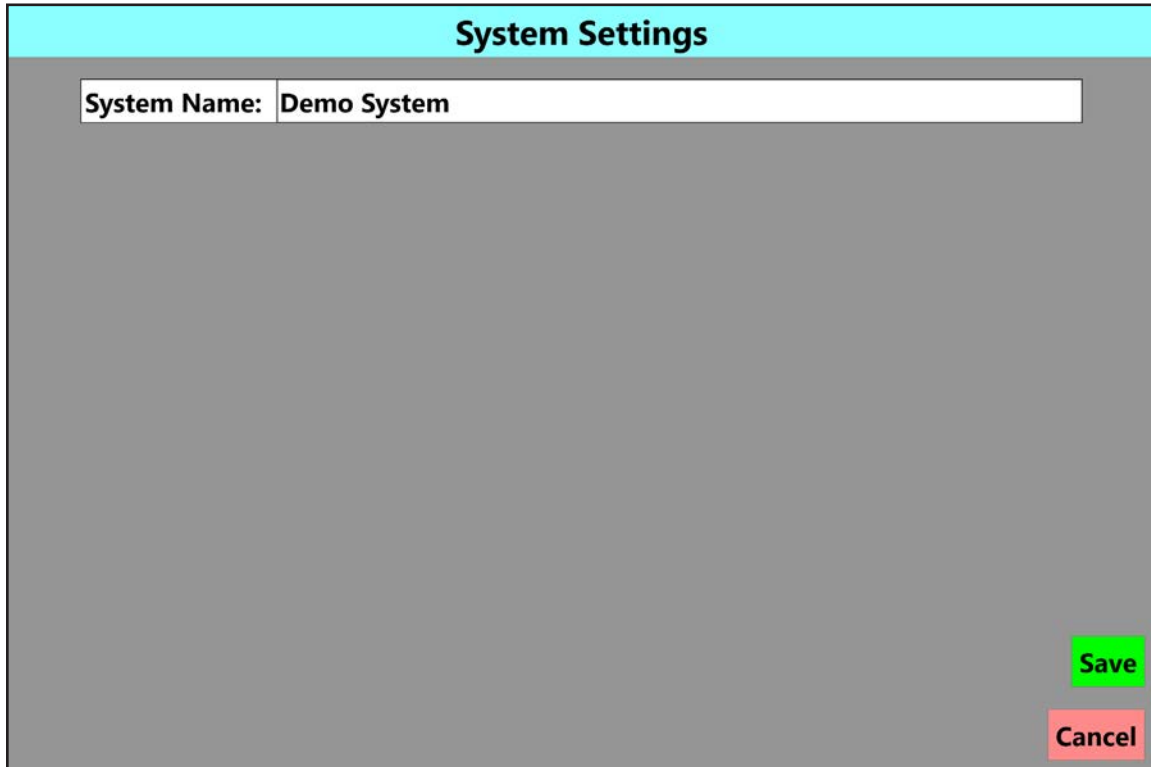
Sensor Settings			
Last seen sensor:	000D6F0001AF81F7		
Sensor COM port:	COM6		
Sensor timeout:	-	120	+
<div>Save</div> <div>Cancel</div>			



System Settings

The “*System Settings*” menu is used change the name of the COT device. This name should be unique to the system as all configuration files will use the system name as a unique identifier for its data.

With unique system names, administrators will better distinguish configuration files between multiple systems.



The image shows a dialog box titled "System Settings" with a light blue header. Inside the dialog, there is a label "System Name:" followed by a text input field containing the text "Demo System". The background of the dialog is gray. In the bottom right corner, there are two buttons: a green "Save" button and a red "Cancel" button.

4.4

_ Calibration / Machine Verification Explained

This section will guide the user through the steps to complete a machine changeover with the Changeover Tool.



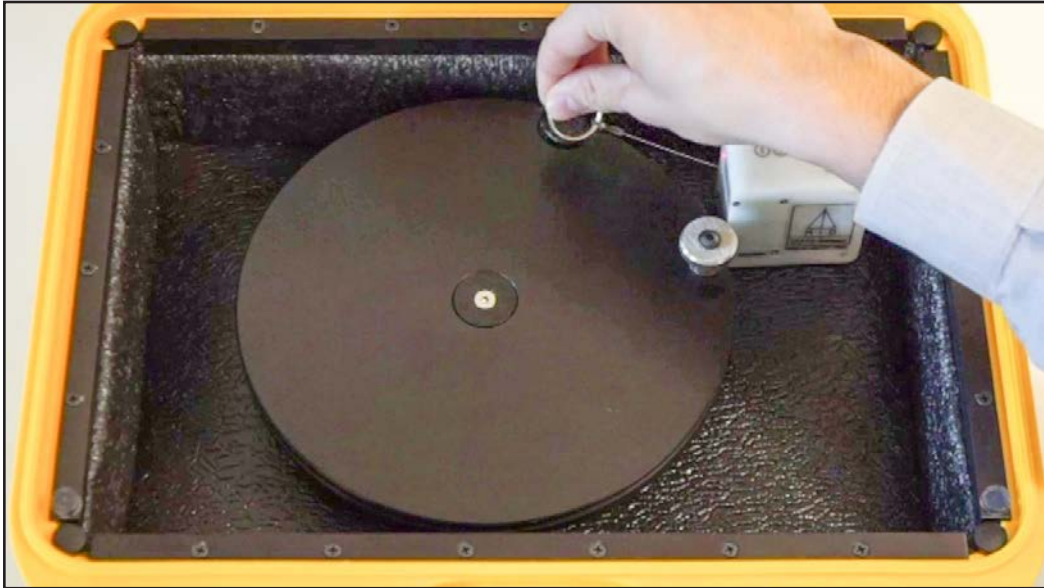
Step 1

After the user has clicked on the **“YES”** button in the main menu, the software will proceed to the changeover menu. At this point, the operator will be instructed, via the message banner, to power on the COT sensor.



Step 2

Remove the COT sensor from the calibration and power on the sensor using the push button located on the front. Place the sensor back on the calibration bracket after it is powered on.



Step 3

Grab the COT-sensor's metal ring and place it in the groove located on the calibration disc.

!!! MAINTAIN FIRM GRIP OF RING TO AVOID DAMAGE !!!



Step 4

With the COT-sensor's ring hooked to the calibration disc, rotate the calibration disc counter clockwise using the metal knob. Continue until the hard stop is reached.



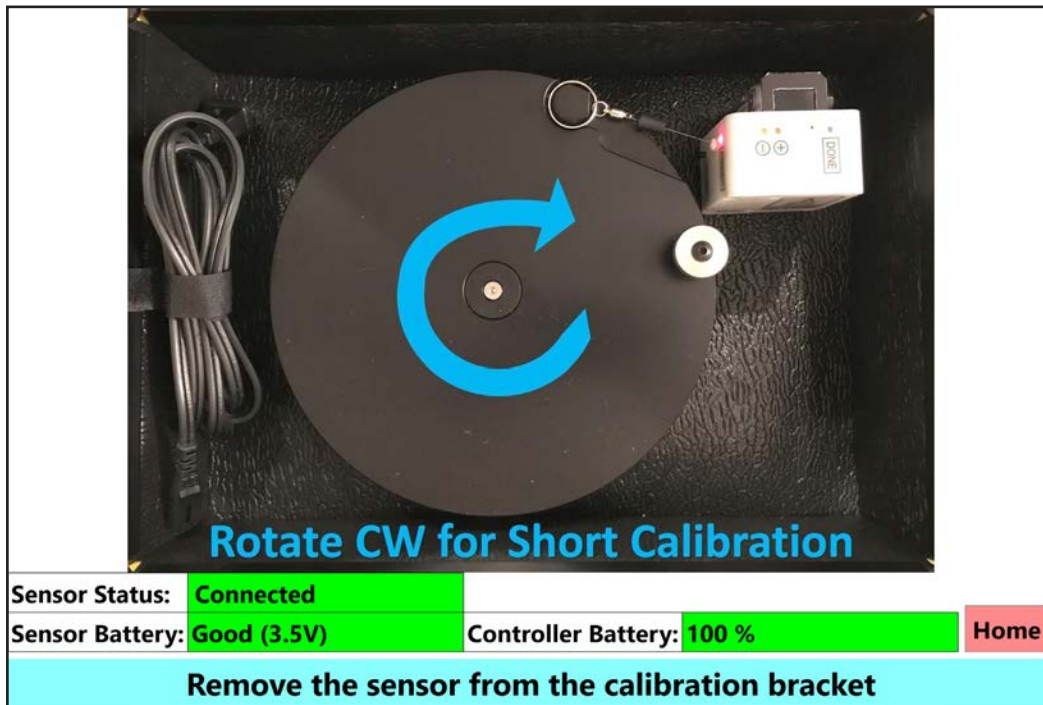
Step 5

Continue to hold the calibration disc at the hard stop until the software message banner confirms that the long calibration has been completed.



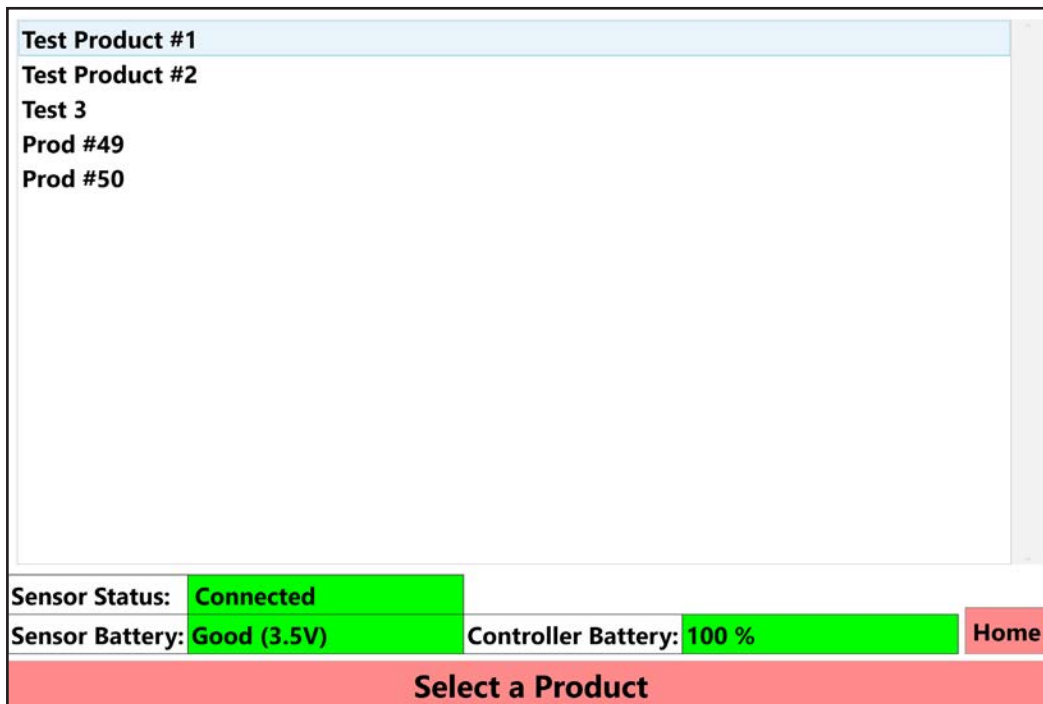
Step 6

Once the long calibration has been completed, the user will be instructed to proceed to the short calibration. Using the metal knob, rotate the disc clockwise until the hard stop is reached.



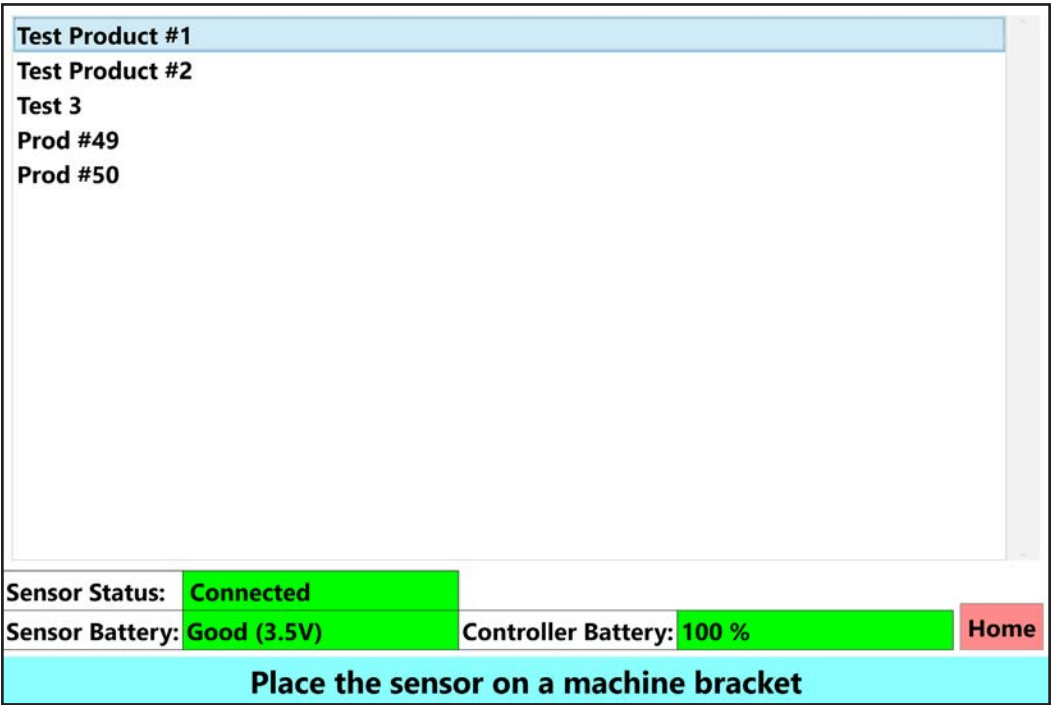
Step 7

The system will verify the short calibration distance. Once complete, the user will be instructed to *“Remove the sensor from the calibration bracket”* via the message banner. Remove the COT sensor from the calibration bracket.



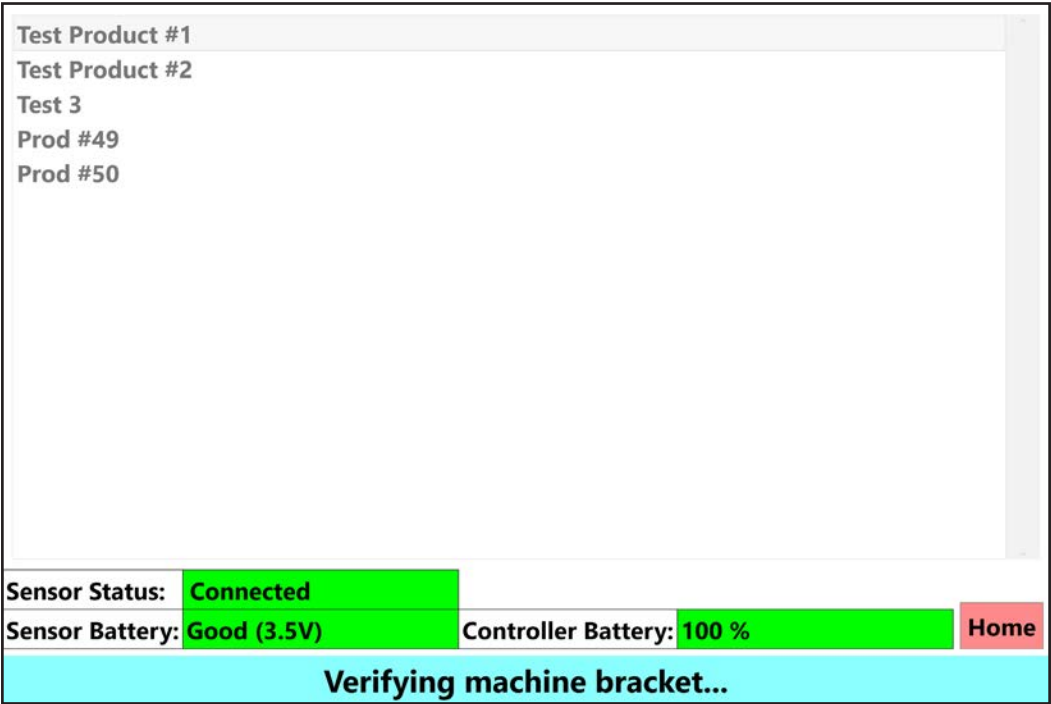
Step 8

Once the COT sensor is removed from the calibration bracket, the operator is provided with a list of products. The operator should select the product the machine is being adjusted to.




Step 9

Selecting a product, the message banner will instruct the operator to place the COT sensor onto a machine bracket located on the machine that is to be adjusted.




Step 10

Placing the COT sensor on the machine’s bracket will begin the bracket verification process. Please wait for the software to confirm the machine and product information. The software will automatically proceed once this process is completed.

Product:	Test Product #1															
Machine:	Machine 1															
Adj. Sequence:	Random															
Sensor Status:	Connected															
Sensor Battery:	Good (3.5V)															
Controller Battery:	100 %															
Bracket #: <div style="font-size: 2em; text-align: center;">3</div>																
Current Position:		Target Position:														
50		100														
		Zoom	Set position as target													
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	
>>> OUT OF POSITION <<<																Restart

Step 11

When bracket verification has been successfully completed, the Changeover Tool advances to the changeover menu where guidance for the operator begins. At this point, the COT sensor is on bracket number 2.


Product:	Test Product #1															
Machine:	Machine 1															
Adj. Sequence:	Random															
Sensor Status:	Connected															
Sensor Battery:	Good (3.5V)															
Controller Battery:	100 %															
Bracket #: <div style="height: 40px; border: 1px solid black;"></div>																
Current Position:		Target Position:														
50																
		Zoom	Set position as target													
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	
ERROR: Bracket does not belong to current Machine																Restart

If an error message shows up during the bracket verification, this means that the selected product and machine are not setup properly. The operator should note the error and report it to the system administrator.

4.5

_ Changeover Menu Explained

The Changeover Menu is where guidance for the operator takes place. This section will explain the Changeover Menu and all of its functions.

Product:	Test Product #1																																																					
Machine:	Machine 1																																																					
Adj. Sequence:	Random																																																					
Sensor Status:	Connected																																																					
Sensor Battery:	Good (3.5V)																																																					
Controller Battery:	100 %																																																					
Bracket #: <div style="font-size: 2em; text-align: center;">3</div>																																																						
Current Position:		Target Position:																																																				
50		100	<div style="display: inline-block; background-color: #ffffcc; padding: 5px; margin-right: 10px;">Zoom</div> <div style="display: inline-block; background-color: #ccffff; padding: 5px;">Set position as target</div>																																																			
<table border="1" style="width: 100%; text-align: center; font-size: 0.8em;"> <tr><td>1</td><td>2</td><td style="background-color: #ffcccc;">3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td></tr> <tr><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td><td>32</td><td>33</td><td>34</td></tr> <tr><td>35</td><td>36</td><td>37</td><td>38</td><td>39</td><td>40</td><td>41</td><td>42</td><td>43</td><td>44</td><td>45</td><td>46</td><td>47</td><td>48</td><td>49</td><td>50</td><td></td></tr> </table>				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17																																						
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34																																						
35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50																																							
>>> OUT OF POSITION <<<			Restart																																																			

Changeover menu explained:

Product:	Test Product #1	The product bar displays the name of the end product.
Machine:	Machine 1	The machine bar displays the name of the machine currently in adjustment.
Adj. Sequence:	Random	The bracket bar displays which bracket the COT sensor is currently placed on.
Sensor Status:	Connected	The system status bar displays the current status of both the computer and sensor
Sensor Battery:	Good (3.5V)	The battery bar displays the current battery level of the sensor and the computer.
Controller Battery:	100 %	The adjustment sequence bar indicates if the adjustment sequence is strict or random.

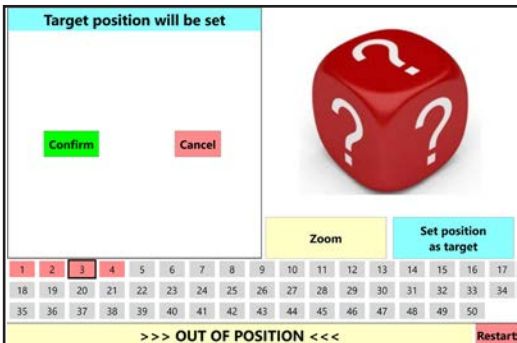
Bracket #:	
3	
Current Position:	Target Position:
50	100

The “*Current position:*” and “*Target position:*” bars are displayed to show the COT sensor’s string length and the target length for that product’s bracket location.

Set position as target

The “*Set current position as NEW Target position*” is used by the operator to change the target position of a changeover location.

The sensor must be on the desired bracket and set at the desired length. Once the button is clicked, the operator is prompted for the User password. Once operator has entered correct password, that bracket location will save the desired length for future adjustments.



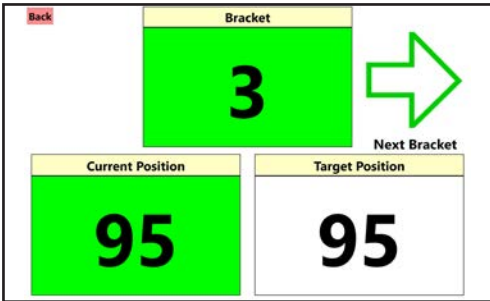
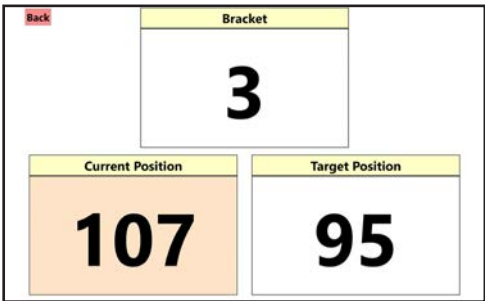
Zoom

The “*Zoom*” button is used when an operator cannot see the LED indicators on the COT sensor. This mode allows an operator to have large numbers displayed throughout the changeover operation.

Once the COT sensor is placed on a bracket, larger numbers are shown. When the sensor is removed, the screen returns to the main changeover menu.

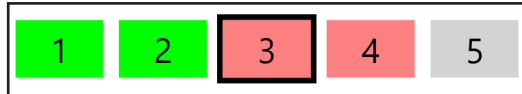
With the “*Zoom*” menu opened and in use, the operator is able to perform adjustments on bracket locations with the aid of the COT computer screen. The bracket location is displayed at the top of the “*Zoom*” menu, the “*Current Position*” is on the bottom left and the “*Target Position*” is on the bottom right corner.

When the operator is nearing the “*Target Position*”, the “*Current Position*” color will change to light red. Once the operator has reached the target position, the “*Target Position*” will change to green. Once bracket location has been completed, the “*Bracket Location*” display will begin to alternate from blue to yellow.



The picture of the current changeover location is shown when the COT sensor is placed on a bracket. This image contains visual guides for a bracket location such as hook points and adjustment locations.

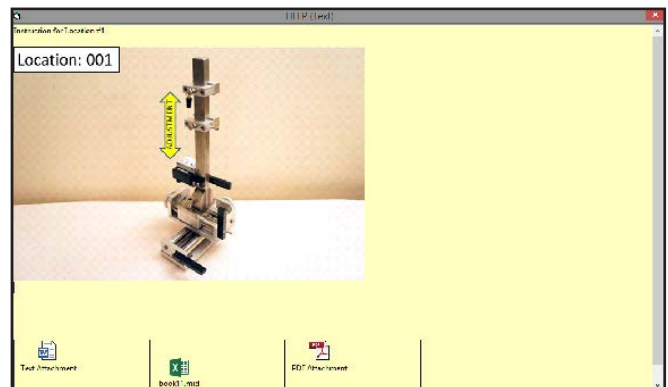
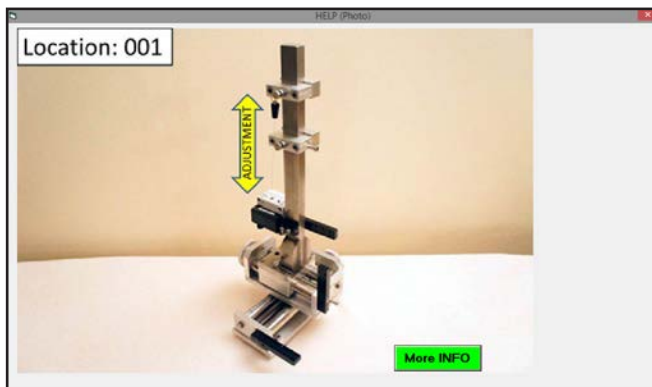
Changeover menu explained cont'd:



The progress boxes at the bottom of the main screen are used to show the progress of the changeover. Red boxes indicate unfinished changeover locations, green boxes indicate complete changeover locations and crossed out grey boxes are unused bracket locations for that machine. Boxes which are outlined (like number 2 and 3 above) are the current brackets on which the COT sensor is placed.

Clicking on a progress box brings up the selected location's image which can be used by the operator to locate the desired bracket. Clicking on the *"More INFO"* button in the *"Help PHOTO"* menu will display a help text file. Help text contains text, links to other documents and video clips.

These photo and text documents are setup by the administrator in the COT_CONFIG program.



>>> IN POSITION <<<

>>> OUT OF POSITION <<<

Power on COT sensor

The message bar at the bottom of the changeover screen is used to convey simple messages to the operator. These can be error or guidance messages.

Restart

The restart button is used to return to the product selection menu. Performing calibration is not necessary, and the operator can select their desired product to adjust the machine to.

NOTE: clicking the restart button in the middle of a changeover will lose all current data and progress of the current changeover.

5

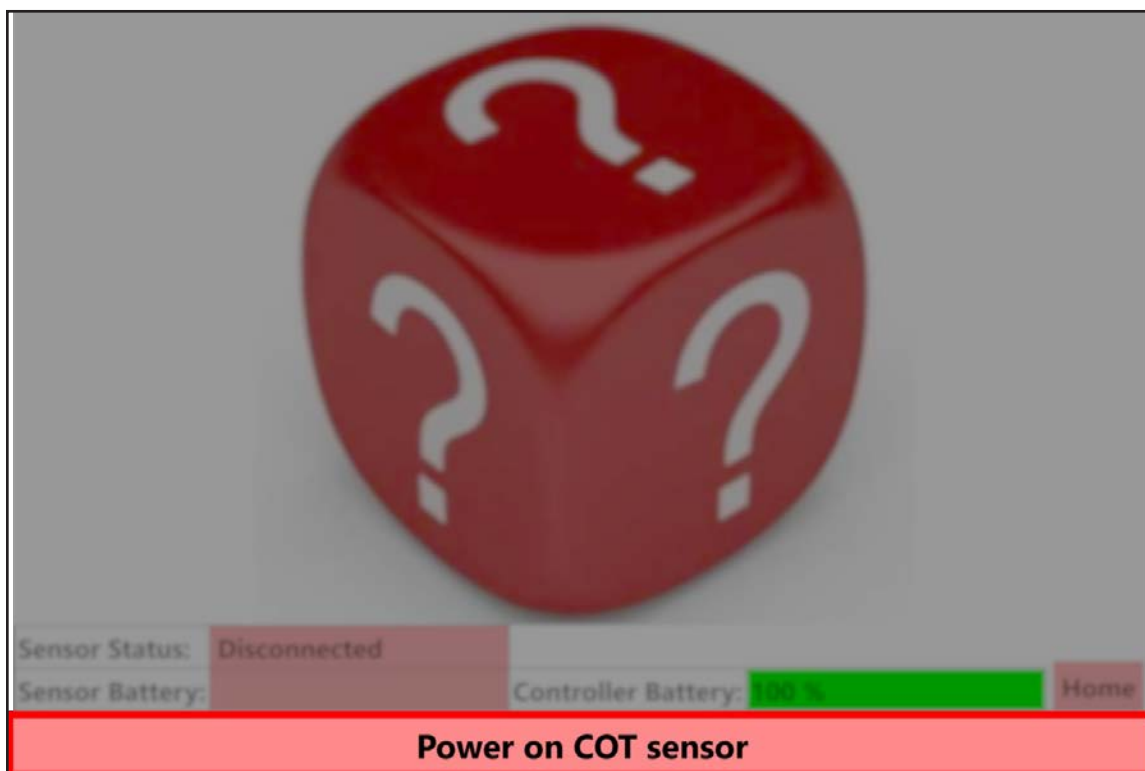
_ DEMO Changeover Walkthrough

This section is a short demonstration of how the Changeover Tool is used to perform a changeover operation.



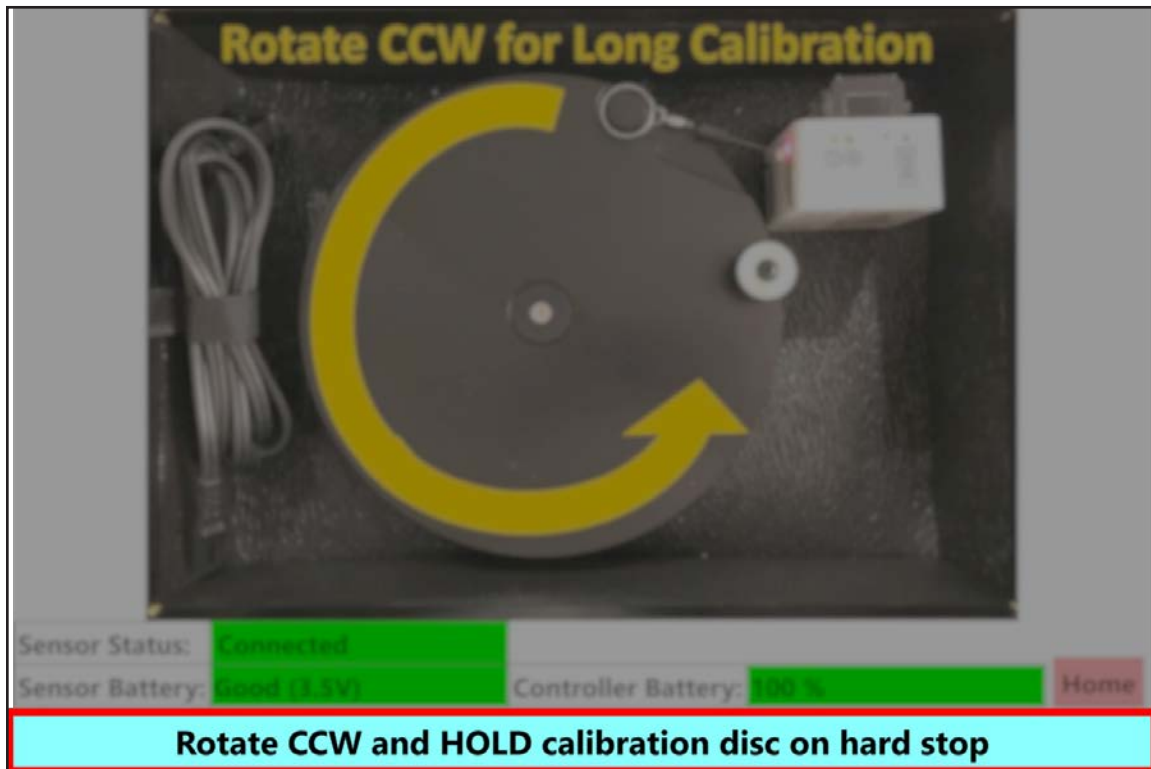
Step 1

Once the COT Controller has booted, the operator is asked if the machine is ready for changeover. Clicking **“YES”**, the user advances to the sensor calibration screen. The instruction banner instructs the user to power on the COT sensor.



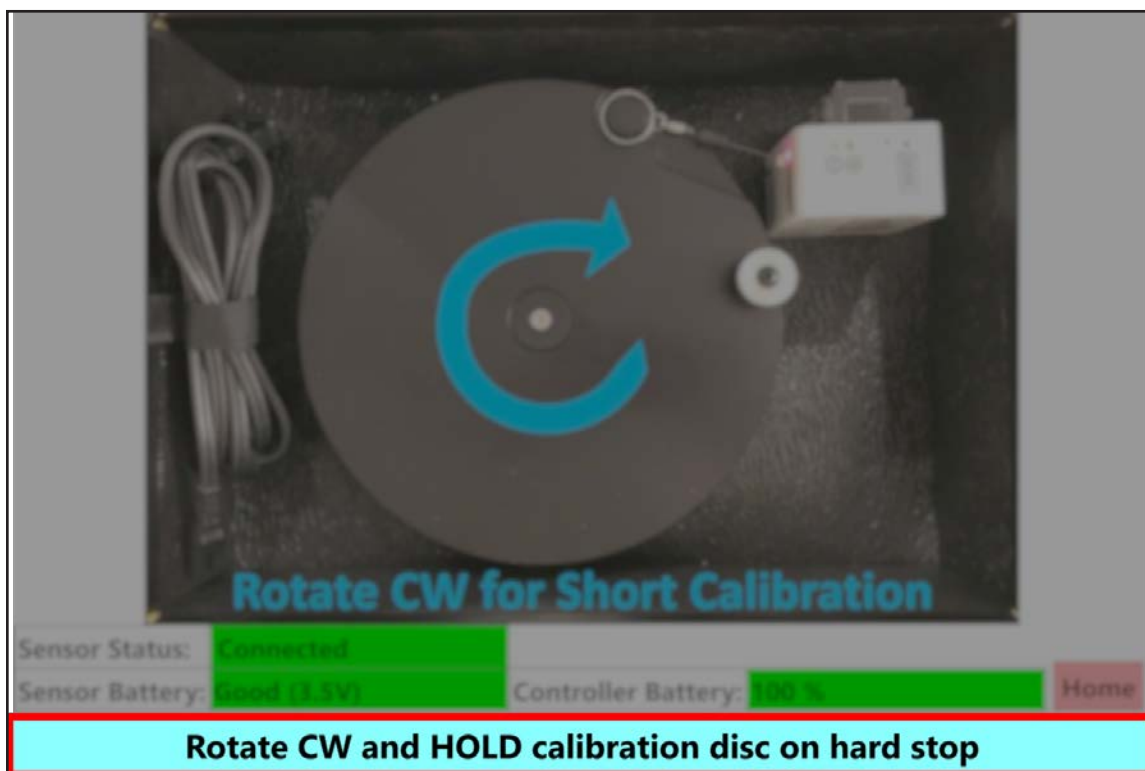
Step 2

The text banner instructs the user to power on the COT sensor. Remove the sensor from the calibration bracket and power on using the push button located on the front of the sensor. Return the COT sensor to the calibration after it has been powered on.



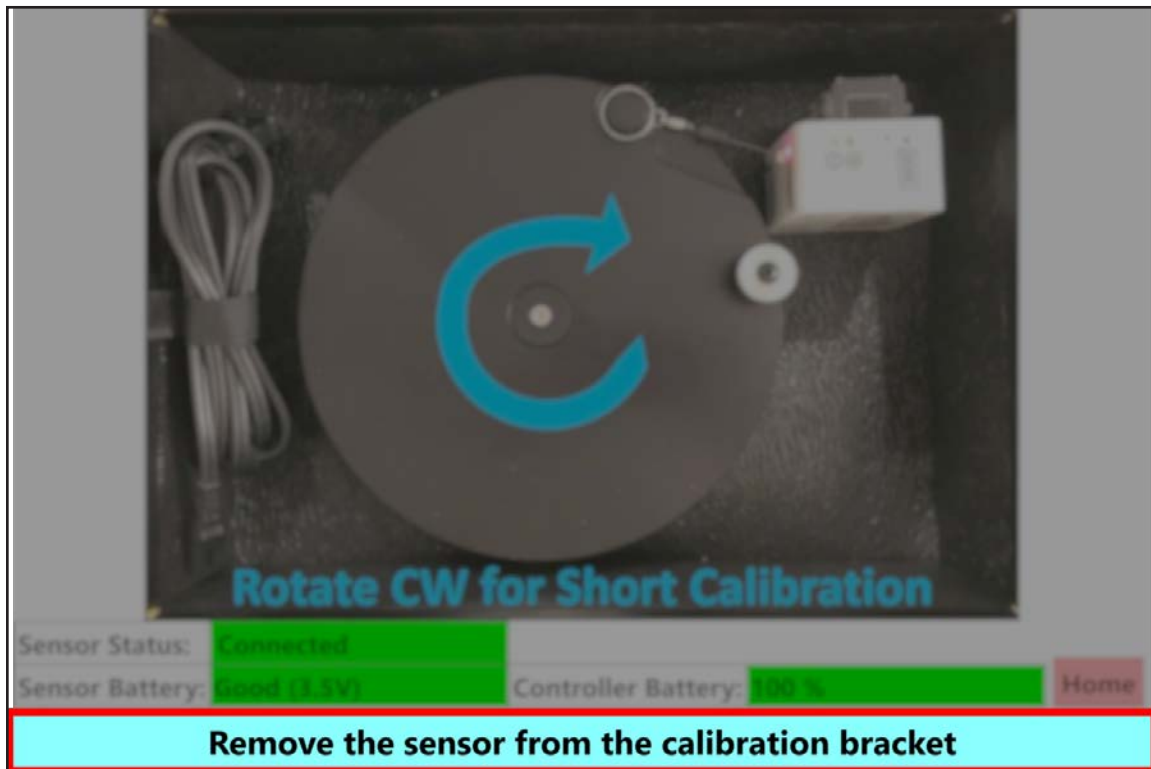
Step 3

Hook the sensor ring to the calibration disc and rotate the disc COUNTERCLOCKWISE until the hardstop is reached. HOLD the disc at the hard stop until the next instruction is displayed in the text banner.



Step 4

Once the long calibration has been verified, the user will be instructed to rotate the calibration disc CLOCKWISE until the short hard stop is reached. HOLD the disc at the short hard stop.



Step 5

At the completion of the COT sensor calibration, the text banner instructs the user to remove the COT sensor from the calibration bracket.

Test Product #1	
Test Product #2	
Test 3	
Prod #49	
Prod #50	
Sensor Status:	Connected
Sensor Battery:	Good (3.5V)
Controller Battery:	100 %



Step 6

Removing the COT sensor from the calibration bracket will advance the COT software to the product selection menu. On this menu, the user will select the product to which the machine will be adjusted.

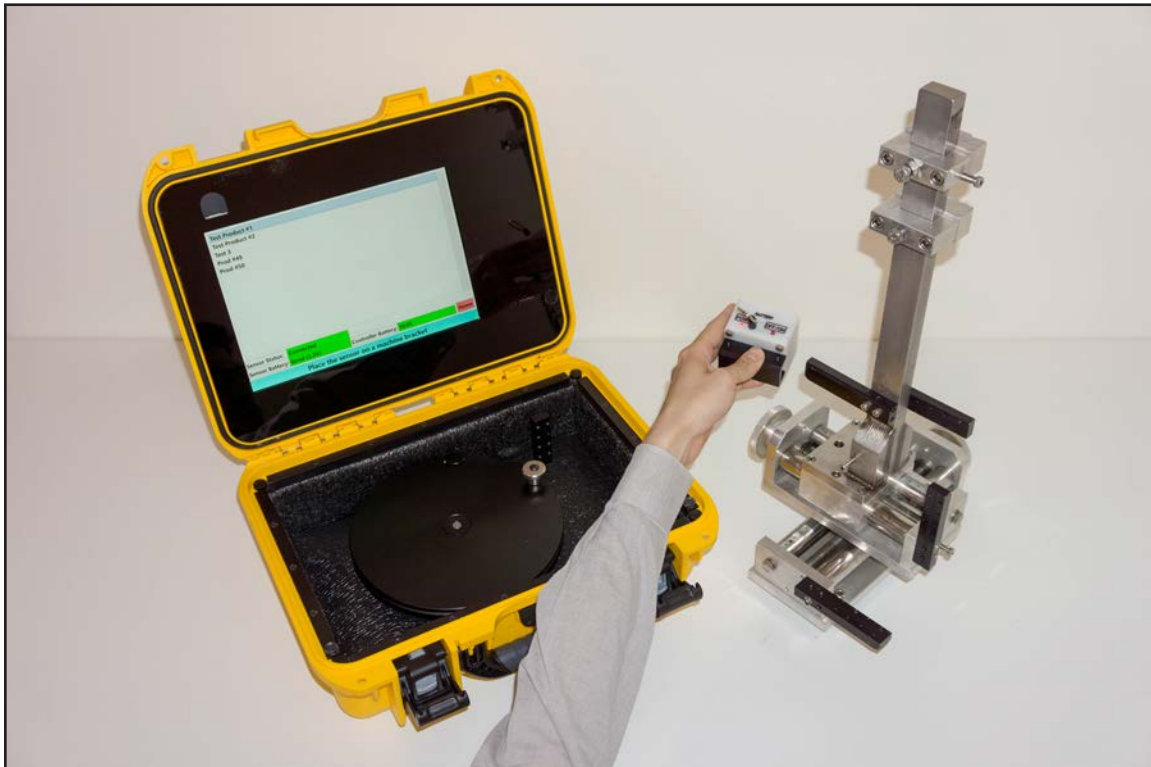
The screenshot displays a web application interface for a sensor monitoring system. The main content area is a large white rectangle with a light blue header bar containing the text "Test Product #1". Below the header, the text "Test Product #2", "Test 3", "Prod #49", and "Prod #50" is visible. At the bottom of the interface, there is a status bar with three sections: "Sensor Status: Connected" (green background), "Sensor Battery: Good (3.5V)" (green background), and "Controller Battery: 100 %" (green background). To the right of the status bar is a red button labeled "Home". Below the status bar, a large blue banner contains the text "Place the sensor on a machine bracket".

Test Product #1		
Test Product #2		
Test 3		
Prod #49		
Prod #50		

Sensor Status:	Connected	
Sensor Battery:	Good (3.5V)	Controller Battery: 100 %

Home

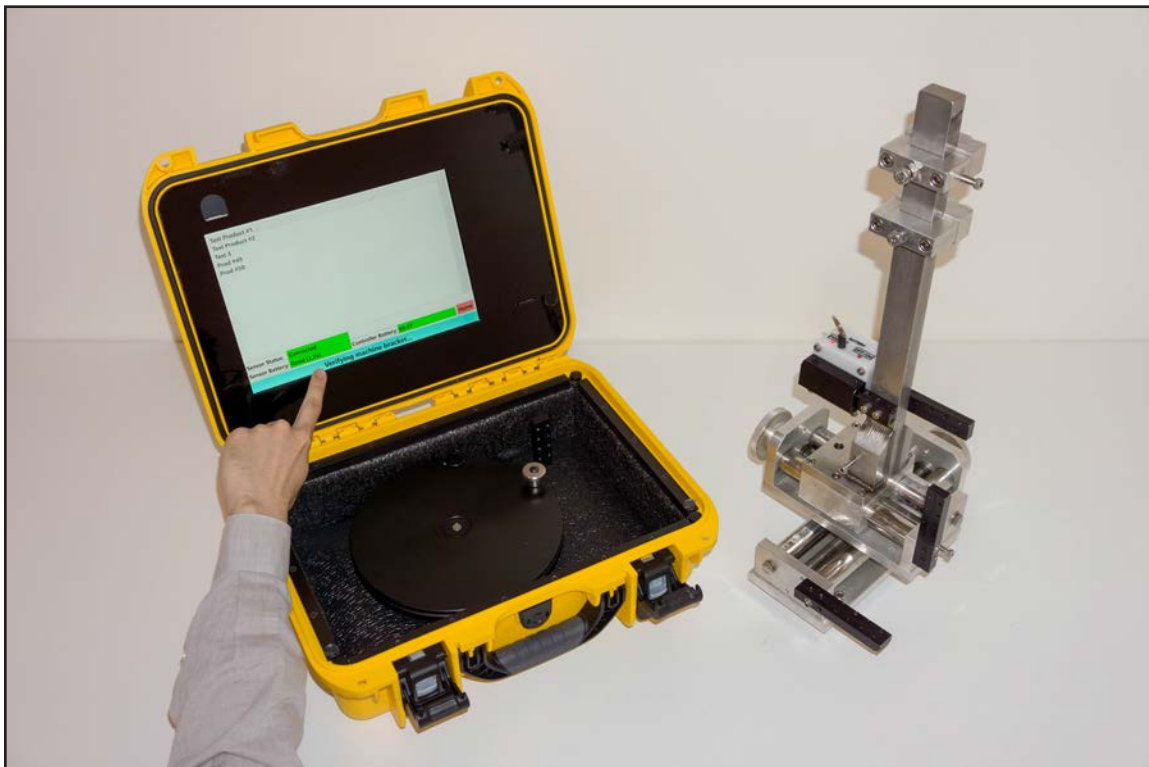
Place the sensor on a machine bracket



Step 7

The COT sensor should then be placed on the first bracket located on the machine which is to be adjusted.

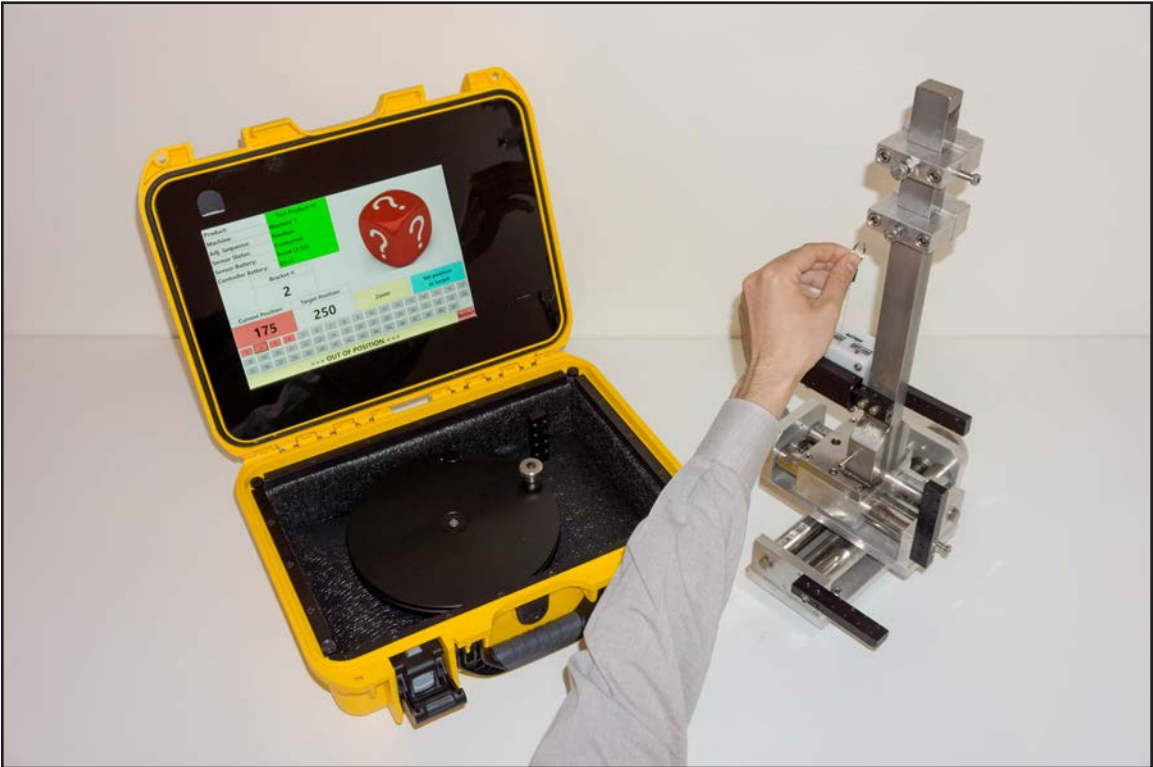
The screenshot displays a web application interface. At the top, there is a header bar with the text "Test Product #1". Below this, a large white area contains a list of items: "Test Product #2", "Test 3", "Prod #49", and "Prod #50". The bottom of the interface features a status bar with three main sections: "Sensor Status: Connected" (green background), "Sensor Battery: Good (3.5V)" (green background), and "Controller Battery: 100 %" (green background). To the right of these sections is a red button labeled "Home". A large cyan banner at the very bottom of the screen reads "Verifying machine bracket...".



Step 8

Once the COT sensor has been seated on the first machine bracket, the software will verify the machine bracket number.

Product:	Test Product #1																																																				
Machine:	Machine 1																																																				
Adj. Sequence:	Random																																																				
Sensor Status:	Connected																																																				
Sensor Battery:	Good (3.5V)																																																				
Controller Battery:	03:55																																																				
<div>Bracket #: 2</div>																																																					
Current Position:		Target Position:																																																			
177		250																																																			
Zoom		Set position as target																																																			
<table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td></tr><tr><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td><td>32</td><td>33</td><td>34</td></tr><tr><td>35</td><td>36</td><td>37</td><td>38</td><td>39</td><td>40</td><td>41</td><td>42</td><td>43</td><td>44</td><td>45</td><td>46</td><td>47</td><td>48</td><td>49</td><td>50</td><td></td></tr></table>			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17																																					
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34																																					
35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50																																						
>>> OUT OF POSITION <<<																																																					
Restart																																																					



Step 9

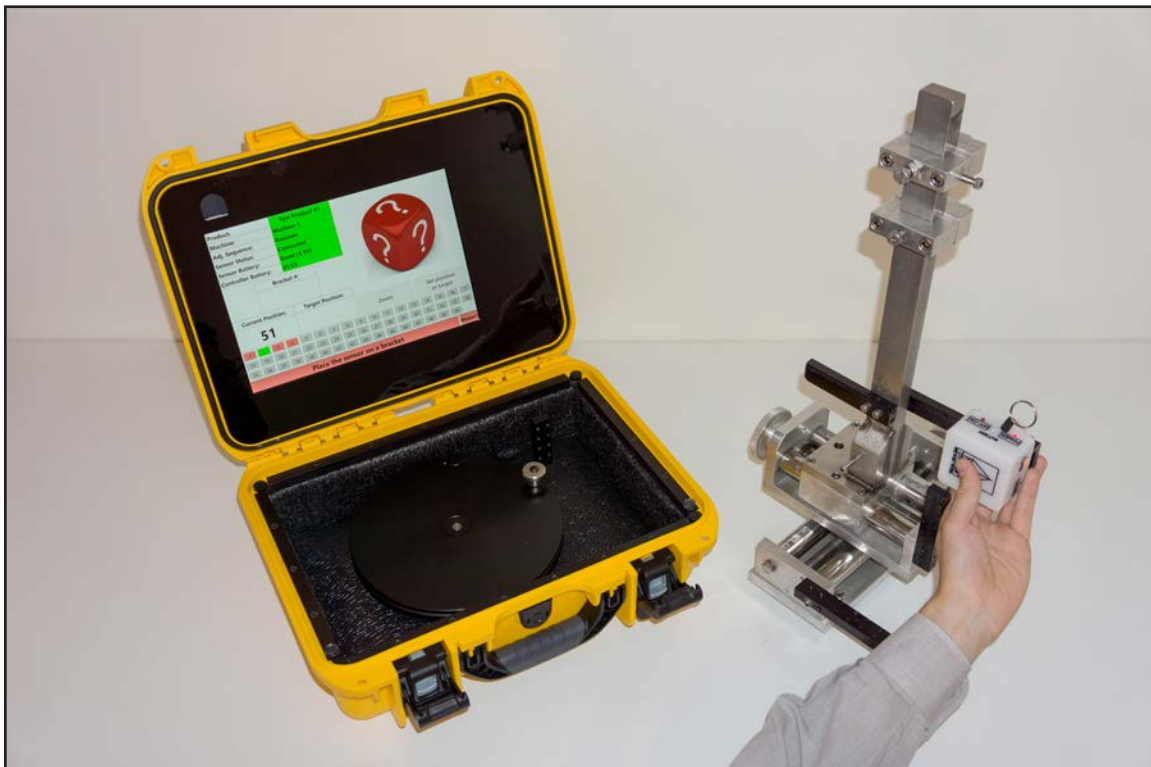
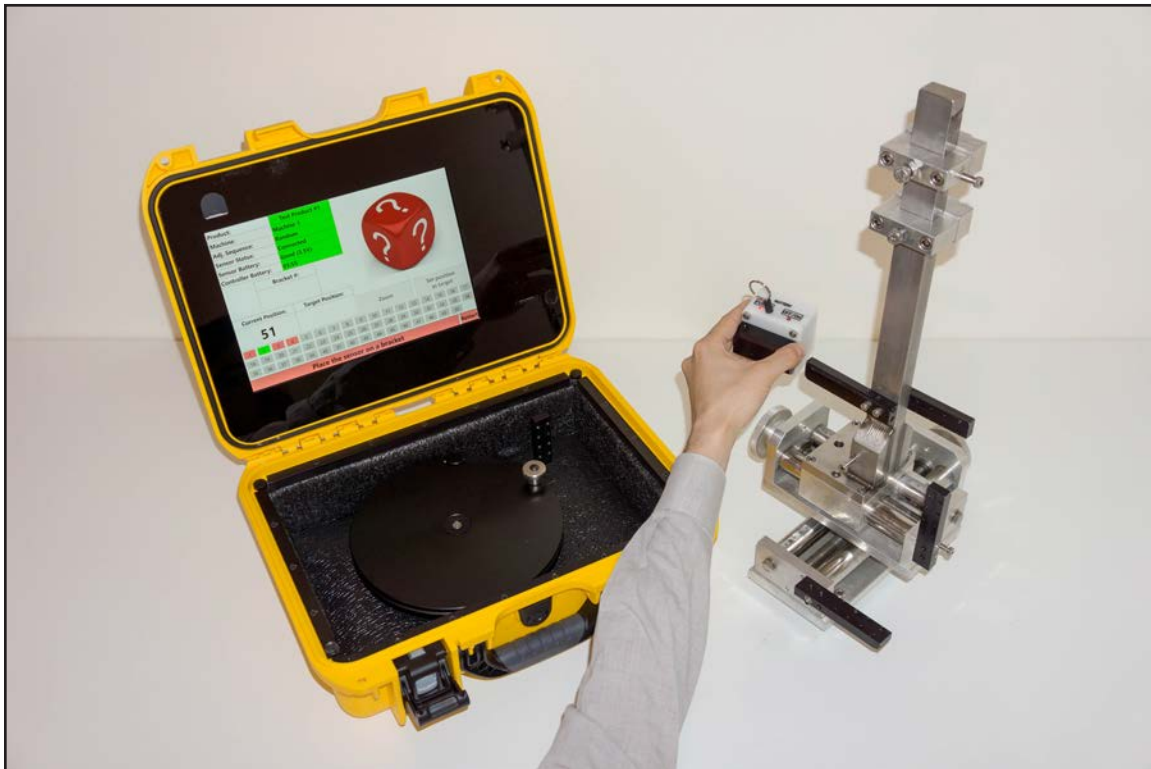
Once the machine has been verified, the COT software will advance to the changeover guidance menu. Make sure the COT sensor ring is attached to the hook point in order to verify this one bracket location adjustment.

Product:	Test Product #1																
Machine:	Machine 1																
Adj. Sequence:	Random																
Sensor Status:	Connected																
Sensor Battery:	Good (3.5V)																
Controller Battery:	03:55																
	Bracket #: 2																
Current Position:	Target Position:																
250	250																
		Zoom															
		Set position as target															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	
35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50		
>>> IN POSITION <<<																	Restart



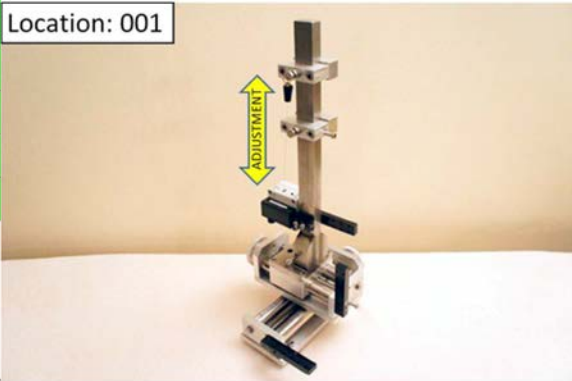
Step 10

The “Current Positon” must match the “Target Positon” value in order for this bracket location to be considered “IN POSITION”. Once “IN POSITION” has been satisfied for 5 seconds, the COT software will confirm the bracket location has been successfully adjusted.



Step 11

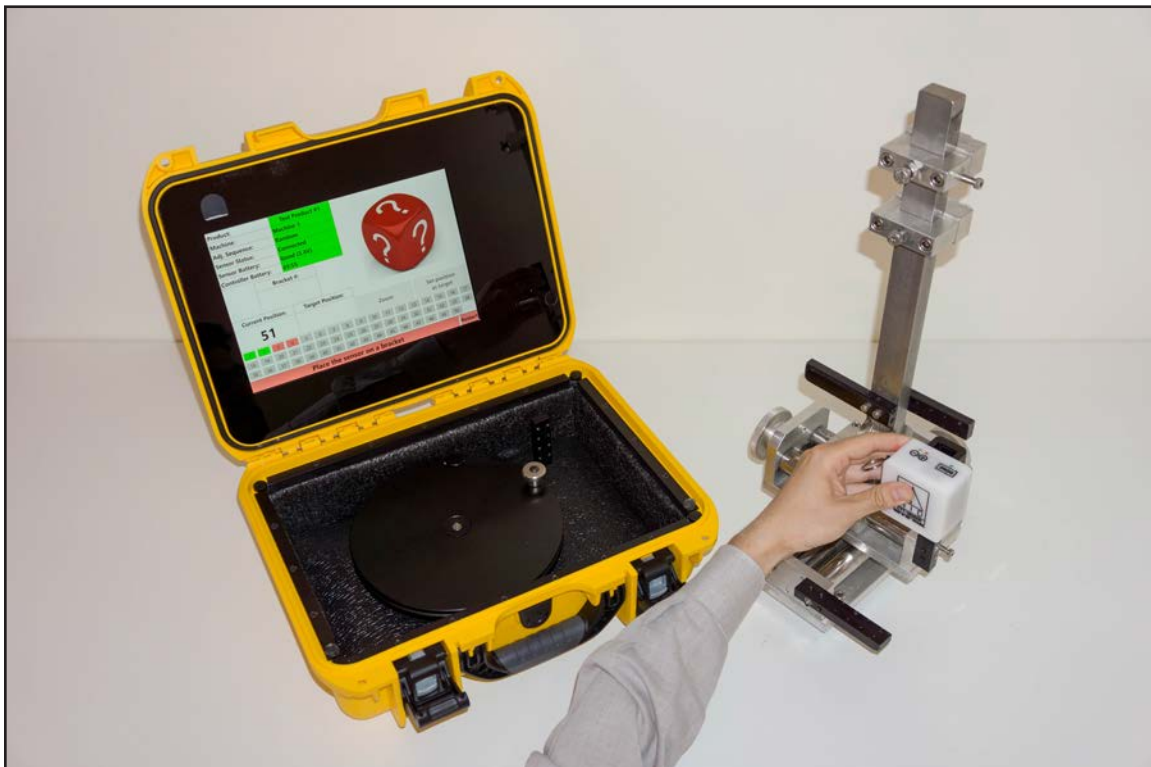
After the bracket location adjustment has been successfully completed, unhook the COT sensor ring from the hook point and remove the COT sensor from the bracket location. Proceed to the next bracket location to continue machine adjustment guidance.

Product:	Test Product #1	<div>Location: 001</div> 															
Machine:	Machine 1																
Adj. Sequence:	Random																
Sensor Status:	Connected																
Sensor Battery:	Good (3.5V)																
Controller Battery:	03:55																
<div>Bracket #:</div> <div>1</div>																	
Current Position:	Target Position:	Zoom	Set position as target														
343	342																
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	
35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50		
Bracket #1 DONE - go to next location																Restart	




Step 12

Once the COT sensor has been placed on the next bracket location, hook the ring to the adjustment hook point. Again, verify that the “CURRENT POSITION” value matches the “TARGET POSITION” value. Perform necessary adjustments to satisfy the “IN POSITION” criteria.



Step 13

After the bracket location adjustment has been successfully completed, unhook the COT sensor ring from the hook point and remove the COT sensor from the bracket location. Proceed to the next bracket location to continue machine adjustment guidance.

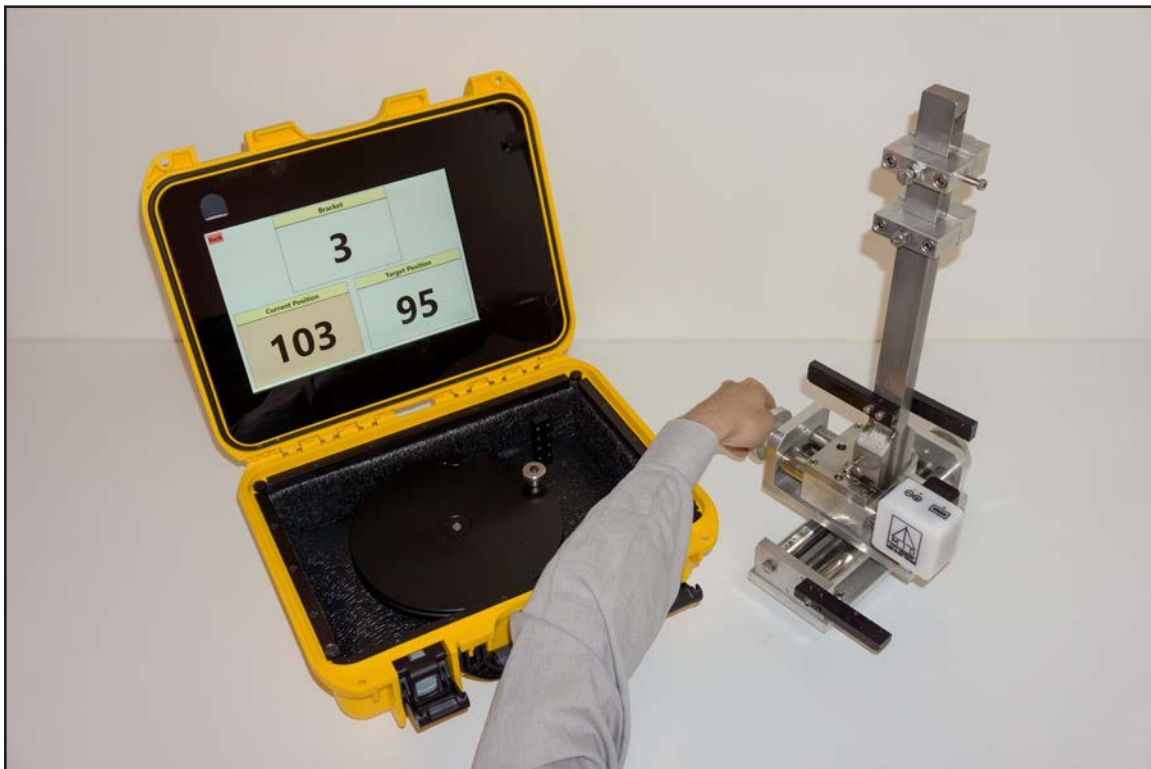
Product:	Test Product #1	<div>Location: 003</div> 															
Machine:	Machine 1																
Adj. Sequence:	Random																
Sensor Status:	Connected																
Sensor Battery:	Good (3.5V)																
Controller Battery:	03:48																
Bracket #:																	
3																	
Current Position:	Target Position:																
107	95	Zoom	Set position as target														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	
35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50		
>>> OUT OF POSITION <<<																Restart	



Step 14

At this point, we have completed machine bracket location’s number 1 and 2. The COT sensor is currently on bracket location 3 and adjustment is required for this bracket location. To allow easier viewing of the adjust values, clicking the “ZOOM” button enables a large viewing format.

Back	Bracket	
	3	
Current Position	Target Position	
107	95	



Step 15

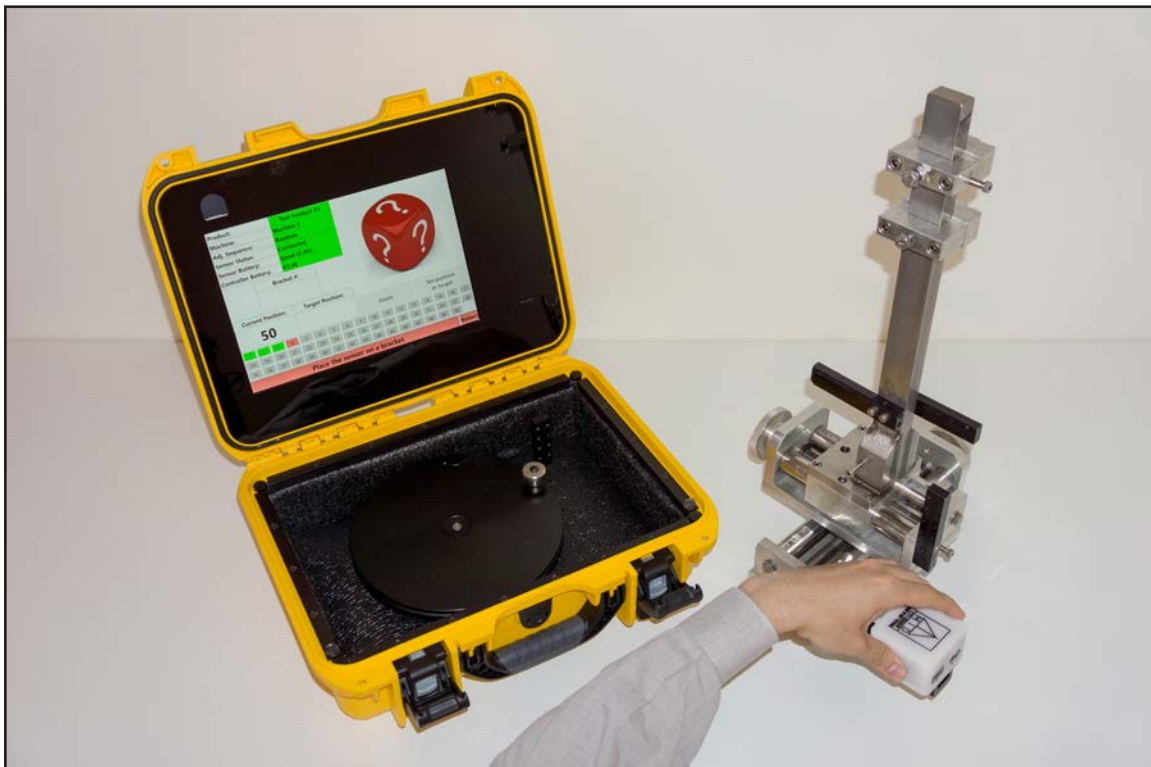
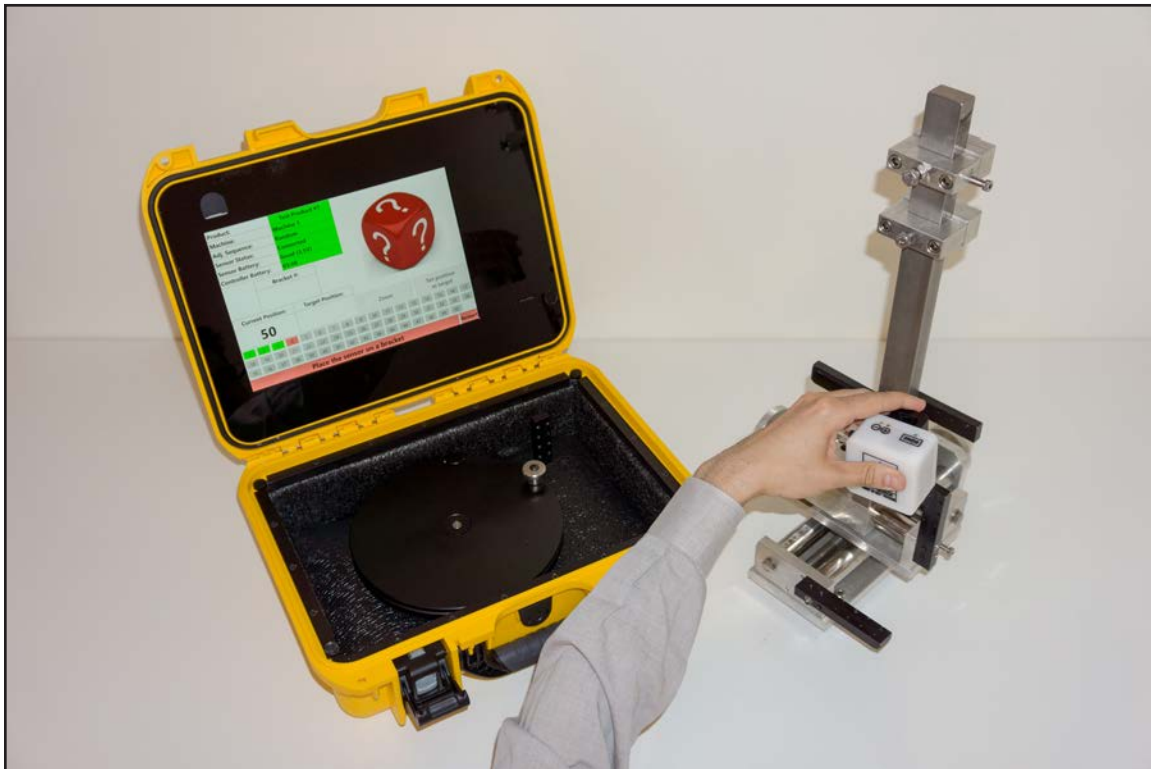
Using the “ZOOM” mode, the user is presented with data pertaining to the current bracket location. This mode can be activated/deactivated at any time during a machine changeover.

Back	Bracket <div style="background-color: green; color: black; text-align: center; font-size: 48px; width: 100px; height: 100px; line-height: 100px;">3</div>	<div style="color: green; font-size: 48px; text-align: center;">➡</div> Next Bracket
Current Position <div style="background-color: green; color: black; text-align: center; font-size: 48px; width: 100px; height: 100px; line-height: 100px;">95</div>	Target Position <div style="text-align: center; font-size: 48px; width: 100px; height: 100px; line-height: 100px;">95</div>	



Step 16

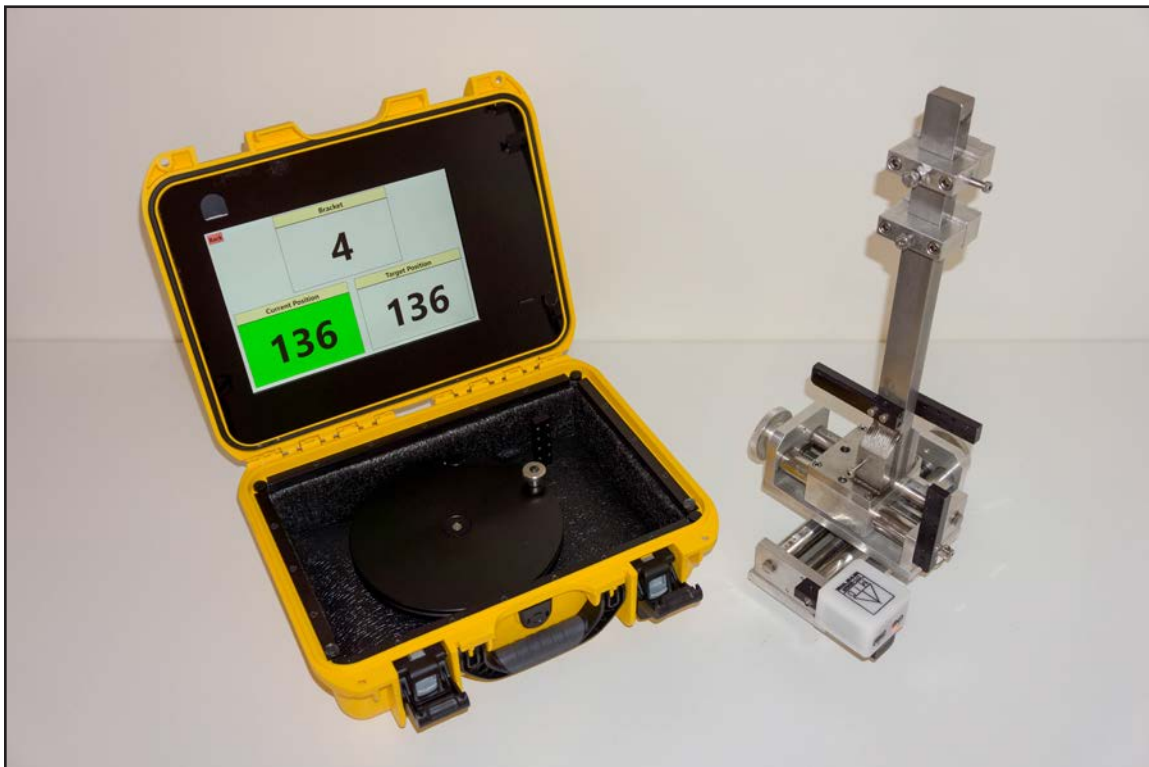
Successfully completing a bracket location while the COT software has the “ZOOM” mode enabled will prompt the user of a successful adjust by flashing a green arrow. This arrow prompts the user to continue to the next bracket location.



Step 17

Removing the COT sensor from a bracket while the “ZOOM” mode is activated will minimize the “ZOOM” display. This allows the user to view the overall progress of the machine adjustment on the main changeover screen.

Back	Bracket	
	4	
Current Position	Target Position	
136	136	



Step 18

Placing the COT sensor on a bracket will automatically maximize the “ZOOM” menu. Perform any necessary adjustments to bring the bracket location to “IN POSITION”. Wait for the confirmation from the software that the successful adjustment has been recorded.

Product:	Test Product #1																
Machine:	Machine 1	Location: 004															
Adj. Sequence:	Random																
Sensor Status:	Connected																
Sensor Battery:	Good (3.4V)																
Controller Battery:	03:48																
Bracket #:																	
4																	
Current Position:	Target Position:																
136	136																
		Zoom	Set position as target														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	
35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50		
Place sensor on calibration bracket.																Restart	



Step 19

Once all bracket locations have been successfully adjusted, the “ZOOM” mode will automatically close and the guidance banner will instruct the user to return the COT sensor to the calibration bracket located in the COT yellow box.

Product:	Test Product #1																
Machine:	Machine 1																
Adj. Sequence:	Random																
Sensor Status:	Disconnected																
Sensor Battery:																	
Controller Battery:	03:48																
Bracket #:																	
Current Position:	Target Position:																
Zoom		Set position as target															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	
35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50		
ALL ADJUSTMENTS COMPLETED																Restart	



Step 20

Upon placing the COT sensor on the calibration bracket, the guidance banner will display that all adjustments have been completed. Completion of the changeover operation is recorded in the “HISTORY” menu, accessible in the “TOOLS” menu. The user has the ability to shut down the tablet PC or restart to begin a new machine changeover adjustment.