Mercury **Training and User's Guide**





Customer Service

Americas Customer Service: Fax: E-mail: Service and Tech Support: Parts Requests: Web site: +1 972 290-3121 +1 972 722-1132

support@avt-inc.com parts@avt-inc.com www.avt-inc.com

USA Offices

European Office

AVT - Dallas. 10460 Miller Road Dallas, TX 75238 USA Telephone: +1 972 290-3120 Fax: +1 972 722-1128 AVT EMEA Generaal de Wittelaan 9/3 BE-2800 Mechelen Belgium Telephone: +32 (0)15 56 03 80 avtemea@avt-inc.com

AVT Office

AVT LTD 6 Hanagar St., P.O. B 7295 Hod-Hasharon 45241 Israel Telephone: +972 9 761-4444 Fax: +972 9 761-4555

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1 Introduction to Mercury

This training and user's guide teaches press operators how to use the basic features of Advanced Vision Technology's Mercury system for presses.

See the *Mercury Advanced User's Manual*, for information on additional Mercury features.

1.1 Mercury System Installation

1.1.1 Warnings

WARNING: Installation and use of this equipment is restricted to a non-explosive atmosphere. In case the equipment is integrated into a printing press that uses solvents, the integrator will be responsible for installation of the equipment outside the zone rated: Zone 1 or Zone 2 (ATEX rating).

ATTENTION: The attention of the specifier, purchaser, installer, or user is drawn to special measures and limitations to use which must be observed when the product is taken into service, to maintain compliance with the directives indicated in the EU <u>Declaration of Conformity</u>. Details of these special methods and limitations are available on request and are also contained in the product manuals and installation procedures. Moreover, this equipment must not be put into service until the machinery into which it is incorporated has been declared in conformity with the provision of all other relevant EU directives.

4	WARNING:	Warning labels as shown at left indicate electric shock hazard zones on the equipment. DO NOT remove guards or place hands in these locations at any time that power is applied.
	WARNING:	Warning labels as shown at left indicate that you should refer to detailed instructions in the equipment Installation and Service Manual before making access to this area or attempting to perform service.
T	WARNING:	Warning labels as shown at left indicate that there are no user serviceable parts inside. Customer Service can assist you if system components need to be exchanged or replaced.

1.1.2 Manufacturer's Information

Company:	Advanced Vision Technology
Address:	10460 Miller Road Dallas, TX 75238 U.S.A
Contact Person (USA):	Alan Then 972-290-7105
European Representative:	AVT EMEA AVT (Germany) GMBH 32 Donnersbergerstrasse Munich P0634 Germany Tel: + 49 - 89 - 216 - 68-079 Fax: + 49 - 89 - 216 - 68 - 166
Product Description:	Remote Ink Control System for the Printing Industry
Product Description: Product Name:	Remote Ink Control System for the Printing Industry Mercury
·	, , ,
Product Name:	Mercury 090G100 <i>XXX-YY</i> Where: <i>XXX</i> = Server Hardware Type Configuration
Product Name: System Part Numbers:	Mercury 090G100 <i>XXX-YY</i> Where: <i>XXX</i> = Server Hardware Type Configuration <i>YY</i> = Interface Control Type Configuration



Mercury System Label

1.1.3 Dimensions / Weight / Power Requirements

The full system varies based on press configuration and number of print units.

Mercury 2U Server/Client Dimensions: Width: 19 inches (482 mm) Height: 3.46 inches (88 mm) Depth: 18.9 inches (480 mm)

Weight: 25.7 lbs. (11.7 kgs.)

Power Requirements: 115 /230VAC (+/-10%), 50/60 Hz, 400W

Servo Power Unit

Dimensions:

Width: 12 inches (304 mm) **Height:** 12 inches (304 mm) **Depth:** 7 inches (177.8 mm)

Weight: 18 lbs. (8.2 kgs.)

Power Requirements:

115 /230VAC (+/-10%), 50/60 Hz, 300W

22" LCD Touchscreen Display

Dimensions:

Width: 21.7 inches (551 mm) Height: 15.4 inches (392 mm) Depth: 7.6 inches (193 mm)

Weight: 16.5 lbs. (7.5 kgs.)

Power Requirements:

115 /230VAC (+/-10%), 50/60 Hz, 30W

OCU3 44 Zone Options

Dimensions:

Width: 41 inches (1041 mm) **Height**: 3.5 inches (89 mm) **Depth:** 9 inches (228.6 mm)

Weight: 30 lbs. (13.6 kgs.)

Power Requirements:

115 /230VAC (+/-10%), 50/60 Hz, 150W

Mercury 1U Server/Client

Dimensions: Width: 19 inches (482 mm) Height: 1.7 inches (44 mm) Depth: 19.6 inches (497 mm)

Weight: 17.6 lbs. (8 kgs.)

Power Requirements: 115 /230VAC (+/-10%), 50/60 Hz, 400W

<u>UPS</u>

Dimensions:

Width: 3.60 inches (91.4 mm) Height: 6.50 inches (165 mm) Depth: 11.20 inches (284 mm)

Weight: 12.5 lbs. (5.68 kgs.)

Power Requirements: 115 /230VAC (+/-10%), 50/60 Hz, 350VA

32" LCD Touchscreen Display

Dimensions:

Width: 30.0 inches (763 mm) Height: 18.0 inches (457.3 mm) Depth: 2.4 inches (61.6 mm)

Weight: 35.8 lbs. (17.47 kgs.)

Power Requirements:

115 /230VAC (+/-10%), 50/60 Hz, 55W

PLC 10I / 200 Option

Dimensions:

Width: 13.80 inches (350.5 mm) Height: 5.50 inches (140 mm) Depth: 10.00 inches (254 mm)

Weight: 11.0 lbs. (4.98 kgs.)

Power Requirements:

115 /230VAC (+/-10%), 50/60 Hz, 150W

Noise pressure level at operators station: < 70dB(A)

1.1.4 Intended Operating Environment

This provides justification for use in an industrial environment.

Operating Environment

Advanced Vision Technology products are designed to operate in an industrial environment used for printing presses and similar equipment.

Temperature:	32 to 122 °F, 0 to 50 °C
Relative Humidity:	20-80% RH non-condensing

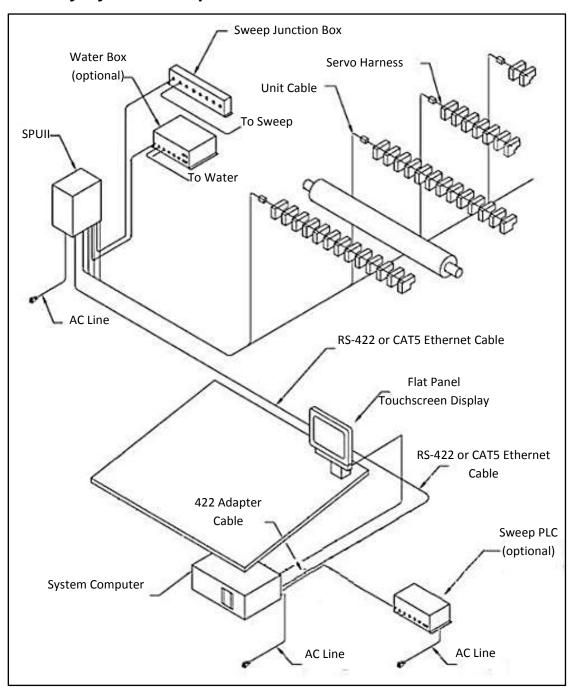
Storage Environment

If any Advanced Vision Technology products or any sub-systems require temporary storage in an area other than its operating environment, the following should be maintained.

Temperature:	-4 to 140 °F, -20 to 60 °C
Relative Humidity:	5 to 90% RH non-condensing

Limitations in Intended Operating Environment

Metal covers are provided to protect all on-press electronics and mechanical interconnects. These metal covers prevent contamination for the product and related components. Contamination includes dirt, dust, moisture, ink, solvents and oil. Full product warranty requires mandatory use of these covers at all times, except for calibration and service functions.



1.2 Mercury System Components Overview

- 1. The Mercury system computer resides inside a console and connects to a touch-screen monitor on top of the console.
- 2. The Mercury system computer interprets zone settings and commands sent from the Mercury server application to the console. The system computer also sends commands over an RS-422 or CAT5 Ethernet cable to the Servo Power Units (SPUs).

- 3. The monitor displays the configured number of ink zone settings for the ink fountains on a touch-controlled screen. Operators touch active buttons, fields, and sections on the screen in the same way they use a mouse or trackball.
- 4. The SPUs relay commands sent from the console to the press.
- 5. The servos turn adjustable keys that replace the original ink fountain keys. The servos have mechanical stops used for calibration and to prevent the keys from being driven into the blade.
- 6. The optional sweep Program Logic Control (PLC) can be used to increase or decrease sweep time or speed of an ink fountain roller.

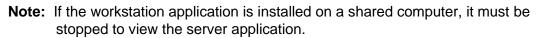
1.3 Mercury Server Application

The Mercury server application typically runs in the background (out of the operator's normal view) and supports communication to Mercury workstation(s), the SPU(s), and to Clarios.

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1.4 Mercury Workstation Application

The Mercury workstation application (Client) can be installed on a stand-alone or shared computer that is also used for the Mercury server application.





1.5 Mercury CIP3 Presets

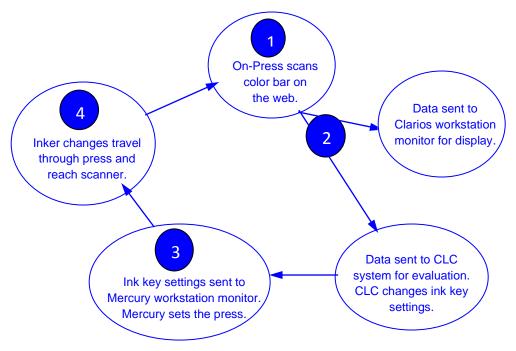
International Cooperation for Integration of Prepress, Press, and Postpress (CIP3) data is received when plates are created in prepress. The file passes through the network and is available for recall at any Mercury workstation with the CIP3 option installed.

The CIP3 presets adjust key values based on coverage calculated from the plate image. Each time that a job starts, the key values are memorized by the system and then compared to the ending values. The system learns by comparing these two values and making adjustments, if needed, to the next job using CIP3 data.

For more information, refer to Set Up CIP3 Presets in this manual.

1.6 Mercury and Clarios Interface

The Closed Loop Control (CLC) system provides a closed loop link between the Clarios color measurement system and the Mercury remote ink control system for narrow web presses.



For more information, refer to *Closed Loop Control (CLC*) in this manual and the *Mercury Advanced User's Manual*.

1.7 Glossary of Basic Mercury Terms

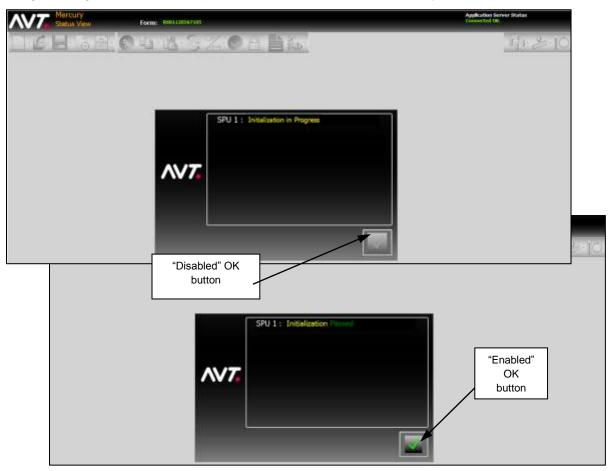
Term	Definition
Operator Console Unit (OCU)	A press console.
Application Server	Computer application used to communicate with all devices and other services, such as Mercury and Clarios components.
Servo Power Unit (SPU)	Supplies power to servo motors and communication to the Mercury computer.
Workstation	Computer with a Graphical User Interface (GUI) for operators.

2 Launching Mercury & Using Mercury Status View

This section explains how to launch the Mercury system and use the Status View on the Mercury workstation monitor.

2.1 Launch Mercury System

Turn on the Mercury workstation computer. The Mercury server and client applications will go through an initialization process and then start automatically.

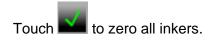


- > The OK button is disabled when startup dialog shows initialization in progress.
- The OK button is enabled when startup dialog shows the status of the SPU's initialization (whether passed or failed).

Touch the **OK** button to acknowledge the initialization status. If the initialization fails, see "Troubleshooting System Startup" in the *Mercury Service Manual*.



If the product option "Prompt for Zero All Inkers" has been enabled on every restart of the server, you will be prompted to verify that you want to zero all inkers.



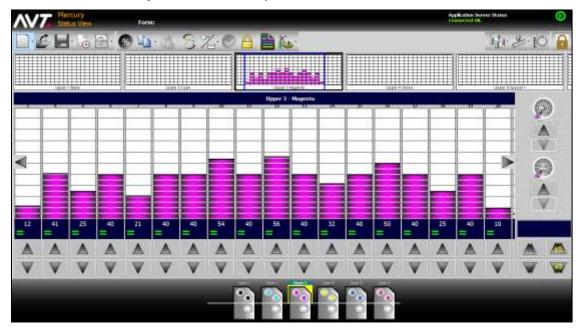


If the server application is not running, double-touch the **Mercury AppServer** icon on the desktop to start the server.



If the client application is not running, double-touch the **Mercury Client** icon on the desktop to start the client.

After the system and form data have been received, the Status View displays the form details on the Mercury workstation computer.



2.2 Use Touch-Sensitive Buttons, Icons, and Fields

Operators perform all Mercury system interactions by touching buttons, icons, and touch-sensitive fields on the Mercury workstation monitor.

Following are a few examples of Mercury buttons, icons, and fields.

	Ink Fountain Thumbnail
Usero SHAgera	Touch to view ink zone settings and make ink zone adjust- ments for an ink fountain.
	Drag left or right to view other thumbnails.
	OK or Yes button
	Touch to indicate agreement with an action or operation.
	Color OK button
	Touch to save current ink profiles for a form.
	Adjust Up/Down buttons
	Touch to adjust a selected ink zone, sweep, or water.
	Adjust All Up/Down buttons
	Touch to adjust all ink zones / sweeps / waters by 1% or 5%.
	Next button
	Touch to go to the next step in process.
	Current Color Order button
	Touch to change the current color order.

Note: An optional Operator Console Unit (OCU3) console can duplicate some of the controls on the Mercury touchscreen. See the *Operator Console Unit (OCU3) User's Manual* for detailed information.

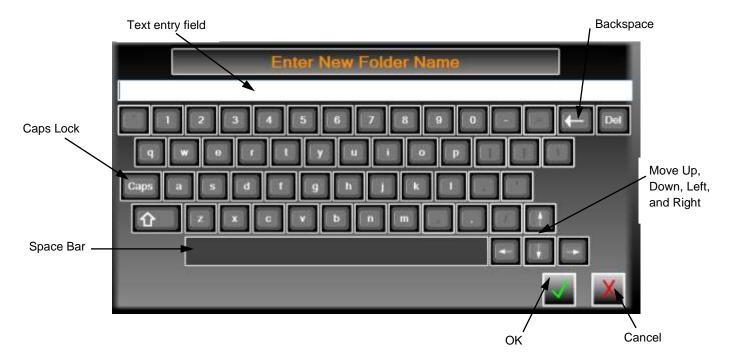
2.3 Use Keypads to Enter Information

You can enter information on the Mercury workstation monitor using the **Alpha Numeric Keypad** or the **Numeric Keypad**.

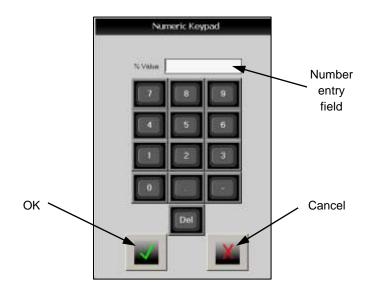
When you touch an area on the monitor that requires you to enter information, the appropriate keypad automatically displays. Touch the appropriate letters, symbols, or numbers on the keypad to enter the information.

Note: Any characters that are grayed out cannot be used.

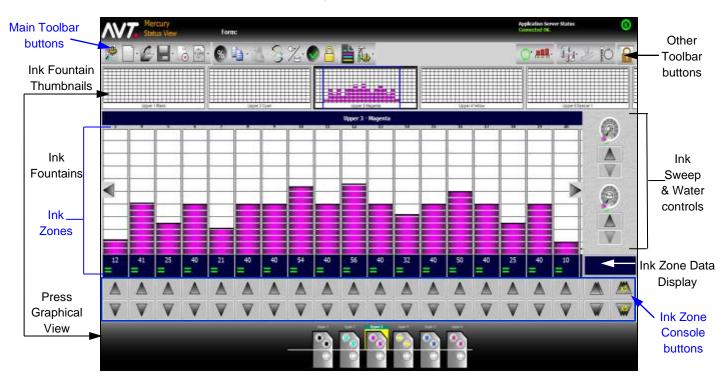
Alpha Numeric Keypad



Numeric Keypad



2.4 Work with the Status View

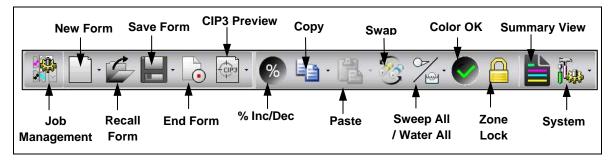


This section introduces the Mercury Status View.

2.4.1 Toolbars

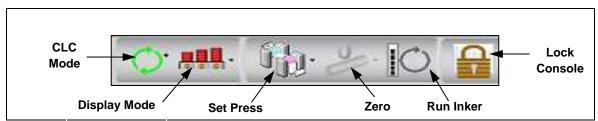
Main Toolbar Buttons

The main toolbar buttons, located at the top left section of the Status View, are the primary system function buttons.



Other Toolbar Buttons

Other toolbar buttons, located at the top right section of the Status View, are additional system function buttons.

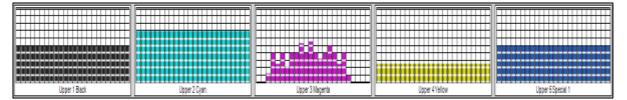


2.4.2 Ink Fountains

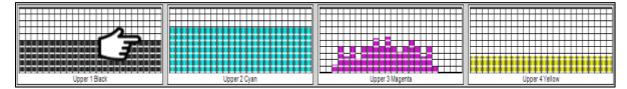
The Status View shows the ink fountains in two places, as thumbnails and as icons in the Press Graphical View. Touch an **ink fountain** to select it and make ink zone adjustments.

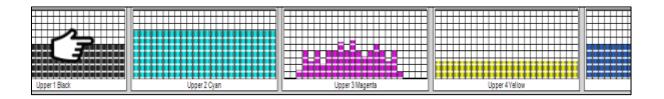
Thumbnails

Ink fountains display as thumbnails under the main tool bar.



You can view up to six ink fountains at a time on the Status View. To view other ink fountains, use the **scroll feature** to drag thumbnails back and forth.





If the **Show Tap area feature** is enabled, you can tap in a thumbnail to center the selected ink fountain zones in the thumbnail. The tapped zone area displays with a blue border.



Upper 1 Black	Upper 2 Cyan	Upper 3 Magenta	Upper 4 Yellow

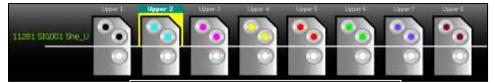
Tap Area - Zones 9 to 18

	Utor 1 Back			Ucer 4 Yelsw
--	-------------	--	--	--------------

See the *Mercury Advanced User's Manual* for more detailed information on enabling the Show Tap area feature.

Press Graphical View

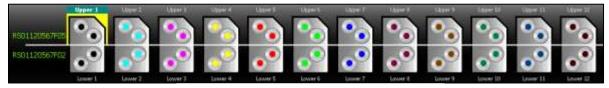
The ink fountains display as icons in the Press Graphical View at the bottom of the Status View.



Press Graphical View for Single-Sided Web

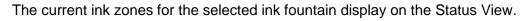


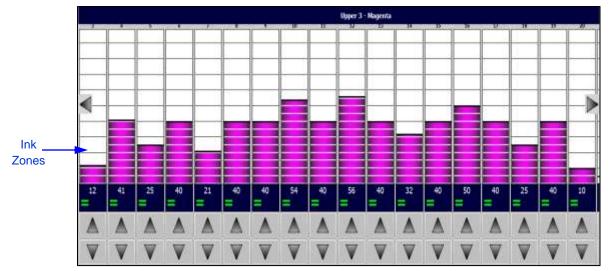
Press Graphical View for Single-Sided Web with Turn Bar



Press Graphical View for Two-Sided Web

2.4.3 Ink Zones





Note: You can change the number of ink zones that display on the Status View. See the *Mercury Advanced User's Manual* for more detailed information.

Drag Ink Zones on Status View

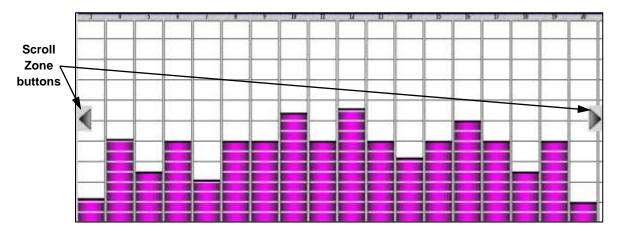
There are three areas where you can drag the ink zones on the Status View.



Zone Status Window	Dragging in this area in a horizontal direction (left-to-right or right-to-left) scrolls the zones displayed. Use this to quickly change the zones shown on the screen, when fewer than all possible key zones are displayed.
Zone Window Title Bar	Dragging this control area left or right, adjusts the zones that will be displayed on the Status View.
Zone Selection Boxes	Dragging on multiple zones in this area in a horizontal direction (left-to-right or right-to-left) selects each of the individual zones touched.

Scroll Zone Buttons

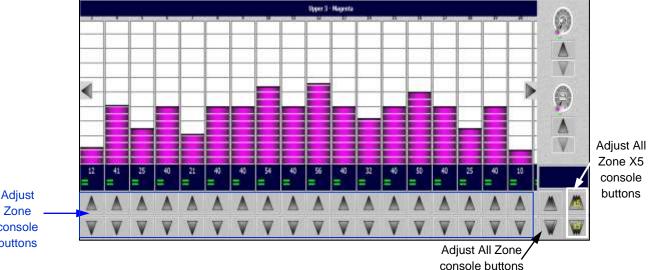
You can drag across the zones to scroll or use the scroll zone buttons.



Note: Displaying the scroll zone buttons is optional. See the *Mercury Advanced User's Manual* for more detailed information.

Ink Zone Console Buttons

Two types of ink zone console buttons are located at the bottom of the Status View.



Zone console buttons



Use the Adjust Zone buttons, located directly under each ink zone, to adjust the corresponding ink zone.



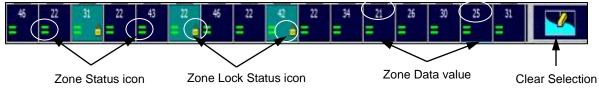
Use the Adjust All Zone buttons, located to the right of the Adjust Zone buttons, to adjust all ink zones by 1% at the same time.



Use the Adjust All Zone X5 buttons, located to the right of Adjust All Zone buttons, to adjust all ink zones by 5% at the same time.

Ink Zone Data Display

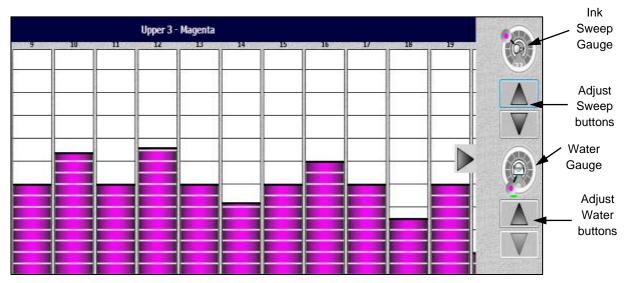
The ink zone data display area located directly under the ink zones on the Status View, provides feedback on each ink zone setting.



- The **selected zones** appear as light blue.
- The upper half of each display area shows the two-digit **Zone Data value**.
- The lower left quadrant of each display area shows the **Zone Status icon**. See Appendix A – Zone Status Icons for the list of all possible zone status icons.
- The lower right quadrant of each display area shows the **Zone Lock Status** icon. The **Clear Selection** button, located to the right of the ink zone display area, displays when one or more ink zones are selected. Use this button to deselect the selected ink zones.

2.4.4 Ink Sweep and Water Controls

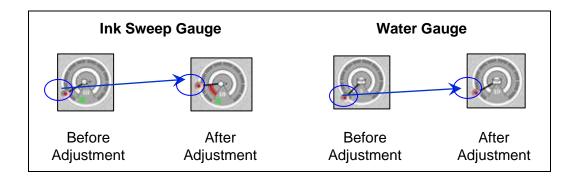
The Ink Sweep and Water control gauges and buttons are located to the right of the ink zones on the Status View.



Note: The Ink Sweep and Water gauges and buttons are enabled only when the system configuration indicates they are enabled. The gauges and buttons are grayed out when disabled.

Ink Sweep and Water Gauges

Touch and move the **slider button** on the Gauge to adjust the value.



Adjust Sweep and Adjust Water Buttons



Use the **Adjust Sweep** and **Adjust Water** buttons (**Up** or **Down**), located directly under the gauges, to adjust their values.

3 Setting Up Mercury Forms

This section introduces the basic elements of the Mercury system that you can use to set up a Mercury form.

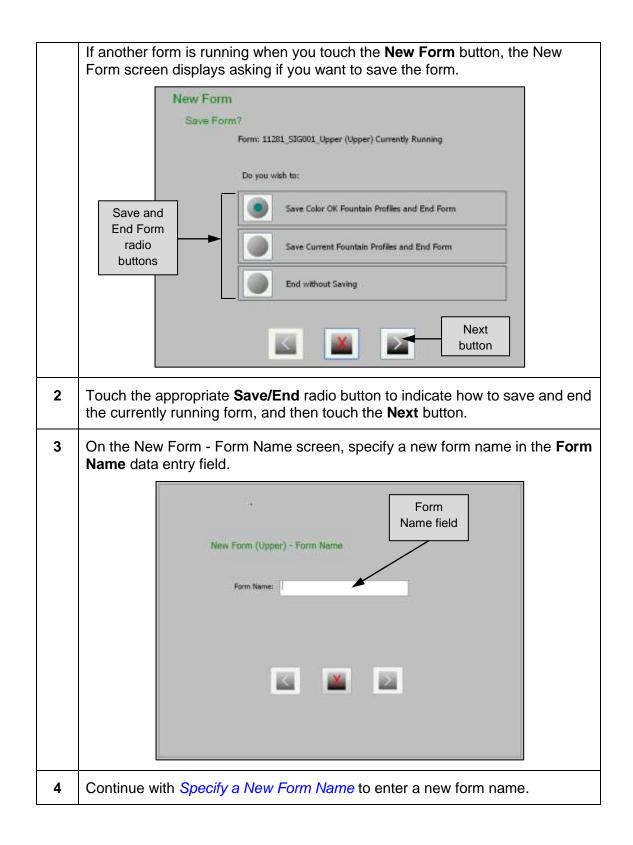
3.1 Set Up a New Form



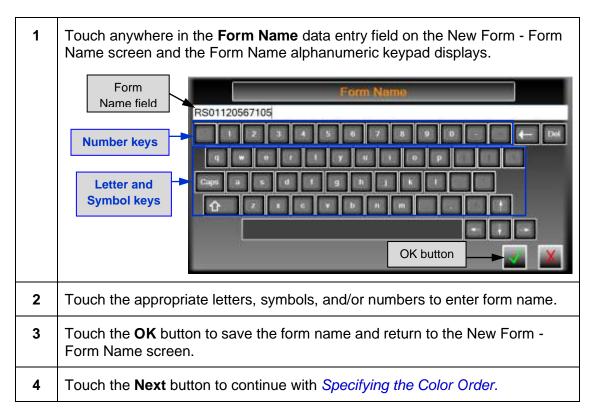
You set up a new form from the Status View.

3.1.1 Starting a Form





Specify a New Form Name



3.1.2 Specifying the Color Order

When setting up a form, you can choose the standard or custom color order. After touching **Next** on the New Form - Form Name screen, the Color Order dialog displays.

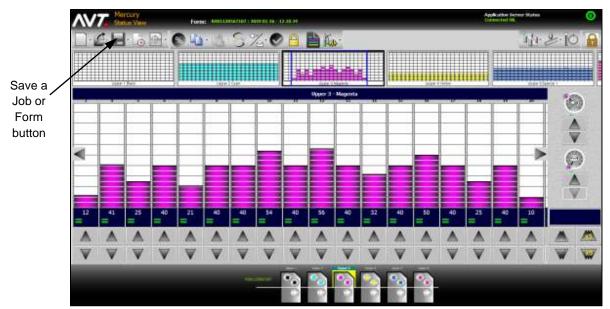


1	Touch the Next button to use the default Standard Color Order .
2	When the confirmation dialog displays, touch the OK button to save the form and return to the Status View.

See the *Mercury Advanced User's Manual* for information on creating and using custom colors, and also changing the current color order.

3.2 Save a Form

You save a form from the Status View.



Touch the Save a Job or Form button on the main toolbar.

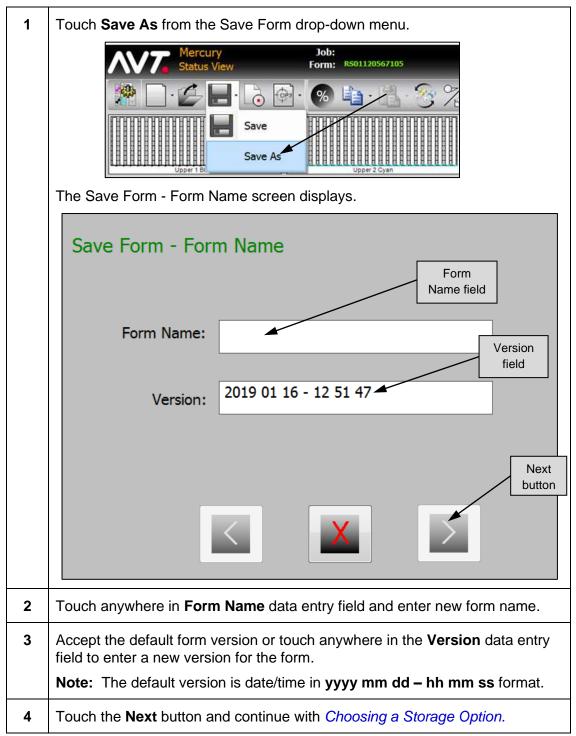
You can choose to save a form with the current form name or with a new form name.

- To save a form using the current form name, follow the steps in *Saving a Form* with *Current Form Name*.
- To save a form using a new form name, follow the steps in *Saving a Form with a New Form Name*.

3.2.1 Saving a Form with Current Form Name

1	Touch Save from the Save Form drop-down menu.
	Mercury Form: RS01120567107; 2019 01 16 - 12 10 34 Image: Solution of the status from the statu
	The Save Form - Form Name screen displays.
	Save Form - Form Name
	Form Name: RS01120567107 Version field
	Version: 2019 01 16 - 12 49 05
	Next button
2	Accept the default form version or touch anywhere in the Version data entry field to enter a new version for the form.
	Note: The default version is date/time in yyyy mm dd – hh mm ss format.
3	Touch the Next button and continue with <i>Choosing a Storage Option</i> .

3.2.2 Saving a Form with a New Form Name



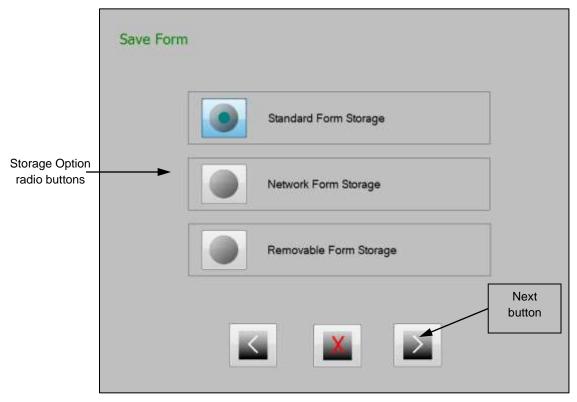
3.2.3 Saving a Form with Flip Form Option

You can use the **Save As Flip Form** option to create a mirror image of an existing form's profile.

1	Follow the steps for <i>Saving a Form with a New Form Name</i> for the one side of a printed image.
2	Follow the steps for <i>Recall a Form</i> to recall the first image.
	Save Form - Form Name Form Name: 100 Version: 2019 01 16 - 12 51 47
3	When the Save Form - Form Name screen displays, click on the Save as Flip Form button to save the profile stored in reverse.

3.2.4 Choosing a Storage Option

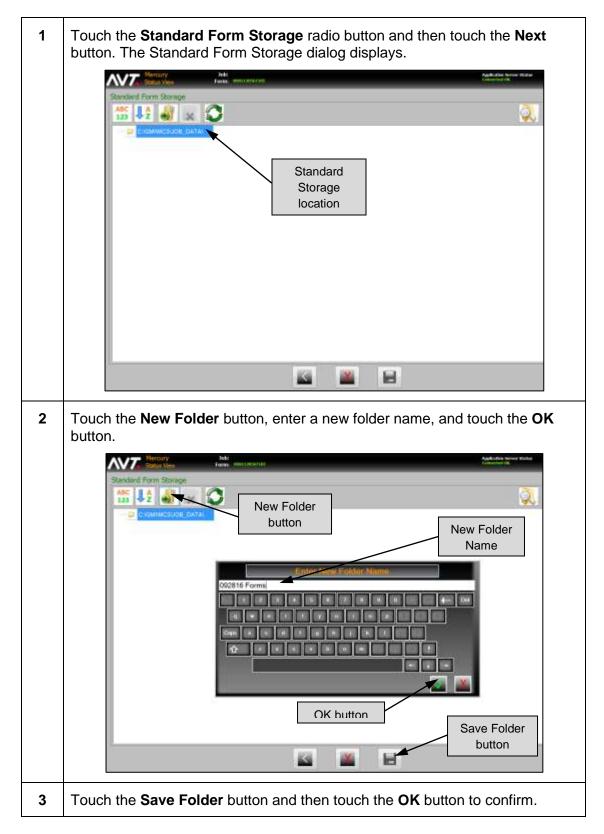
After touching **Next** on the Save Form - Form Name screen, the Save Form screen displays.



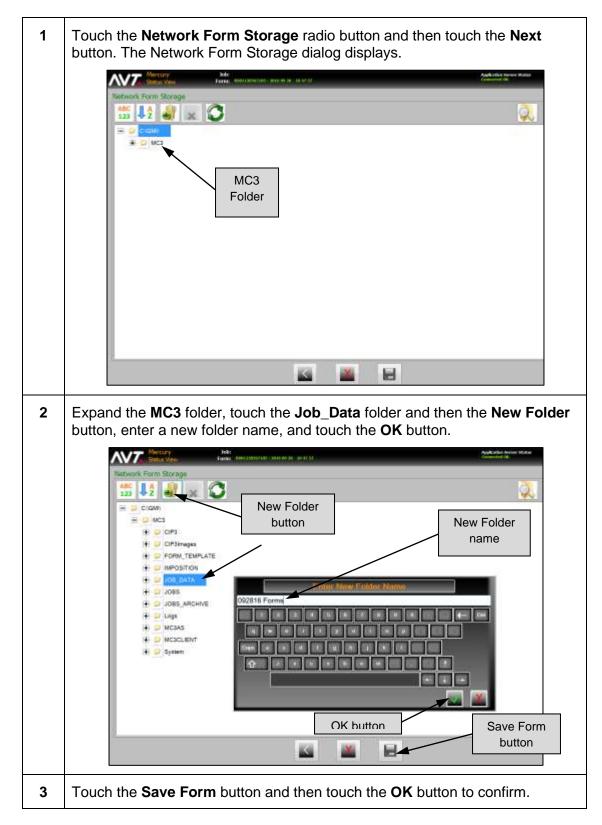
The following storage options are available.

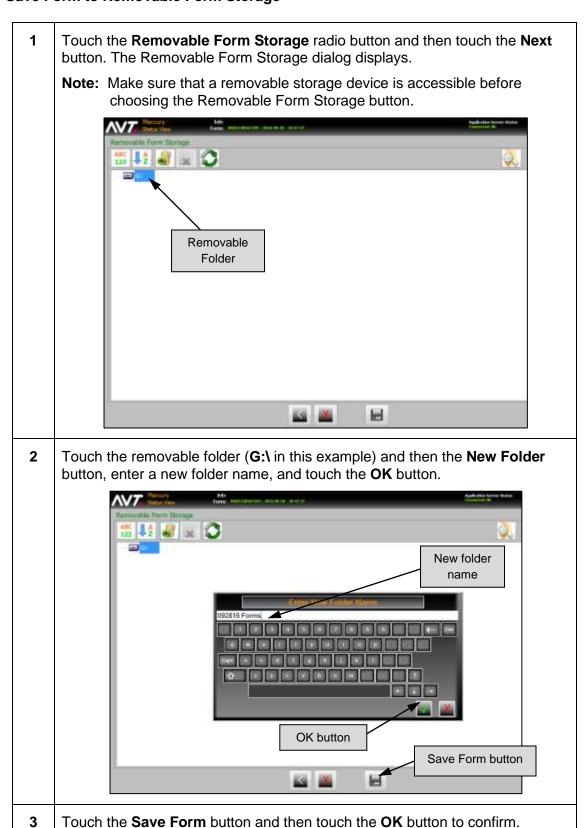
- **Standard Form Storage** (default) Saves form on the computer's hard disk. Follow the steps for *Save Form to Standard Form Storage*.
- Network Form Storage Saves form on the configured storage area on the network. Follow the steps for *Save Form to Network Form Storage*.
- **Removable Form Storage** Saves form on the thumb-drive or other removable media plugged into the computer. Follow the steps for *Save Form to Removable Form Storage*.

Save Form to Standard Form Storage



Save Form to Network Form Storage

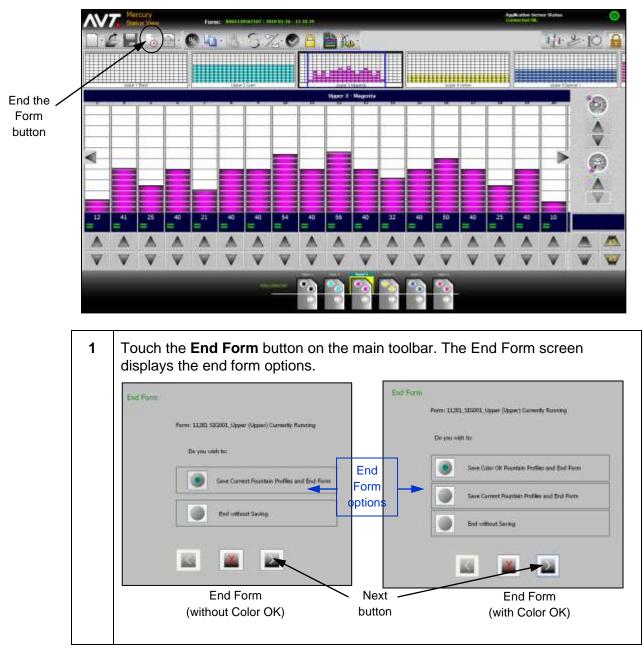




Save Form to Removable Form Storage

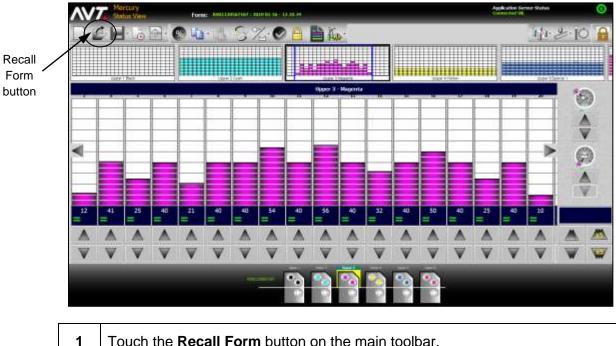
3.2.5 Ending a Form

You end a form from the Status View.



2	Touch the Save Color OK Fountain Profiles and End Form, Save Current Fountain Profiles and End Form, or End without Saving radio buttons and then touch the Next button.
	 If you choose Save Color OK Fountain Profiles and End Form or Save Current Fountain Profiles and End Form, continue with step 3.
	 If you choose End without Saving, touch the OK button.
	Note: If you have not touched the Color OK button, you will only see two options on the End Form screen.
3	If you haven't already saved the form, when the Save Form screen displays for you to save it, touch the OK button to confirm.

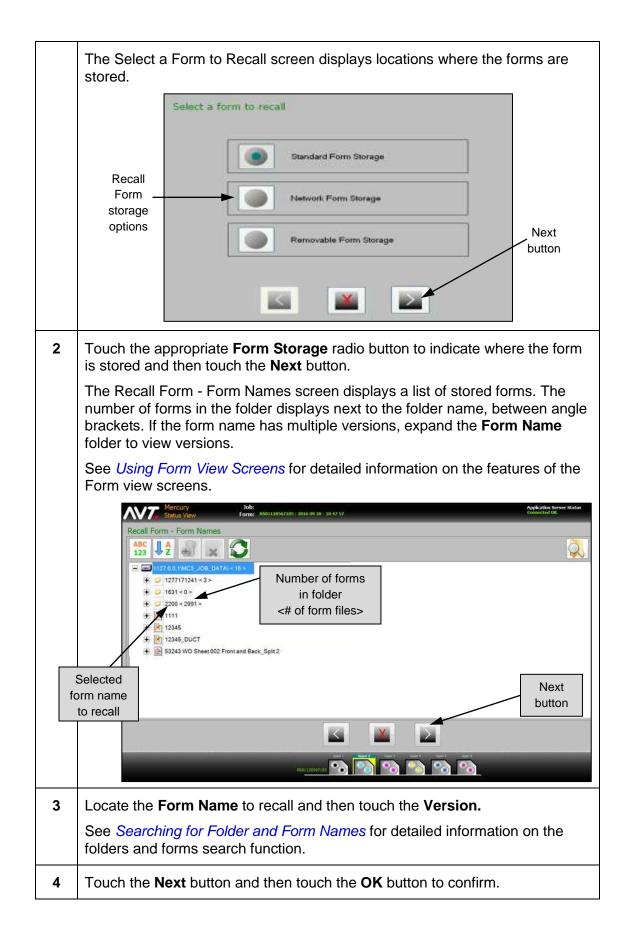
3.3 **Recall a Form**



You can recall a form from the Status View.

Touch the Recall Form button on the main toolbar.

If another form is running, the Recall Form screen displays asking if you want to save the form. After touching the appropriate Save/End radio button, continue touching the Next buttons to end and save the form.



3.3.1 Using Form View Screens

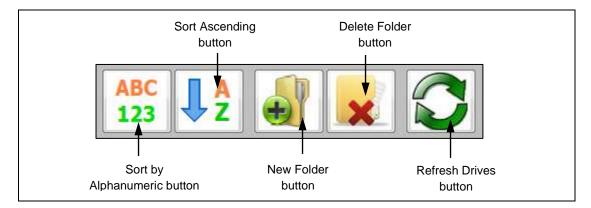
The Form view screens display folders and forms in a tree view format. These screens include a toolbar at the top that provides numerous functions including sorting, adding/deleting folders, refreshing the tree view, and searching by a filter string.



You can scroll the tree by dragging inside the window itself, rather than using a scroll bar. A vertical and/or horizontal scroll bar is presented during the dragging operation to allow for the size of the list being dragged.

See *Searching for Folder and Form Names* for detailed information on the search function.

Form View Toolbar



Sort by Filename/Time and Ascending/Descending Order

You can sort by filename or by time, and in ascending or descending order.

ABC 123	Click on the Sort by Alphanumeric button, which is a button that toggles between sorting by filename or by time.
	Click on the Sort Ascending button, which is a button that toggles between sorting in ascending or descending order.

Create and Delete Folders

Click on the New Folder button and the Enter New Folder Name keyboard displays for you to enter the folder name.
Click on the Delete Folder button to delete a selected folder.

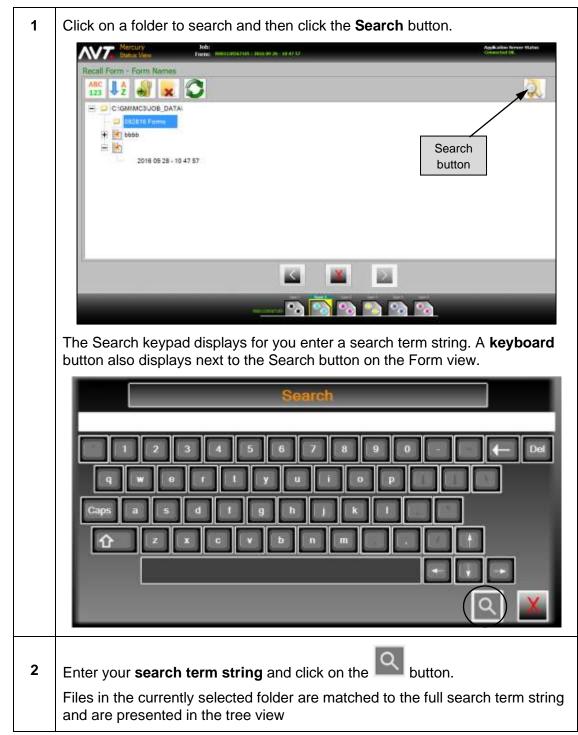
Refresh Tree View



Click on the **Refresh Drives** button to update the tree view. (This is used when removable drives are added or removed during this operation.)

3.3.2 Searching for Folder and Form Names

When there is a long list of folders and forms to choose from, you can use the search filtering feature to shorten the list.



Note: To modify or disable Search function, see Mercury Advanced User's Manual.

3.4 Set Up CIP3 Presets

You can use the optional CIP3 Presets feature to configure presetting for all of the inkers on the press. You set up CIP3 presets by selecting **New CIP3 Presets** from the **CIP3** drop-down on the Status View.

NVT Mercury Status View		Job: Form: Upper Form			Application Server Status Connected OK	Ø
	\$	04.35	%: 🗨 🤮 🎽 🚛	_	①冊 静步问	0 🔒
	0	New CIP3 Presets				
Upper t Bach	B	CIP3 Preview	Luzer 3 Mayora	<u> </u>		

Note: The example screen dialogs in the sections below are for a single web.

3.4.1 Overview of New CIP3 Presets Wizard

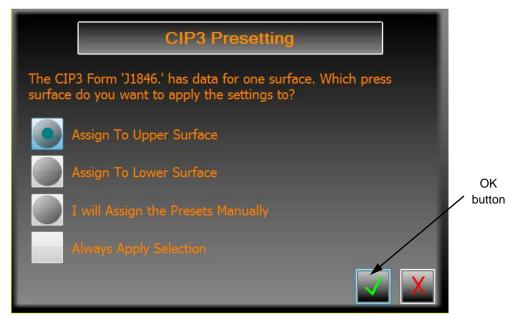
The CIP3 wizard guides you through the process of assigning and applying new CIP3 presets. When choosing **New CIP3 Presets**, the first page of the CIP3 Presetting wizard displays.



The **press area** allows you to assign preset data to an inker and view the image for the preset data assigned to the inker.

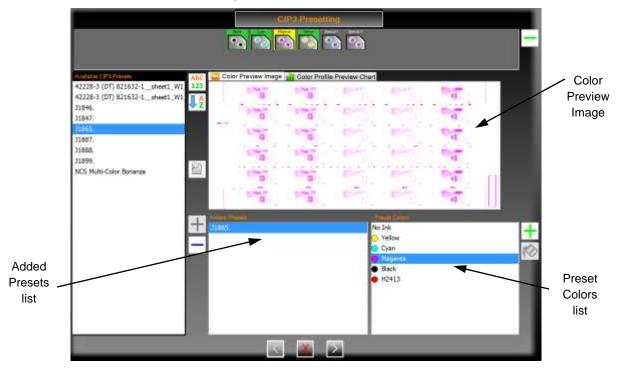
The **Available CIP3 Presets** list shows the preset data that can be selected to setup the CIP3 configuration. The Add button (blue + sign) becomes enabled when you click on a file in the Available CIP3 Presets list. Clicking on the **Add** button adds the file to the Added Presets list.

The next page of the CIP3 Presetting wizard displays after clicking the Add button, for you to choose the press surface for the preset settings.



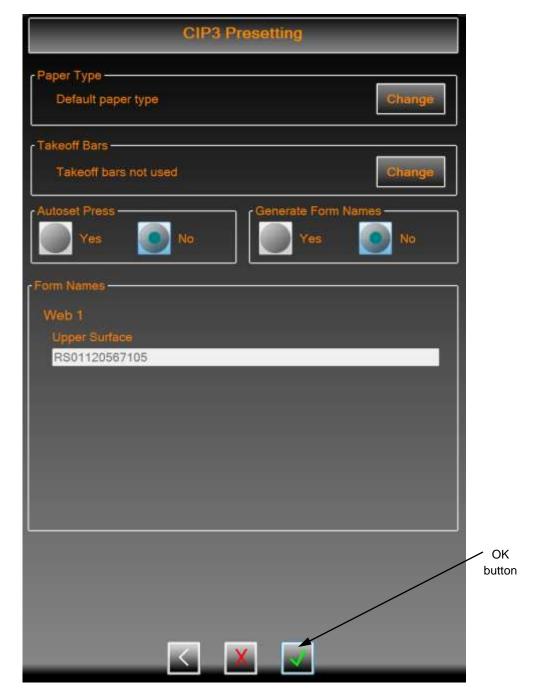


The next page of the CIP3 Presetting wizard displays after you click the OK button and shows the selected file added to the **Added Presets** list. It also shows the **Preset Colors list**, **Color Preview Image**, and **Color Profile Preview Chart** for the file.



Note: You can scroll all lists on the dialog by dragging inside the list, rather than clicking on a scroll bar.

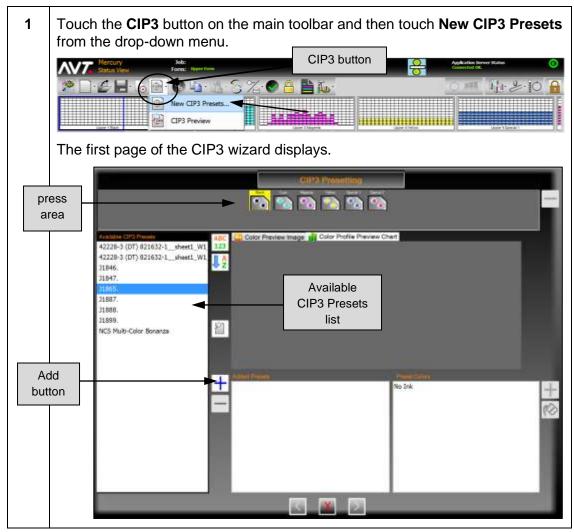
The final page of the CIP3 Presetting wizard displays after clicking the Next button, for you to make any needed changes and then to click OK to assign the selected preset values to the press.

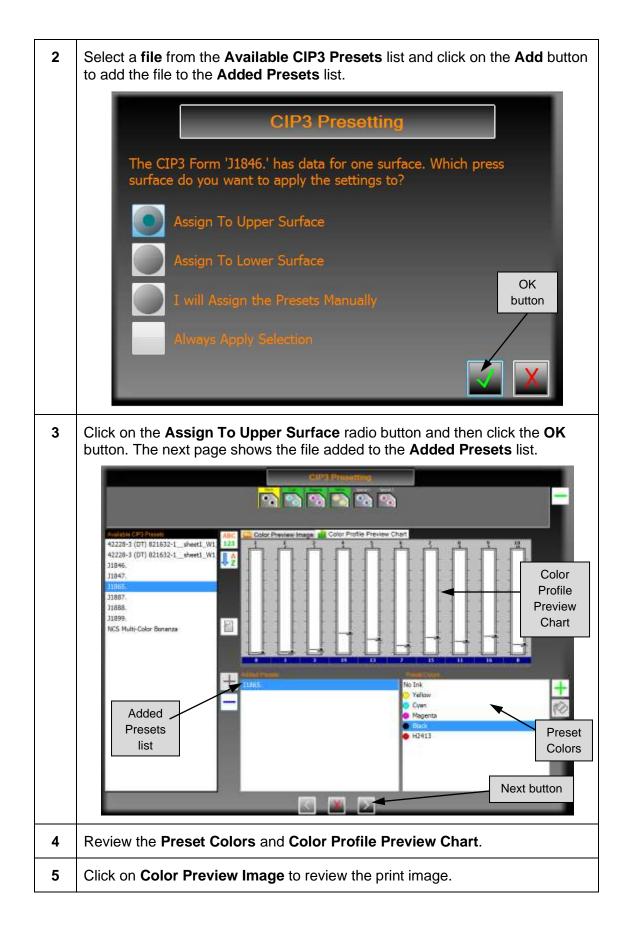


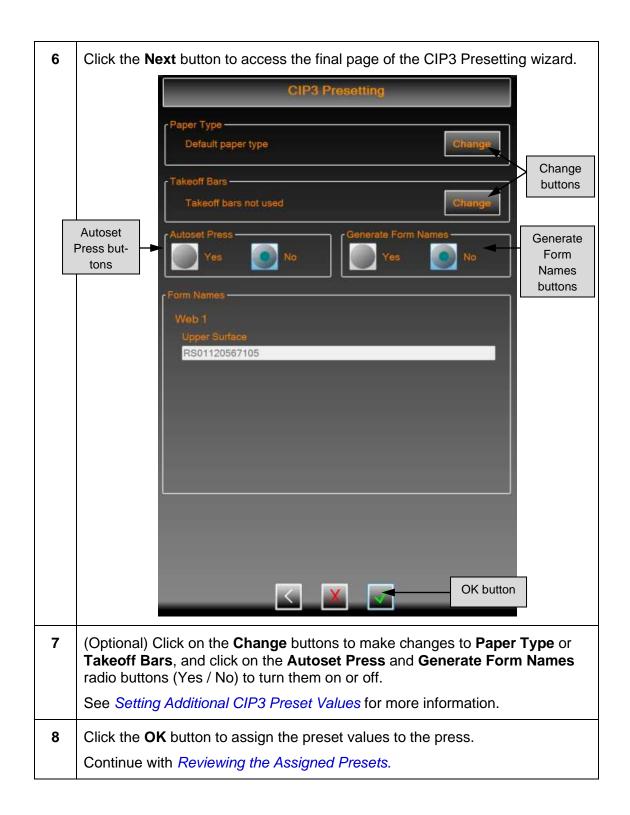
Important: When using the CIP3 Presets wizard, touch **Color OK** to save the best ink profiles of a form and adjust scan correction values for the selected paper type. See the *Mercury Advanced User's Manual* for more information.

See *Assigning & Applying the Presets* to use the CIP3 wizard to assign and apply preset values for the inkers on your press.

3.4.2 Assigning & Applying the Presets







3.4.3 Reviewing the Assigned Presets

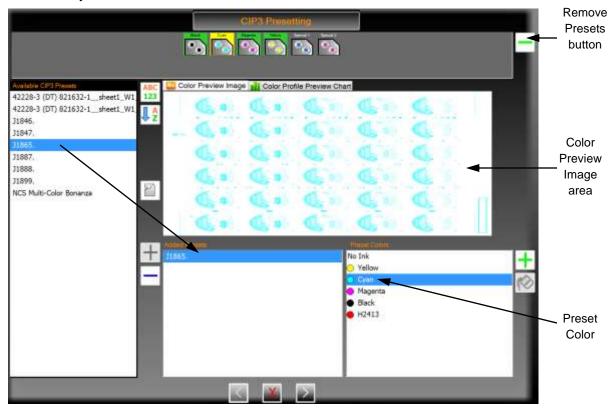
After assigning the selected preset values to the upper surface, the CIP3 Presetting dialog displays as follows.



- At the top, **inkers outlined in green** have had preset data applied either by the wizard or by the user.
- When a file is selected in the Added Presets list, **Preset Colors** is filled with all the colors in the Preset Data File. If the file contains data for both surfaces, the data is grouped by surface (Upper or Lower).
- Selecting an ink causes the **Assign Color** button (green plus) to become enabled. Clicking this places the wizard page in assign color mode. If the next control clicked on is an **inker in the press display area**, the color and file preset data will be assigned to that inker. If any other list is clicked on, including the Preset Color list, the assign color mode will be cancelled.
- Clicking on an inker while in assign color mode will cause the color and preset data to be assigned to that inker. If another inker exists on the same surface with the color being assigned, first the color and any existing preset data is swapped between the two inkers.

Example – CIP3 Preset Selecting Inker in Color Mode

If you were to try to assign cyan to the inker containing black, the data would be swapped between black and cyan and then the new data would be assigned to the inker. Doing this to the dialog above would display the dialog with the selected inker outlined in yellow.



An inker can be selected when it has preset data assigned. When selected:

- The previously set **Added Presets** list selection changes to the file from which the preset data came.
- The Preset Color assigned to the inker is selected
- The preset image, if available, is displayed in the Color Preview Image area.
- The **Remove Presets** button (green minus, at the top) can be used to clear any preset assignments to an inker.

Example – CIP3 Preset Assigning No Ink in Preset Colors

A "no ink" value can be assigned to an inker by selecting the **No Ink** value in the Preset Colors, clicking the **Assign Color** button, and then clicking on the **inker** to clear the color. If any preset data has been assigned, it will be cleared as well.

The following dialog shows the results when using assigning No Ink to the inker outlined in yellow.



The remaining buttons allow for manipulation of the Available CIP3 Presets list.

Buttons on the CIP3 Presetting Dialog

Following are some buttons you can use on the CIP3 Presetting dialog.

Presets Assigned	 Inkers outlined in green show they have had preset data applied, either by the wizard or user. Inker outlined in yellow has been selected.
Remove Preset File	Removes the preset file from the Added Presets list and removes any assignments associated with this file.
Assign Color	Places wizard page in "assign color" mode.
Remove Presets	Clears any preset assignments to an inker (at top, right).
Sort by ABC 123 / Sort by Time	Toggles list to sort by alphanumeric or sort by time.
Sort	Toggles to sort list in ascending or descending order.
Filter	Allows user to type in a string to search on.
Keyboard	Displays to allow filtering. Keyboard displays to enter a search string.
Modify Color	Allows user to edit a color. Brings up color modification dialog.
	Remove Preset File Assign Color Remove Presets Sort by ABC 123 / Sort by Time Sort Filter Keyboard Keyboard

Filter Presets List

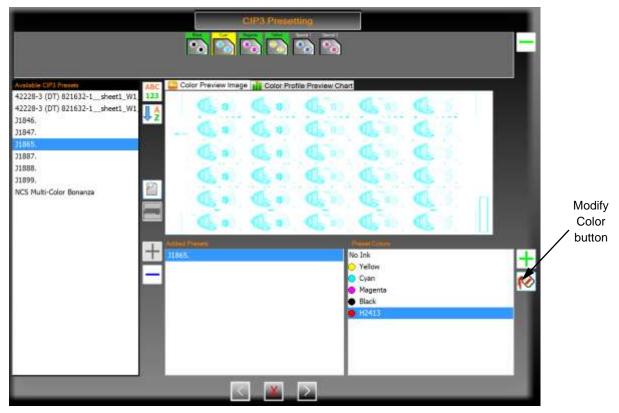
Pressing the **Filter** button causes a keyboard button and keyboard to display for you to enter a search string.



- When the **keyboard button** is visible, filtering is enabled.
- Typing a **search string** into the keyboard, filters the Available CIP3 Presets list to show all files that contain the search string. The search is case sensitive.
- You can close the keyboard at any time.
- Filtering is enabled until you touch the Filter button again; when this occurs, the list goes back to the original contents.

Modify Color in Preset File

When a color in a preset file is added that is not part of the ink library, it is assigned a default display color. You can use Modify Color to edit the color.



Pressing the **Modify Color** button brings up the **Select Color** dialog where you can change the display color to a more meaningful value.

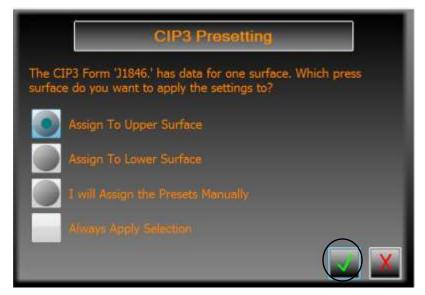


3.4.4 Matching Preset Data to Inkers

The preset data gets matched to inkers depending on the file selected and is added to the Added Preset list. The following table lists the match options.

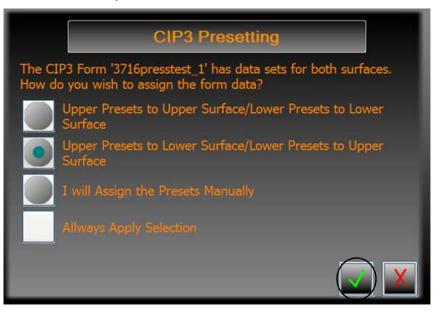
Press Type	Single-Sided CIP3 Data	Two-Sided CIP3 Data
Single Web	Choose the press side to match	Upper to Upper, Lower to Lower
Unitized Press w/o Turnbar	Match data to inkers	Choose the preset side to match
Unitized Press with Turnbar	Choose the press side to match	Upper to Upper, Lower to Lower

The following dialog displays when the press type is a single web and you choose a file with data for a single surface.



Assign to Upper Surface	Causes the CIP3 wizard to assign preset data from this file to any inkers on the upper surface, that have not been previously assigned preset data during this run of the wizard.
Assign to Lower Surface	Causes the CIP3 wizard to assign preset data from this file to any inkers on the lower surface, that have not been previously assigned preset data during this run of the wizard.
I will Assign the Presets Manually	Causes the CIP wizard to not do any assignments itself, allowing the user to assign values.
Always Apply Selection	Uses the value chosen by the user in all subsequent preset assignments.

The following dialog displays when the press type is a single web with two sides and the file contains two sets of preset data.



Upper Presets to Upper Surface / Lower Presets to Lower Surface	 Causes the CIP3 wizard to assign: Upper preset data from this file to any inkers on the upper surface Lower preset data from this file to any inkers on the lower surface 	
Upper Presets to Lower Surface / Lower Presets to Upper Surface	 Causes the CIP3 wizard to assign: Upper preset data from this file to any inkers on the lower surface Lower preset data from this file to any inkers on the upper surface 	
I will Assign the Presets Manually	Causes the CIP wizard to not do any assignments itself, allowing the user to assign values.	
Always Apply Selection	Uses the value chosen by the user in all subsequent preset assignments.	

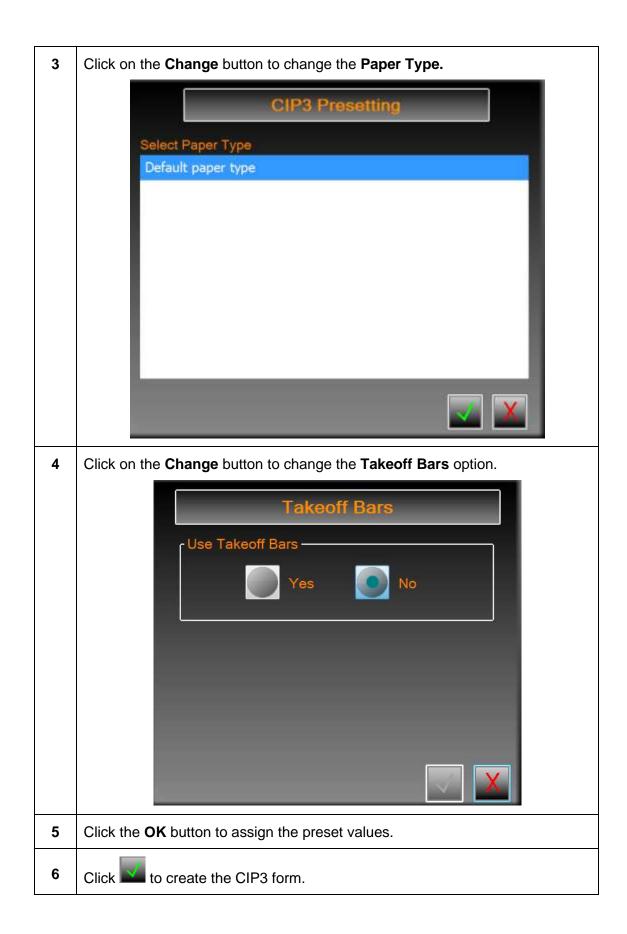
After making a selection on how to assign presets, click the **OK** button to assign the values. These values can be reconfigured or reset on the Runtime Options dialog.

See the *Mercury Advanced User's Manual* for more detailed information on configuring the CIP3 Presetting options.

3.4.5 Setting Additional CIP3 Preset Values

Once the final CIP3 data has been assigned, touching the **Next** button brings up the final wizard page.

	CIP3 Presettin	19	
	Paper Type Default paper type	Change	
	Takeoff Bars Takeoff bars not used	Change	
	Autoset Press	ate Form Names	
	Form Names Web 1 Upper Surface RS01120567105		
1	Click on the Yes radio button to select A will be changed to the preset values. All i assigned will have their keys set to zero.		
2	Click on the Yes radio button to Generate CIP3 Preset allows a new form to be created		



Making Ink Fountain Adjustments 4

This section describes how to use the Mercury system to make ink fountain adjustments.

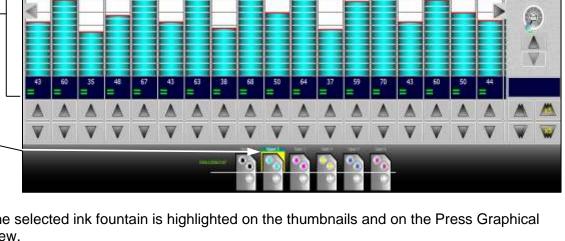
Adjust Ink Zone Settings 4.1

On the Mercury Status View, the ink fountains display as thumbnails under the main toolbar and in the Press Graphical View at the bottom of the view.

Selected ink fountain on thumbnails 2 Selected fountain ink zones Selected ink fountain on Press⁻ Graphical View

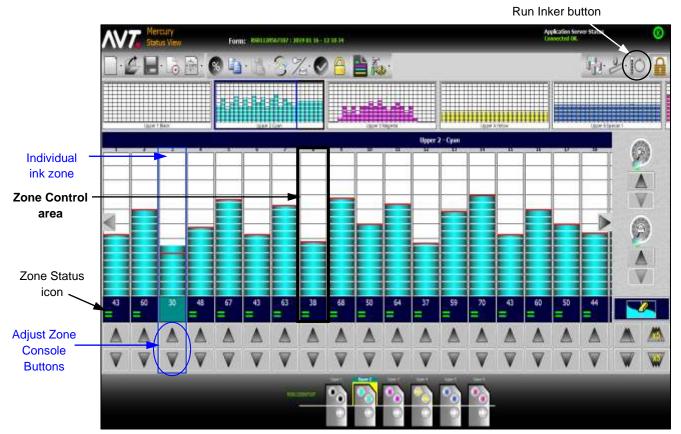
To select an ink fountain, touch it on the thumbnails or on the Press Graphical View.

The selected ink fountain is highlighted on the thumbnails and on the Press Graphical View.

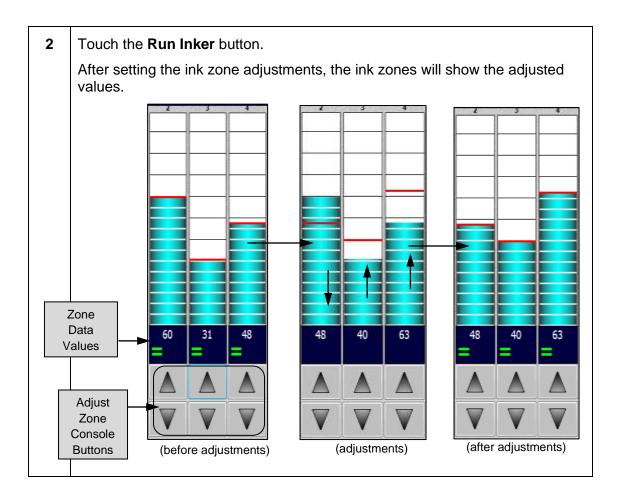


4.1.1 Adjusting One Ink Zone

On the Mercury Status View, you can adjust individual ink zone settings using the Adjust Zone console buttons.



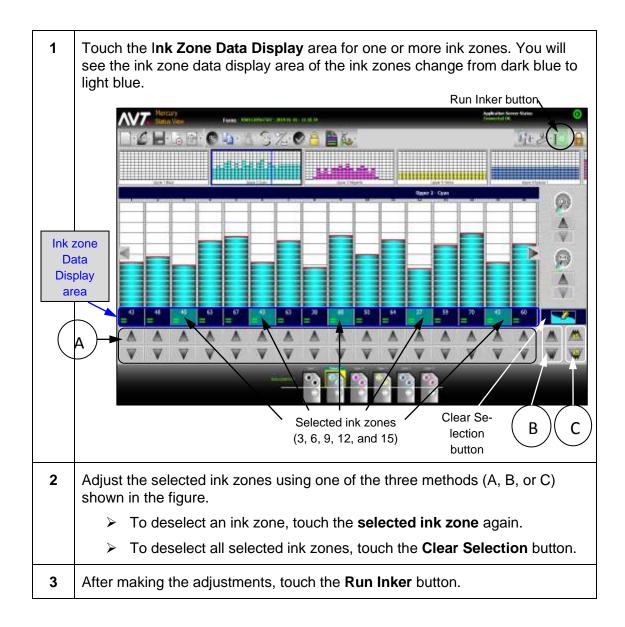
Touch the Adjust Zone console button.
 The two-digit zone data value changes as you make the adjustments.
 The Zone Status icon goes away after a change is made, indicating a change is pending. When the ink zone is in position, the zone status icon shows an equal sign (=).
 Note: If the "tap to adjust zone console values" feature is enabled, you can tap in a Zone Control area to adjust the zone position. The position or value of the zone slider should rise or fall accordingly. See the *Mercury Advanced User's Manual* for more detailed information.



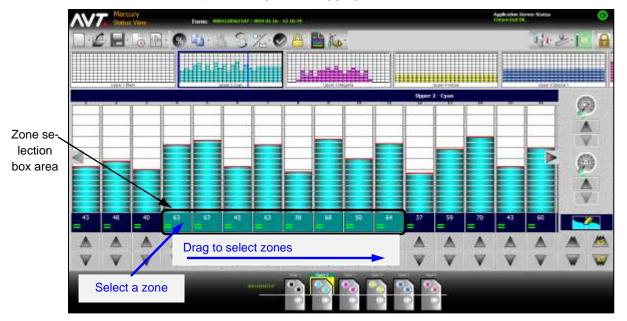
4.1.2 Adjusting Selected Ink Zones

On the Mercury Status View, you can select one or more ink zones and then use several methods to adjust the ink zone settings.

Method	Description
A	Adjust one or more selected ink zones using the Adjust Zone console buttons.
В	Adjust selected ink zones or all ink zones using the Adjust All Zone console buttons.
С	Adjust selected ink zones or all ink zones using the Adjust All Zone X5 console buttons.



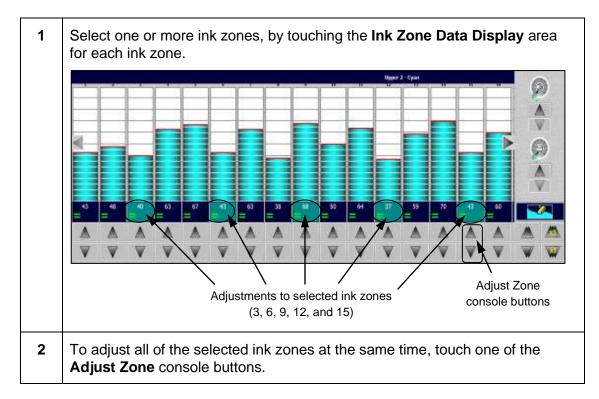
Drag and Select Multiple Ink Zones

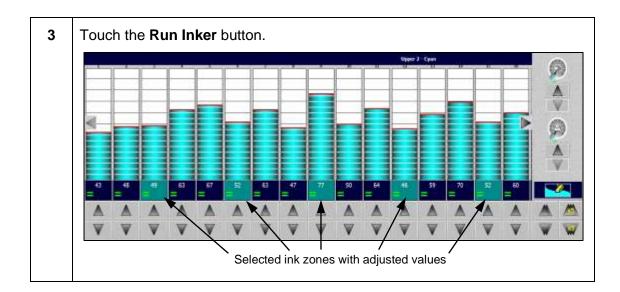


Select multiple zones by selecting and dragging on the zone selection box area.

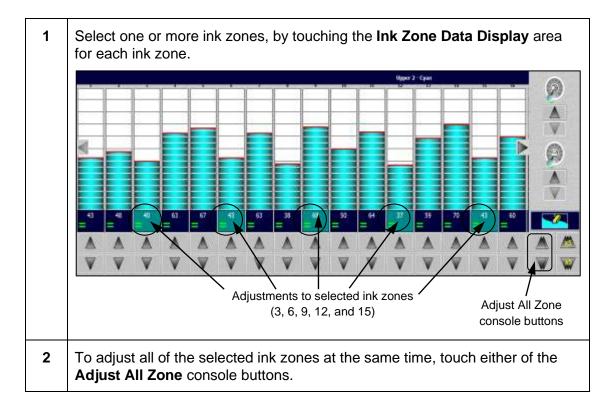
You can select multiple zones by moving horizontally, left-to-right or right-to-left.

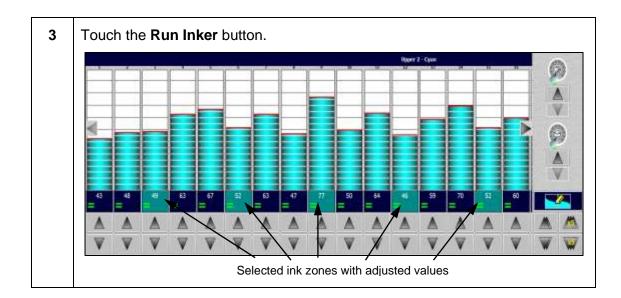
Adjust Selected Ink Zones Using Adjust Zone Console Buttons



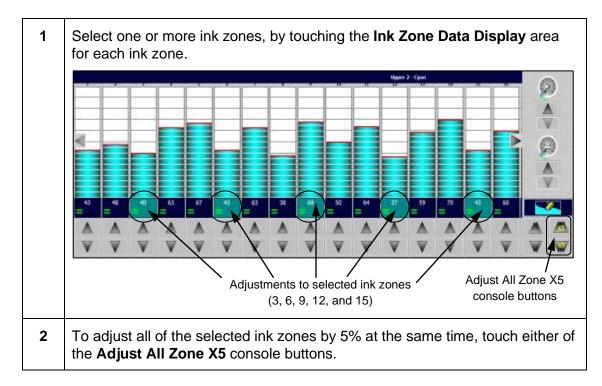


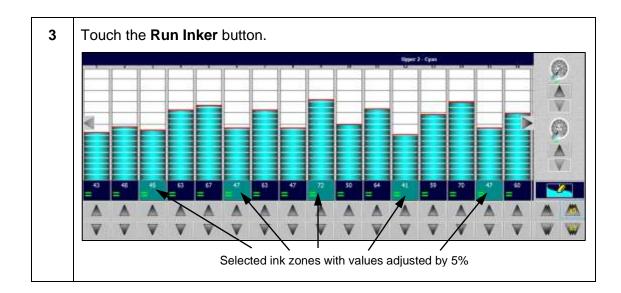
Adjust Selected Ink Zones Using Adjust All Zone Console Buttons





Adjust Selected Ink Zones Using Adjust All Zone X5 Console Buttons





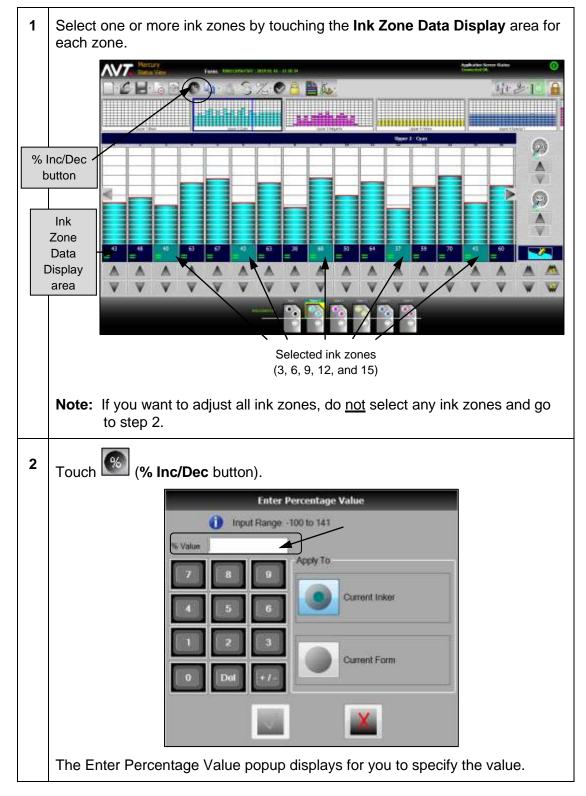
4.1.3 Adjusting All Zones

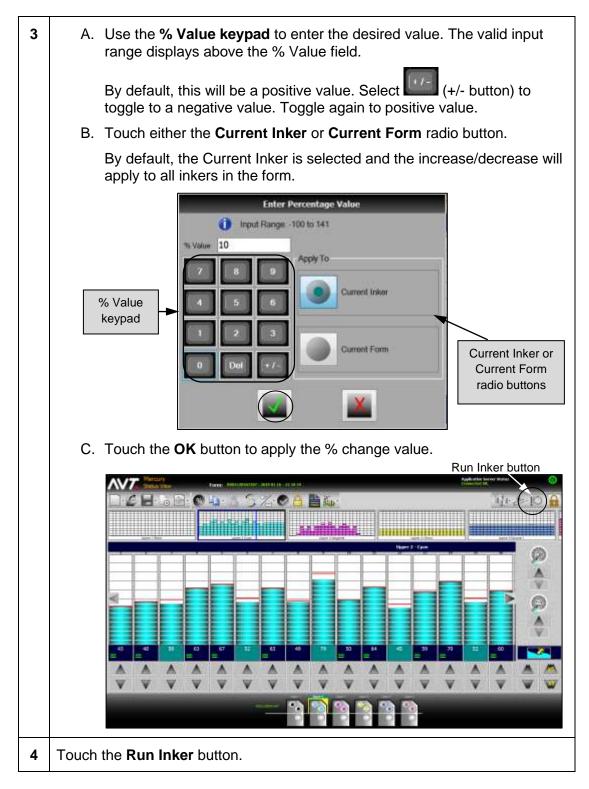
1	Touch either of the Adjust All Zone or Adjust All Zone 5% console buttons to adjust all of the ink zones on the Status View at the same time.
2	Touch the Run Inker button.

Note: If no ink zones are selected, the Adjust All Zone or Adjust All Zone 5% console buttons will adjust all ink zones. If one or more ink zones are selected, the ink zone data display area changes from dark blue to light blue and the Adjust All Zone or Adjust All Zone 5% console buttons will be applied to the selected ink zones only.

4.1.4 Adjusting Ink Zone Settings Using % Inc/Dec

On the % Inc/Dec View, you can use a % change value (percentage of inclination or declination value) to adjust one or more selected ink zones or all ink zones.





Note: If no ink zones were selected on the Status View, the % Inc/Dec change value is applied to all ink zones. If one or more ink zones were selected, the ink zone data display area changes from dark blue to light blue and the % Inc/Dec change value will be applied to the selected ink zones only.

4.1.5 Adjusting Ink Zones Using Blade Smoothing

You can use blade smoothing to cause the zone positions of adjacent zones to correctly echo the physical changes seen in the fountain keys segments.

Fountain blades in AVT designed fountains do not have key segments which are totally isolated. Depending on the blade type used in your press, the effect of moving a single key will distribute more or less ink to adjacent key segments.

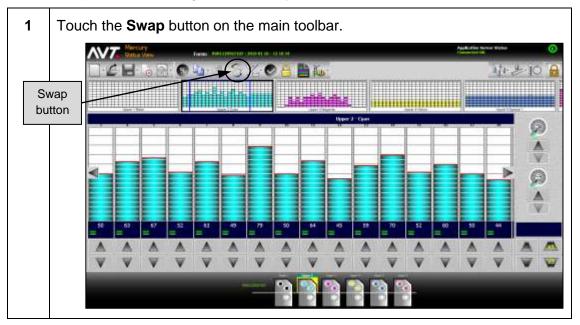
The blade smoothing tolerance options you can set are:

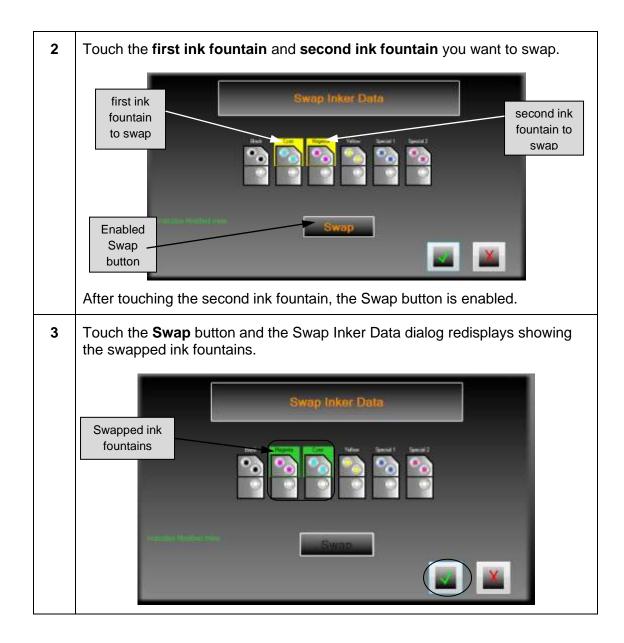
- 30% Only 30% allowed between adjacent keys
- 50% Only 50% allowed between adjacent keys
- 70% Only 70% allowed between adjacent keys
- Disable Smoothing

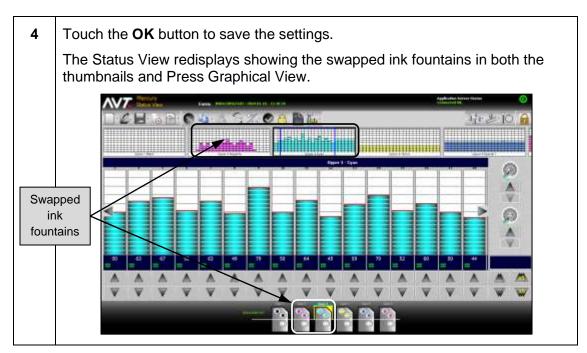
Note: Using blade smoothing is optional. See the *Mercury Advanced User's Manual* for more detailed information.

4.2 Swap Ink Zone Settings

You can swap ink zone settings between any two ink fountains.







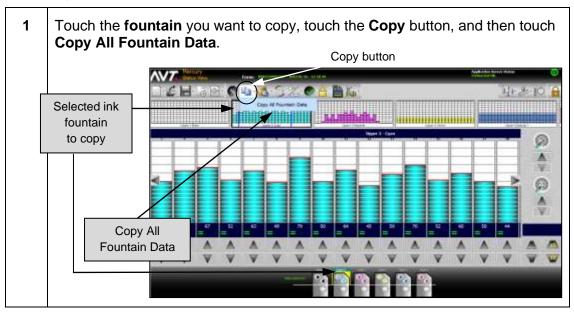
Note: Only zone and color data will be swapped. No on-press data can be swapped.

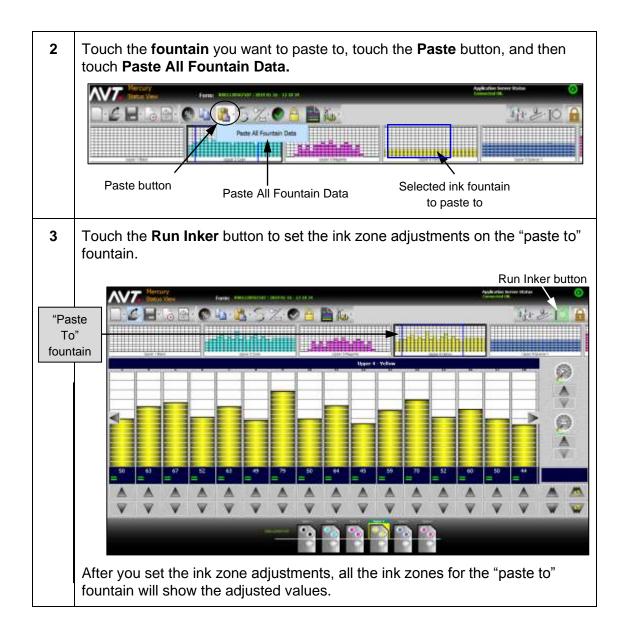
4.3 Copy Ink Zones

You can copy ink zones and use the Block Copy/Paste function to:

- copy all ink zones from one ink fountain to another ink fountain
- block copy selected ink zones
- block paste selected ink zones to other groups of ink zones within the same ink fountain or in other ink fountains

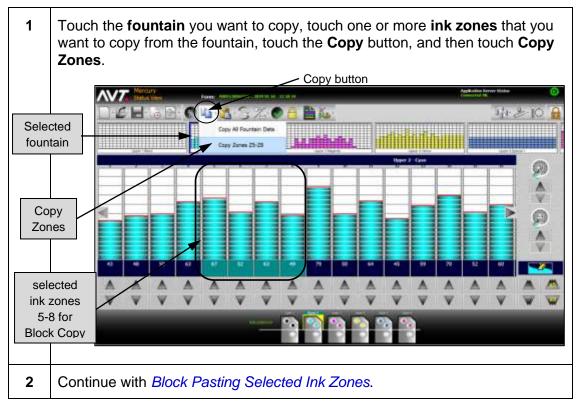
4.3.1 Copying All Ink Zones from One Ink Fountain to Another





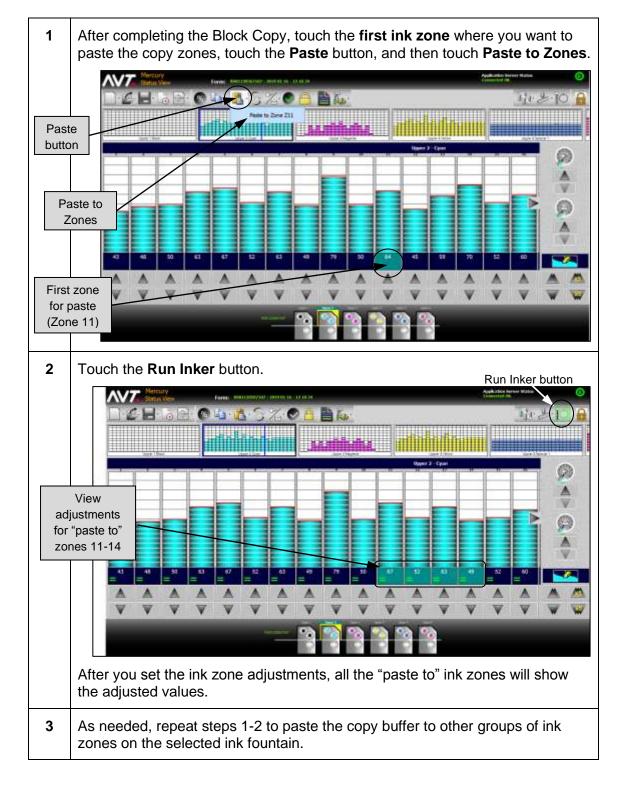
4.3.2 Block Copying Selected Ink Zones

You can copy a block of selected ink zones from groups of ink zones within an ink fountain.



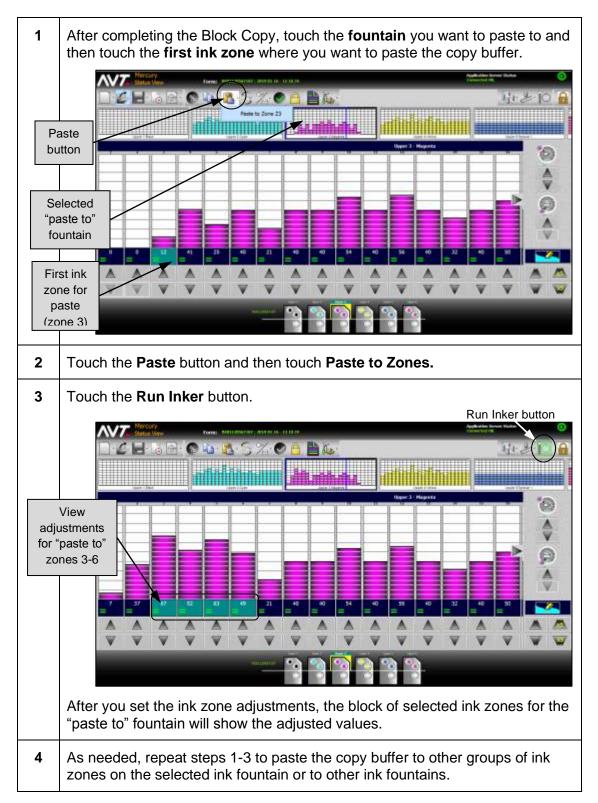
4.3.3 Block Pasting Selected Ink Zones

You can paste a block of selected ink zones to other groups of ink zones within the same ink fountain or to other groups of ink zones in other ink fountains.



Paste to Other Ink Zones in Same Ink Fountain

Paste to Other Ink Zones in Other Ink Fountains



4.4 Adjust Ink Sweeps and Waters

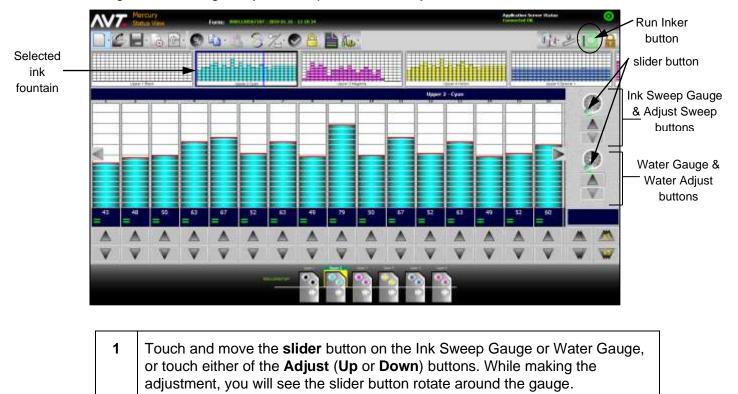
You can adjust the ink sweeps and waters for a selected ink fountain. You can also adjust one sweep, multiple sweeps, or all sweeps using Sweep All and one water, multiple waters, or all waters using Water All.

Notes:

- The Ink Sweep and Water Sweep gauges and buttons, and the Sweep All / Water All toolbar buttons are only enabled if your system configuration indicates they are enabled. Disabled gauges and buttons are grayed-out.
- If the "tap to adjust zone console values" feature is enabled, you can tap on a sweep or water control to adjust the zone position. See the *Mercury Advanced User's Manual* for more detailed information.
- If your system was configured for sweep and water ramping, see the *Mercury Advanced User's Manual* for information on using this optional feature.

4.4.1 Adjusting Inks or Waters for a Selected Fountain

You can adjust the inks and waters for a selected ink fountain using the Ink Sweep Gauge, Water Gauge, Adjust Sweep buttons, or Adjust Water buttons.



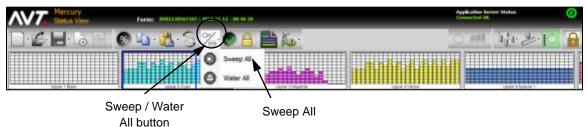
2

Touch the Run Inker button.

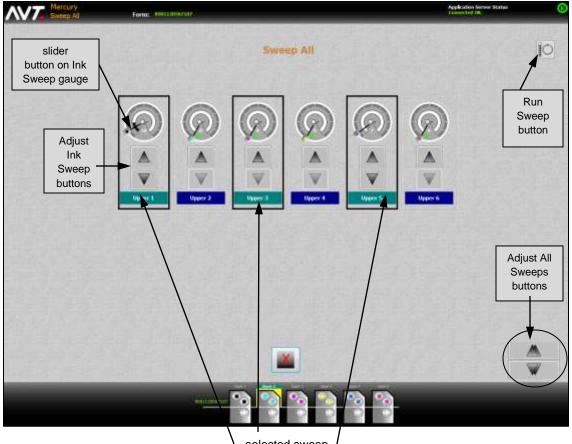
4.4.2 Adjusting One or More Ink Sweeps Using Sweep All

On the Sweep All screen, you can adjust one or more ink sweeps or all ink sweeps.

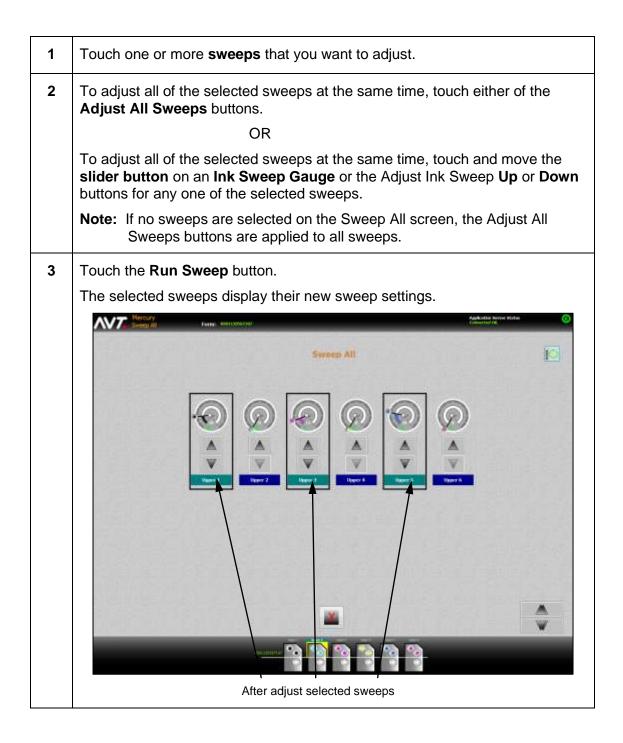
To access the Sweep All screen, touch the **Sweep / Water All** button and then touch **Sweep All**.



The Sweep All screen displays all the sweeps with an Ink Sweep Gauge, Adjust Ink Sweep buttons, and an ink fountain label.



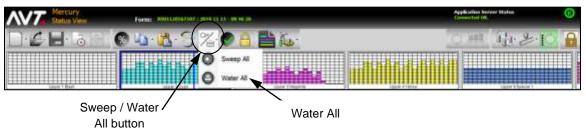
selected sweep *I*(Upper 1, Upper 3, and Upper 5)



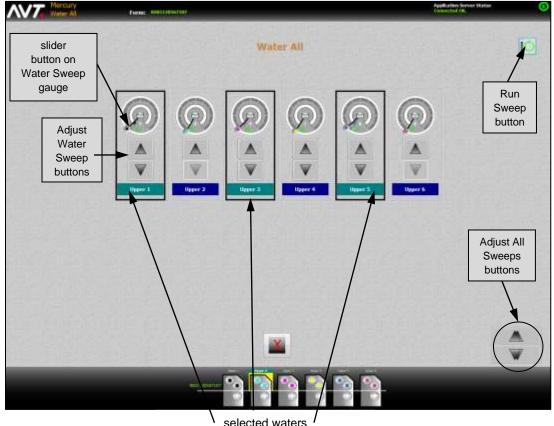
4.4.3 Adjusting One or More Water Waters Using Water All

On the Water All screen, you can adjust one or more waters or all waters.

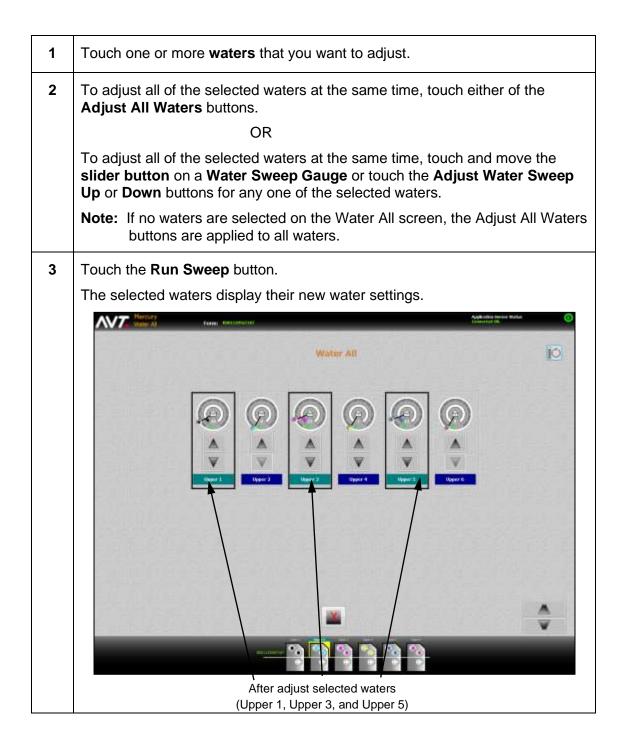
To access the Water All screen, touch the **Sweep / Water All** button and then touch **Water All**.



The Water All screen displays all of the water sweeps with a Water Sweep Gauge, Adjust Water Sweep buttons, and an ink fountain label.



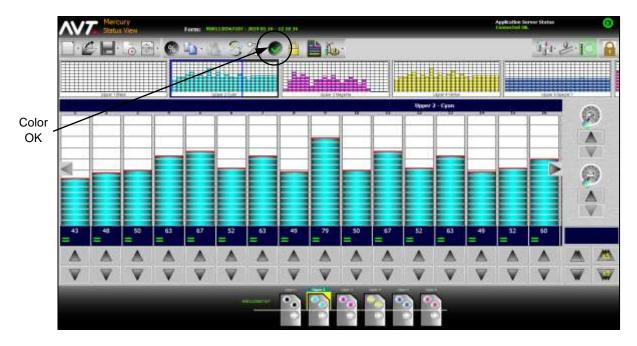
V selected waters / (Upper 1, Upper 3, and Upper 5)



4.5 Save Current Ink Profiles with Color OK

After specifying the ink profile for the currently loaded form, you can save the ink profile using the Color OK feature.

Important: When using the CIP3 Presets wizard, touch Color OK to save the best ink profiles of a form and adjust the scan correction values for the selected paper type. See the *Mercury Advanced User's Manual* for more detailed information.



Touch the Color OK button on the main toolbar.

The Color OK message screen displays briefly, indicating the Color OK profiles are stored for the specified form name.



4.6 Send Ink Zone Settings to the Press

You can send ink zone settings to the press using Run Inker and Set Press buttons.

When first using the Mercury system, look at the ink fountain to relate the ink zone settings to the amount of ink on the fountain roller.

Hint: For quicker response and to avoid overcorrecting, start with too little ink rather than too much ink.

4.6.1 Using Run Inker

Touch the **Run Inker** button to set the ink zone adjustments for one or more selected ink fountains.



The Run Inker button light turns on and you will see the ink zone data display and ink zones update.



The Run Inker button is a toggle. When its light is on, you may continue to make changes to the ink zones and they go directly to the press. Touch the **Run Inker** button again to turn it off.

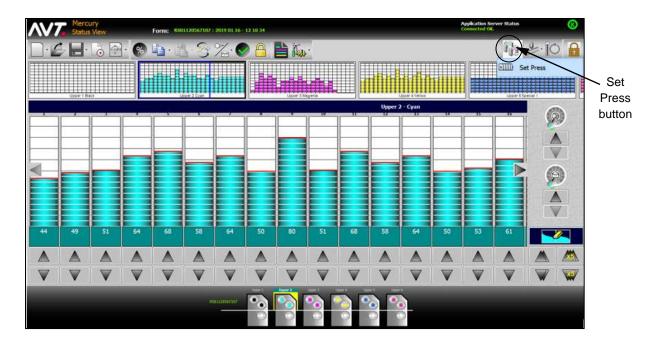
Note: When you choose to perform certain operations in Mercury while the Run Inker button is on, the system will automatically turn the Run Inker button off.

4.6.2 Using Set Press

Use Set Press to set all ink fountains on the press. The ink zone settings from the Mercury Status View are sent to all ink fountains on the press.

Note: If you are running a two-sided web press or a single-sided web press with turnbar, you will be given the option to set the press for the current form only or for both forms.

Touch the **Set Press** button and then touch the **Set Press** option from the drop-down menu.



For the currently selected ink fountain, you will see the ink zone data display values and ink zones updated. You will also see all other ink fountains update in the ink fountain thumbnails.



Note: When running a two-sided web press or a single-sided web press with turnbar, the press can be set for both forms or for the current form only.

4.7 Use Zone Locks

After adjusting ink zone values, you can lock the values using the Zone Lock button. You can lock and unlock all ink zones and selected ink zones for an ink fountain.

Pressing the Zone Lock button without zones selected will invert the zone lock status on each of the fountain zones.

Note: Locked zones will not change the zone values.

The **Zone Lock** button is on the main toolbar, to the right of the Color OK button. Lock icons will display in the **Ink Zone Data Display** area on the Status View.



4.7.1 Reviewing Zone Lock Status

The **zone lock status icons** display next to the status icons for the zones.

- The Zone Lock button on the main toolbar is always enabled.
- When you click on the Zone Lock button from the toolbar, all zones from the selected inker will be locked. If the zones are already locked, they will be unlocked.
- If you select both locked zones and unlocked zones, and then click on the Zone Lock button, the selected zones lock status will be reversed.
- Zone lock status should be synchronized on all the clients. When a zone is locked or unlocked, the status is updated on all of the clients.
- When a new form is created, all the zones are unlocked. When a form is ended, zone lock status for all zones is set to unlocked.

4.7.2 Locking and Unlocking Ink Zones

No Zones Selected

The Status View below shows the unlocked zones with no zones selected.



(Unlocked zones)

Clicking the **Zone Lock** button with no zones selected reverses the zone lock status.



(Locked zones)

Zones Selected

The Status View below shows the unlocked zones for selected zones.



(Unlocked zones)

Clicking the **Zone Lock** button reverses the zone lock status for the selected zones.



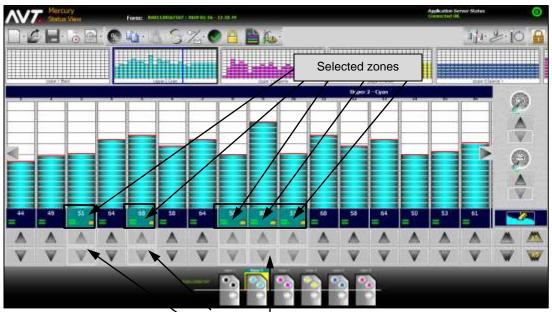
(Locked zones)

4.7.3 Using Adjust Ink Console Buttons with Zone Locks

When all zones are locked, the **Adjust Zone Console** buttons for all the zones and **Adjust All Zone Console** buttons will be disabled.



If you select some zones and click on the Zone Lock button, the **Adjust Zone Console** buttons of the selected zones will be disabled.



Adjust Zone Console buttons

If at least one zone is unlocked, the **Adjust Zone Console** button for that zone and the **Adjust All Zone Console** buttons will be enabled. The Adjust Zone Console buttons for all other zones will be disabled.



Adjust Zone Console / Adjust All Zone Console buttons

4.7.4 Making Ink Zone Adjustments with Zone Locks

% Inc / Dec	When a user increments values using % Inc/Dec, the changes only apply to the unlocked zones. Locked zones are not affected.	
Copy / Paste	When a user changes the zone values using Copy/Paste, the changes only apply to the unlocked zones.	
Swap	When two inkers are swapped, the values, ink types, and zone lock status are swapped between the two inkers.	

4.8 View Status of All Inkers from Summary View

The Summary View allows you to view the current status of all inkers.

- Displays inkers in a row per form.
- Each inker displays the zone profiles similar to how they are shown in the thumbnail view. These displays get updated whenever there is as change in the inker profiles.
- Each inker panel includes a column of icons to represent the state of the inker. Inker state includes current sweep value, water value, and inker error status.
- View is draggable in both directions (horizontal and vertical).
- A sidebar panel allows zoom in and zoom out (zoom range is 50-500%).
- **Note:** If CLC is enabled, the Summary View supports "key positions" display mode and "target/scan density" mode.

4.8.1 Invoking Summary View

On the Mercury Status View, touch the Summary View button.



The Summary View displays with the status of all the inkers.



Note: The Summary View button is a toggle button, so touching it again takes you back to the Status View.

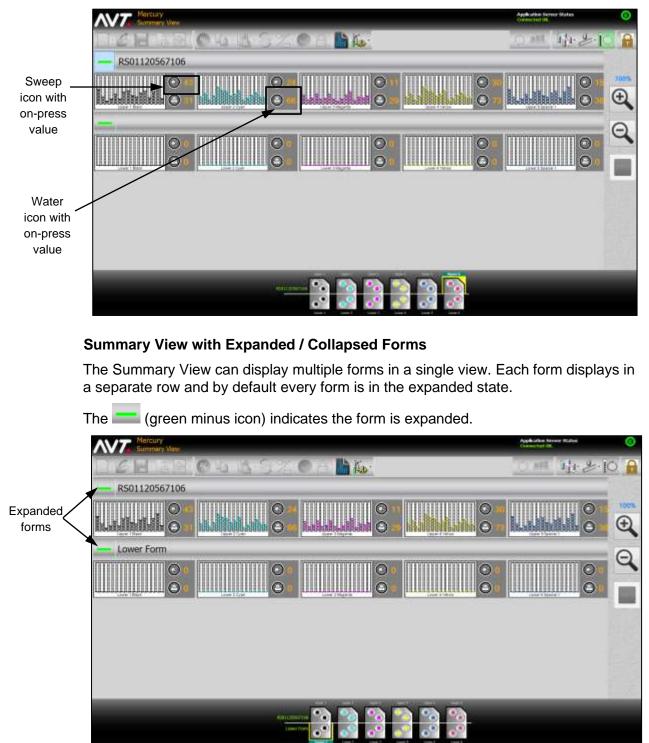
You can use the following sidebar buttons to control the Summary View display.

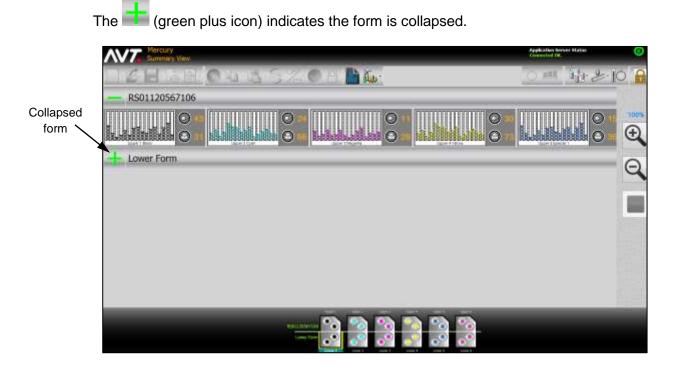
(Zoom In to enlarge the display of inker panels.		
Θ	Zoom Out to compress the display of inker panels.		
100%	Restore the display to a normal scale (100%).		

4.8.2 Using Summary View

Summary View with Sweep and Water Controls

When Sweep and Water controls are enabled, you can view the sweep and water icons and current on-press values for each inker.





The (red triangle icon with exclamation point) indicates the inker has errors.



5 Using Optional Features in Mercury

This section provides a brief overview of the optional Mercury features:

- Closed Loop Control (CLC)
- CIP3 Presets
- Single-Sided Web Press with Turnbars
- Two-Sided Web Press
- Multiple Web Press
- Tower Press
- Newspaper Press
- Auto Zero
- Job Management
- PLC Ink Sweep and Water Controls
- CIC Press
- Register Motor Moves
- **Note:** These features are only available if your system was configured for them during system installation. See the *Mercury Advanced User's Manual* for more detailed information.

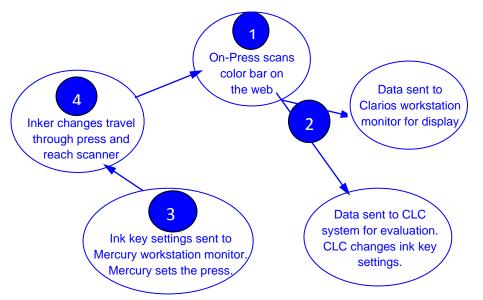
5.1 Closed Loop Control (CLC)

The CLC feature provides a closed loop link between the Clarios color measurement system and the Mercury remote ink control system for narrow web presses.

The GMI on-press scanner scans the moving web and sends density values to the CLC system and to the Clarios workstation monitor for display. The CLC system evaluates the data, formulates the ink key settings, and then transmits the ink key settings to Mercury. Mercury then uses the ink key settings to set the press.

When the inker changes have traveled through the press onto the paper and to the scanner, the results of the inker changes are re-scanned and compared to the target densities. More inker changes are made, as necessary, to bring the job to color.

The following diagram shows the closed loop process.



You must set up the CLC interface between the Mercury and Clarios systems. The Mercury and Clarios systems <u>must</u> be synchronized, with the inker names and form numbers exactly the same on both systems.

As the press runs, changes to the scan density settings on Clarios will cause the ink fountains on Mercury to change.

During closed loop control, you can make adjustments to the fountain console target density values using Mercury. You can also make changes from the Key Values Mode in Clarios.

Note: See the *Mercury Advanced User's Manual* for more detailed information on using the CLC feature.

5.2 CIP3 Presets

The CIP3 Preset feature allows you to start a job with preset values, achieve required print quality quickly, and reduce makeready time.

Note: See Set Up CIP3 Presets to learn more about setting up the CIP3 Presets. You create and start a CIP3 form for one surface at a time

A CIP3 form is similar to the standard form, but with presets. You can create and start a new CIP3 form with the required initial presets.

The basic process for creating a CIP3 form includes:

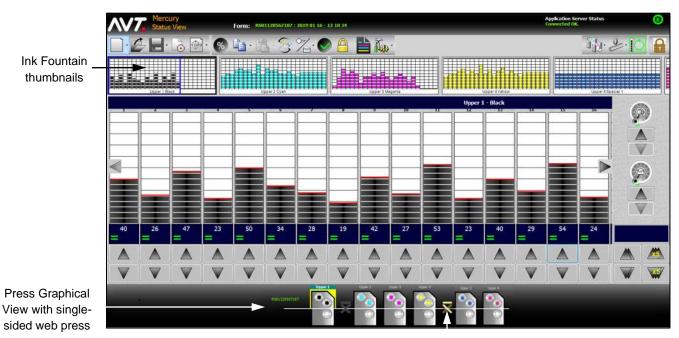
- Selecting a CIP3 presets file and assigning to a surface.
- Reviewing the preset colors and color preview image.
- Selecting paper type.
- Setting takeoff bars.
- Specifying whether to autoset press to preset values.
- **Note:** See the *Mercury Advanced User's Manual* for more detailed information on using the CIP3 presets feature.

5.3 Single-Sided Web Press with Turnbar

Some single-sided web presses will have a turnbar to rotate the web after printing on one side of the web. This allows the ink fountains before the turnbar to print on the bottom side of the web and the ink fountains after the turnbar to print on the top side.

Note: Before the turnbar refers to the "bottom" surface and after the turnbar refers to the "top" surface".

These web presses may have turnbars between several ink fountains, so operators can vary the number of ink fountains that print on the upper and lower surfaces on a form-by-form basis.



The following figure shows a single-sided web press with two turnbars.

Active turnbar

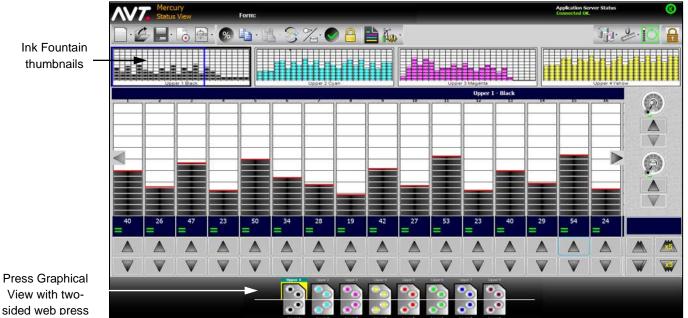
Note: See the *Mercury Advanced User's Manual* for more detailed information on a single-sided web press with turnbars.

5.4 **Two-Sided Web Press**

A two-sided web press lets you simultaneously control two forms running on a single web press.

For a two-sided web press, each ink fountain will have an upper and lower ink surface. You can create two forms, one for the upper surface and one for the lower surface.

The following figure shows a two-sided web press.



View with twosided web press

> All of the ink fountains display the upper and lower surfaces in the Press Graphical View. However, the ink fountain thumbnails only display the ink fountains for the currently selected surface.

Note: The ink fountains for the <u>upper</u> surface must be assigned to one form and those for the lower surface to another form.

You can only make ink zone adjustments for the currently selected surface.

You can only copy and paste ink zones for the currently selected surface. You cannot copy and paste ink zone settings from one surface and paste into another.

Note: See the Mercury Advanced User's Manual for more detailed information on a two-sided web press.

5.5 Multiple Web Press

A multiple web press is any commercial press with perfecting units (upper and lower) and configurable air bars, to allow two or more webs to be printed at the same time.

Normally only two webs are configured, but Mercury allows up to five webs to be printed at the same time. Most multiple web presses are configured horizontally or used in multi-tiered structures.



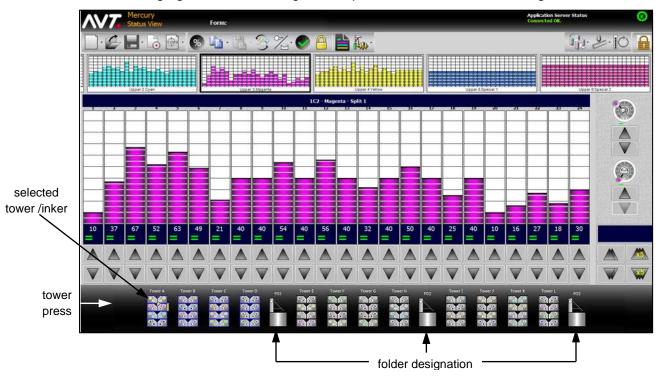
The following figure shows a multiple web press with one air bar.

multiple web press

Note: See the *Mercury Advanced User's Manual* for more detailed information on a multiple web press and turning on press split configuration.

5.6 Tower Press

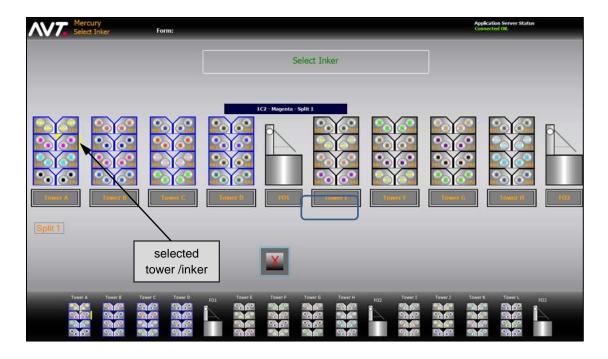
A tower press is a group of vertically arranged printing units with one or more webs printing at the same time. Each vertical arrangement is called a tower.



The following figure shows a 4-high tower press, with each tower having 8 inkers.

- Mercury supports one-to-four high printing units.
- Web routing could involve more than one tower for a single web, with up to 24 webs printed at the same time.
- Multiple towers can be configured into split press configurations, with up to 12 splits allowed at one time.
- CIP3 presetting can be augmented by imposition software (IMAPS) to allow easy color assignments and web routing of many webs.

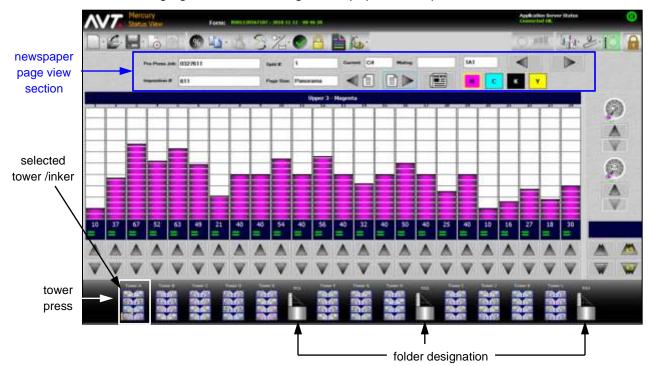
When you click on a tower, the Select Inker screen displays where you can select a specific inker in a tower and access the Status View for that inker.



Note: See the *Mercury Advanced User's Manual* for more detailed information on the tower press.

5.7 Newspaper Press

A newspaper press is a special type of tower press that provides labor savings for large publications when printing on a newspaper style press.

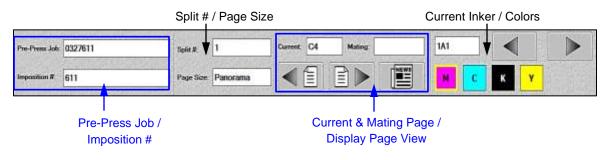


The following figure shows a 4-high newspaper tower press. Each tower has 8 inkers.

In addition to all of the tower press options, the Mercury newspaper press will have a newspaper page view section on the Status View.

Newspaper Page View Section

When newspaper mode is enabled, the ink fountain thumbnails section on the Status View is replaced with the newspaper page view section.

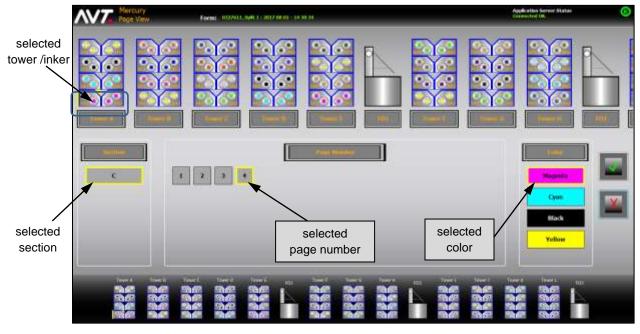


There are four sub-sections for the newspaper page view section:

- Pre-Press Job / Imposition # Displays the pre-press job name and imposition form number.
- **Split # / Page Size** Displays the split number of the current inker and the page size of the imposition form.
- **Current and Mating Page / Display Page View** Displays the current page and mating page(s). Includes Previous Page and Next Page buttons to select between pages, and the News button to display the Newspaper Page View.
- **Current Inker / Colors** Displays the current inker and all the colors that belong to the current section and page selected. Includes Previous Inker and Next Inker buttons to select by fountain, sequentially going through the press color by color.

Page View

When you select a tower and click on E, the Page View screen displays where you can view and navigate to information about all sections of the current split.



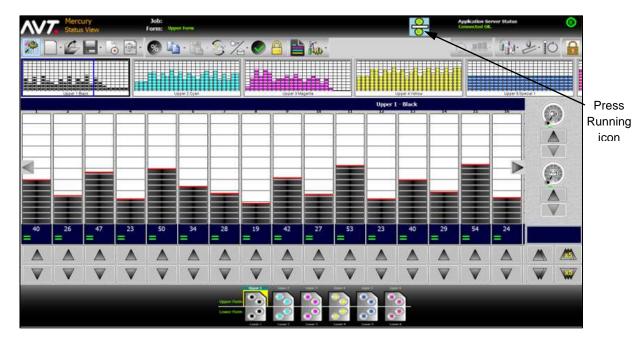
- Section Displays all sections of the current split.
- Page Number Displays all pages of the selected section.
- Color Displays all colors of inkers belonging to section and page selected.

Navigating to any page in the current split requires selecting the section, the page number, and the color.

Note: See the *Mercury Advanced User's Manual* for more detailed information on the newspaper press.

5.8 Auto Zero

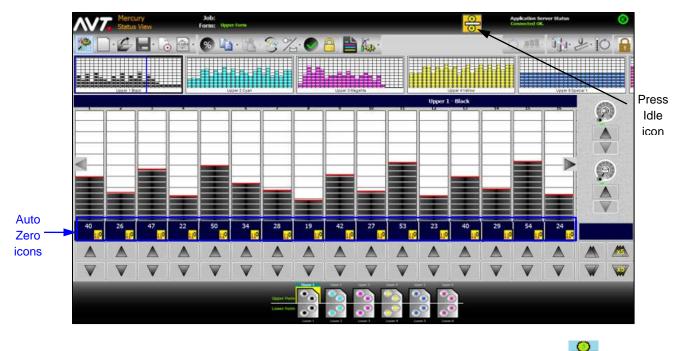
The Auto Zero feature detects when the press is in the idle state and temporarily moves all the fountain keys to zero percent. When the press starts running, the fountain keys are restored to their last know positions to continue press production. Icons display on the Mercury Status View to show that the press is idle or running.



The following figure shows the Mercury Status View when the press is running.

After the press is switched to the idle state, the icon on the view will change to $\overline{\mathbf{w}}$. After a specified delay, zeroing of inkers will start and the view will reflect that zeroing is in process. Once zeroing is complete, the press will be in the idle state.

The following figure shows the Mercury Status View when the press is in the idle state.



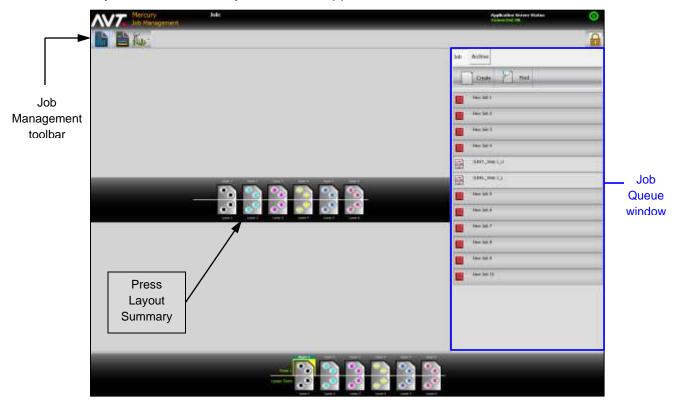
If the press switches from idle to running, the icon on the view will change to and the zone settings will start to restore to the target values.

Note: See the *Mercury Advanced User's Manual* for more detailed information on the Auto Zero feature.

5.9 Job Management

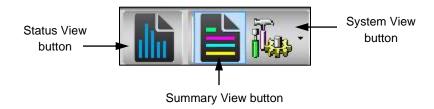
The Job Management view allows you to create a list of upcoming forms. Using this list, you can prepare jobs in advance that can be started quickly as each new job comes to press. Working in this view, you can create, configure, and operate different jobs in the queue.

When enabled, the Job Management View will be the default view and the initial view when you start the Mercury workstation application.



Job Management Toolbar

You can use the Job Management toolbar buttons to switch quickly to the Status View, Summary View, or System View.



Job Queue Window

The job queue window lists all the jobs available in the queue. A job can consist of one or more forms.

The job currently running is marked with a green triangle (\blacktriangleright), indicating the job has started. Other jobs marked with red boxes (\blacksquare), indicate they are not currently running.

	Job Archive	Job Queue
	Create P Find	toolbar
	New Job 1	
	New Job 2	
Running	New Job 3	
Job	New Job 4	
	J1847_Web 1_U	
	31846Web 1_L	
	New Job 5	
	New Job 6	
	New Job 7	
	New Job 8	
	New Job 9	
	New Job 10	

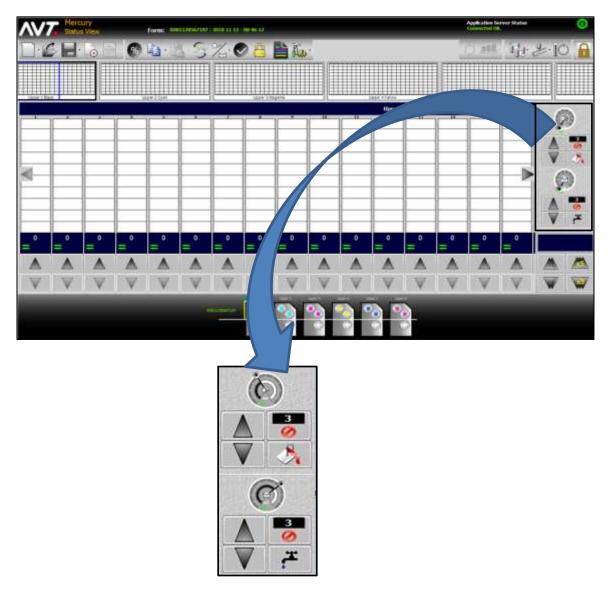
The job queue toolbar is at the top of the job queue.

- Job / Archive Lets you select either the current job or view the job archives
- Create Allows you to create a job by keying a new name for the job.
- **Find** Allows you to search for a job within the job queue.
- **Note:** See the *Mercury Advanced User's Manual* for more detailed information on the Job Management view.

5.10 PLC Ink Sweep and Water Ramping

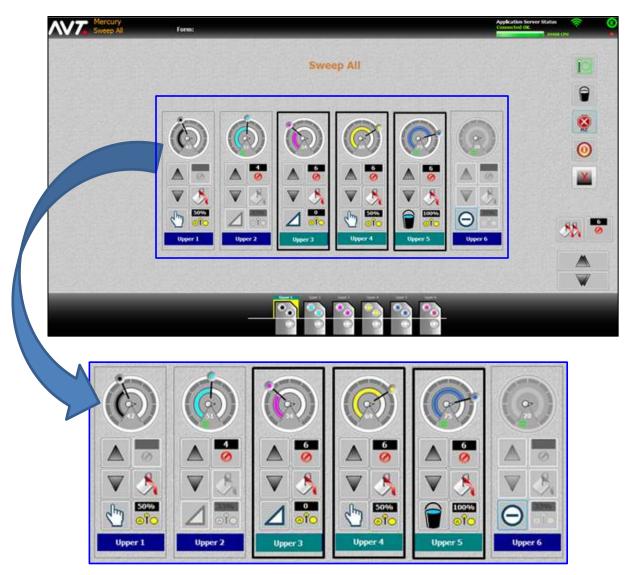
The ink sweep and water ramping feature allows you to control ink sweep and water ramping on the Mercury Status View, and also from the Mercury Sweep All and Water All screens.

The following figure shows the Mercury Status View with the Ink Surge and Flood buttons added to the Ink Sweep and Water Gauges.



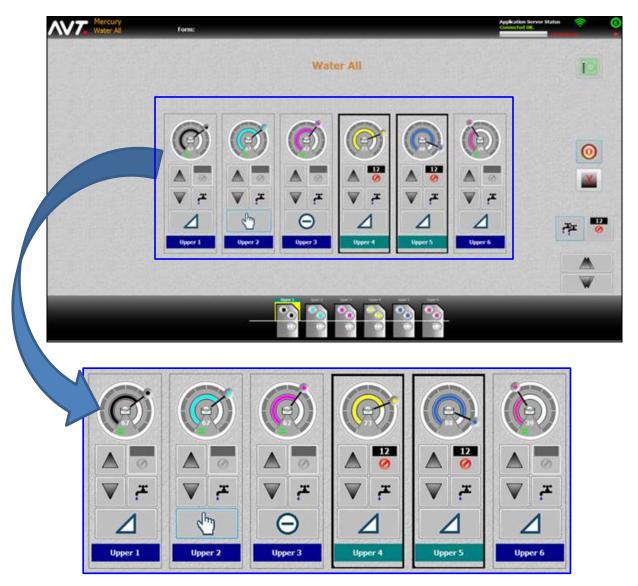
When ramping is enabled, you can adjust ink surge time for one or more inkers on the Sweep All screen.

The following figure shows the Sweep All screen with the Ink Surge buttons.



When ramping is enabled, you can adjust water flood time for one or more inkers on the Water All screen.

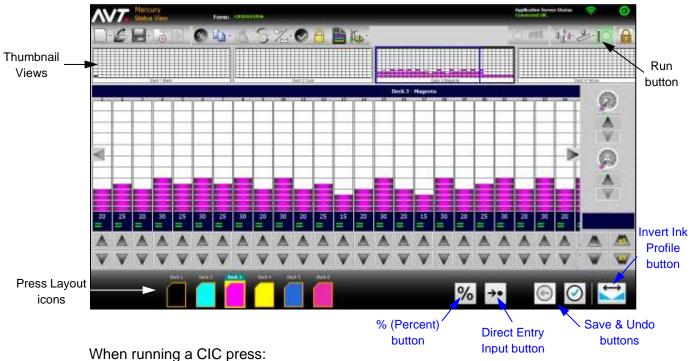
The following figure shows the Water All screen with the Water Flood buttons.



Note: See the *Mercury Advanced User's Manual* for more detailed information on using ink sweep and water ramping.

5.11 CIC Press

The CIC Press feature allows you to control a common impression cylinder (CIC) press from the Mercury Status View.



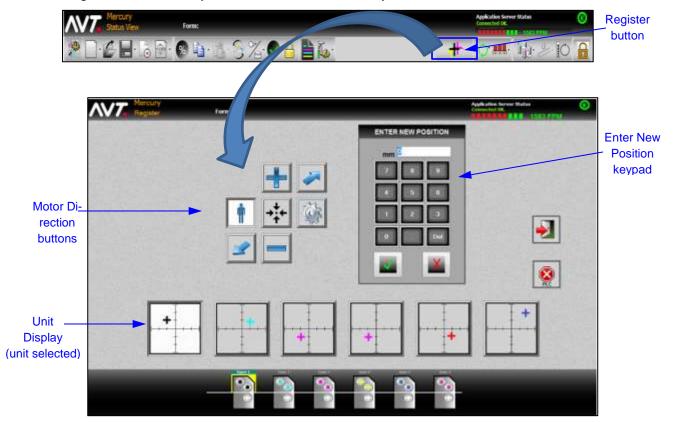
The following figure shows the Mercury Status View when running a CIC press.

Vien een melke eutemetie in feuntein ee

- You can make automatic in fountain adjustments by disabling the Run button requirement.
- An additional % (Percent) button is added (in addition to % Inc/Dec button on main toolbar.
- The ink fountain icons at the bottom of the Status View are changed to represent the CIC press layout icons.
- An Invert Ink Profile button is available on the Status View, to invert an ink profile for a fountain (called a "deck" in a CIC press).
- You can view all thumbnails at the same time on the Summary View, with a visibility of at least 100%.
- You can select one or more ink zones and then use the Direct Entry Input button to access a keypad to specify a new value for the ink zone settings to move to directly.
- You can save and undo changes you make to the current console key settings at any time.
- **Note:** See the *Mercury Advanced User's Manual* for more detailed information on using a CIC press.

5.12 Register Motor Moves

The Register Motor Moves feature allows you to manually control registers on the Register screen, that you access from the Mercury Status View.



When the Register Motor Moves feature is enabled, you can:

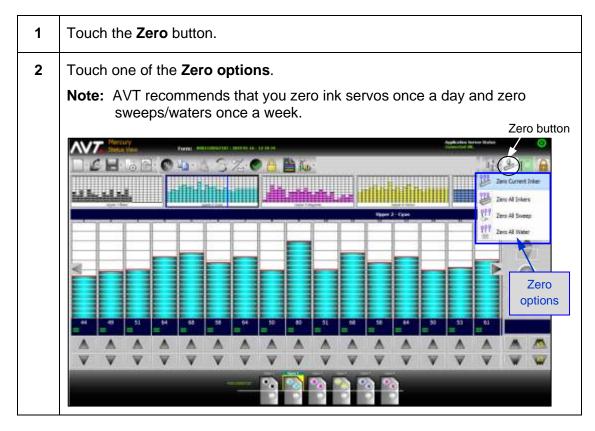
- Select units on which to apply register motor moves. You can select the graph or unit from the unit display and multiple units may be selected.
- Select direction of movement. Only one motor direction can be selected at a time. A register on a unit can be moved using the motor direction buttons (Operator, Gear, Advance, Retard, Skew Advance, and Skew Retard).
- Specify distance of movement on the Enter New Position keypad, once units and direction have been selected.
- **Note:** See the *Mercury Advanced User's Manual* for more detailed information on the Register Motor Moves feature.

6 Troubleshooting and Maintenance

This section introduces a few troubleshooting and maintenance tools.

6.1 Zero Ink Servos and Sweeps

AVT servos will drift over time. To use the Mercury zero tool to calibrate a servo to a mechanical zero, follow steps below.



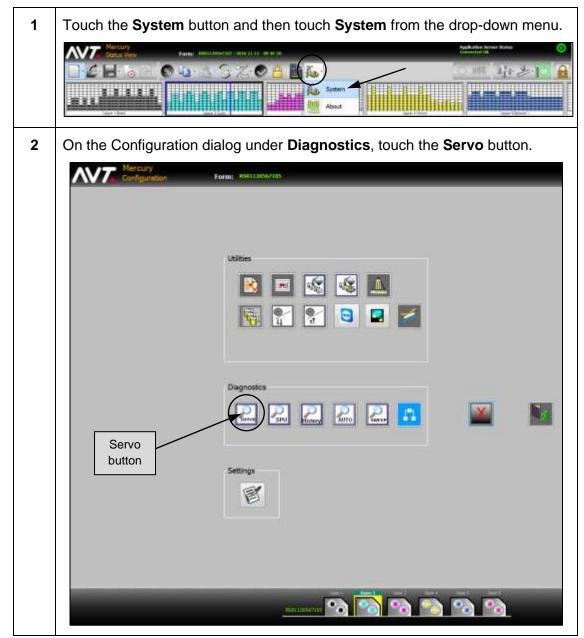
3	If errors occur while zeroing inkers, the Zero Inkers Errors dialog displays showing a list of inkers with errors.					
	Zero Inker Errors					
	Error occurred on the following Inker(s):					
	Upper 1, Upper 2, Upper 3, Upper 4, Upper 5, Upper 6					
	Touch the OK button to acknowledge the errors.					
	Note: The Zero Inker Error dialog would display all the inker names which have zero servo errors and servo configuration errors at that moment. This means that if the Zero Current Inker command is issued and there are zero errors on other inkers at that moment, then all the inker names with zero errors will be listed on the dialog.					
4	If you touch the Zero button when zone ink settings are on the Status View, touch Run Inker to restore the settings after the zero.					

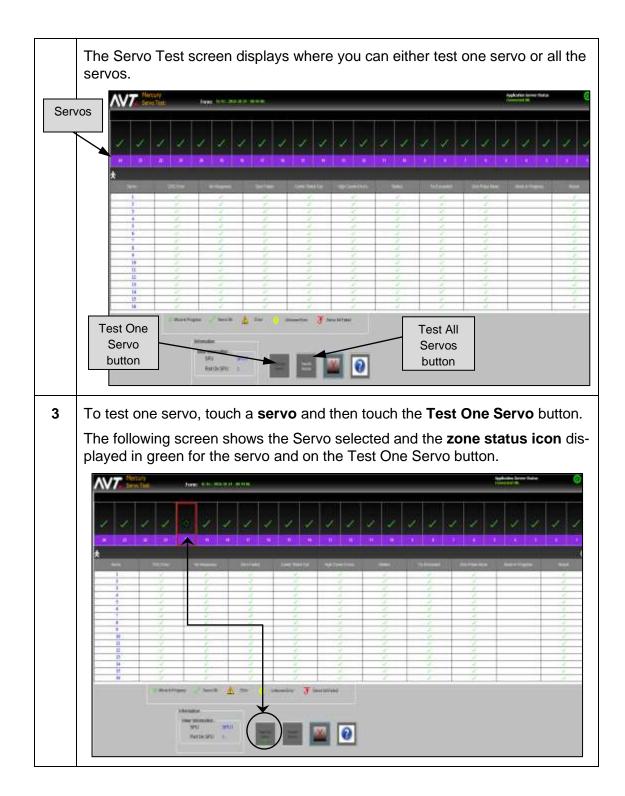
Note: The Zero All Sweep and Zero All Water options are only enabled if your system configuration indicates they are enabled. The options are grayed-out when disabled.

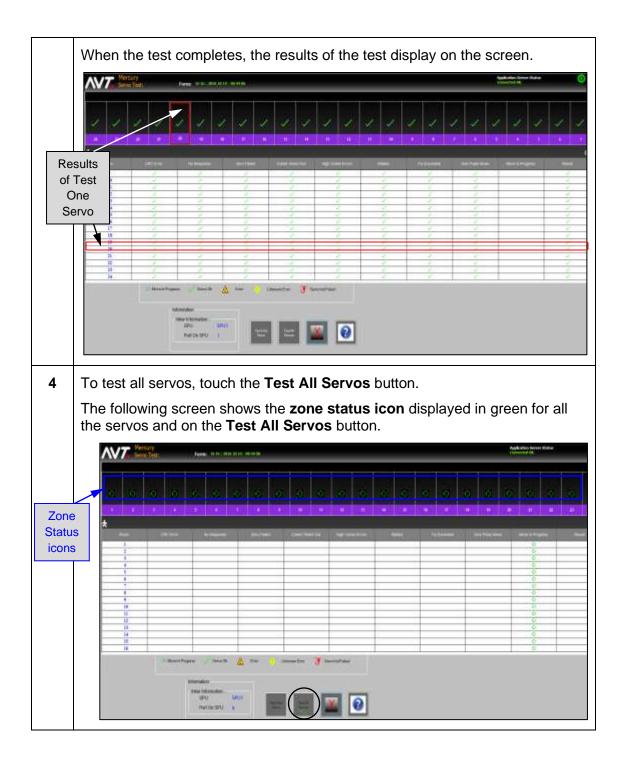
6.2 Perform Servo Test

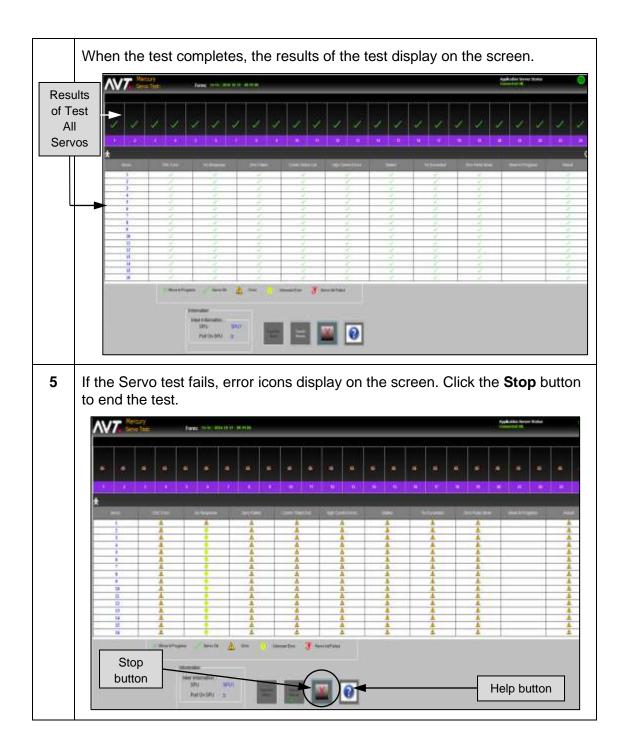
To test communication between the Mercury computer and the servos, use the Mercury Servo Test diagnostic tool.

6.2.1 Run Basic Servo Test







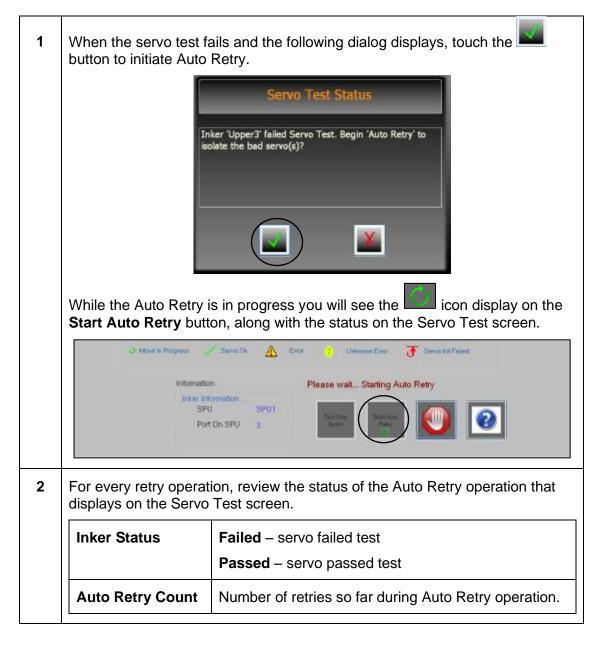


Note: Touch the **Help** button (question mark) to access the *Mercury Service Manual* and go directly to the section of the manual for the Servo test.

6.2.2 Auto Retry Servo Test

If the servos do not pass the **Servo Test > Test All the Servos** for an inker and the individual servo(s) causing the problem cannot be identified, Mercury enters the Auto Retry mode to isolate the bad servo(s). Auto Retry can help you find the bad servo(s) on a servo rail for the following special cases:

- There is a short circuit in the servo or cable.
- The bad servo is interfering with servo communication.
- The first servo is disconnected.
- No rail is connected to an inker port.

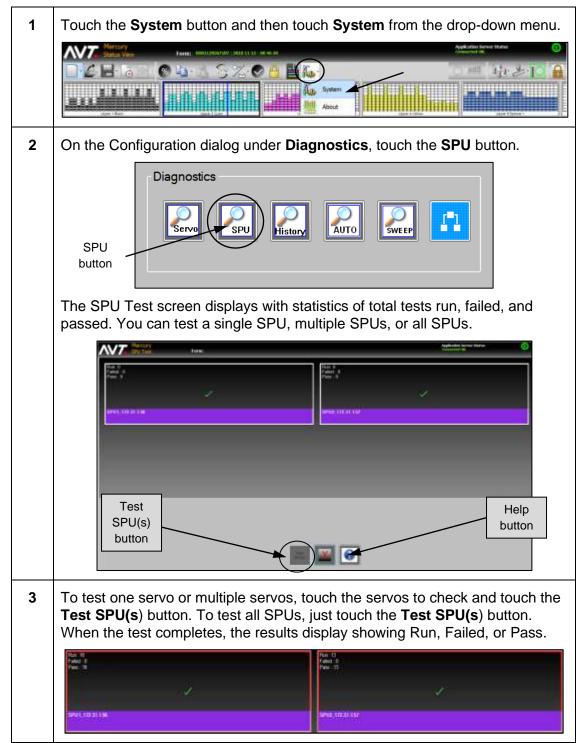


3	When status shows Inker Status: Failed , let Auto Retry continue running and disconnect the servos one by one. Start with the servo farthest away from the servo harness connector.					
	Notes:					
	 If connectors are removed from all but the first servo and it still does not run, replace it. 					
	 If display then indicates Inker Status: Passed, the first servo was the problem. If not, either cable going to SPU or SPU itself is faulty. 					
	An inker failure will always occur if no servos are connected.					
	 When the connector of the problem servo is removed, the first servo on the fountain will start to run. 					
	Replace bad servo and plug in all connectors that had to be removed.					
4	To stop Auto Retry, press the web button.					
	NOTE: The Auto Retry operation will continue to run forever until you stop it.					
5	After stopping the Auto Retry operation, the Test All Servos button becomes enabled for you to test the inker(s) again.					
	Touch the Test All Servos button to test the inker again.					

Note: See the *Mercury Advanced User's Manual* for more detailed information on the Auto Retry Servo Test feature.

6.3 Perform SPU Test

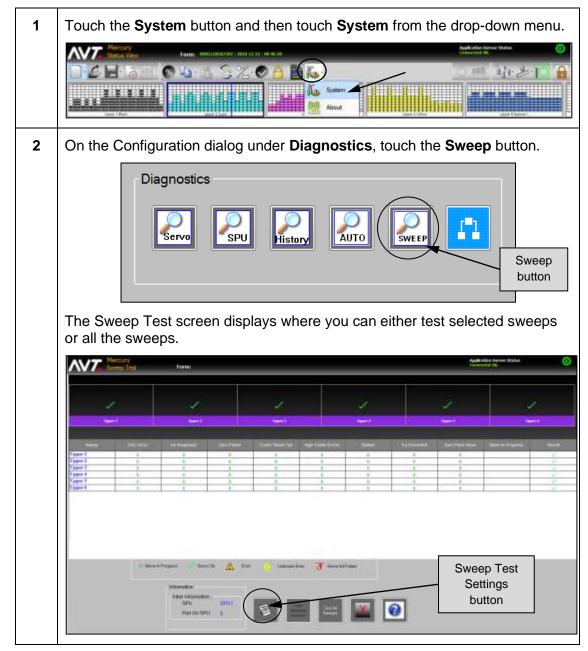
You can use the Mercury SPU test diagnostic tool to test if the selected SPU is communicating with the server application and able to move the attached equipment.

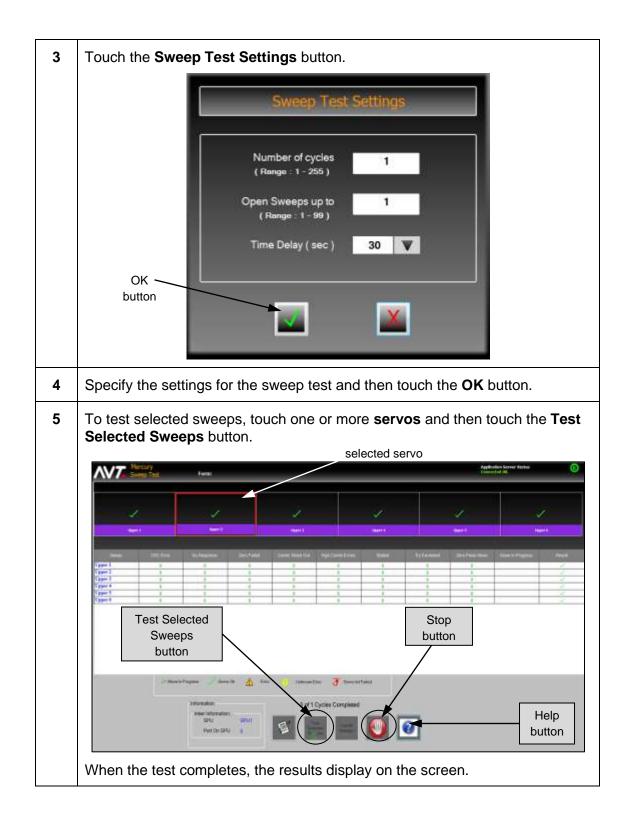


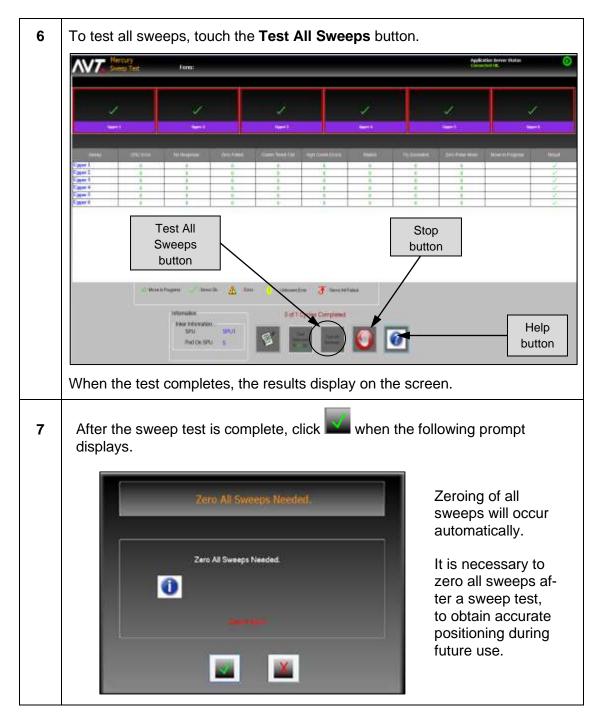
Note: Touch the **Help** button (question mark) to access the *Mercury Service Manual* and go directly to the section of the manual for the SPU test.

6.4 Perform Sweep Test

You can use the Mercury Sweep test diagnostic tool to test one or more sweeps.







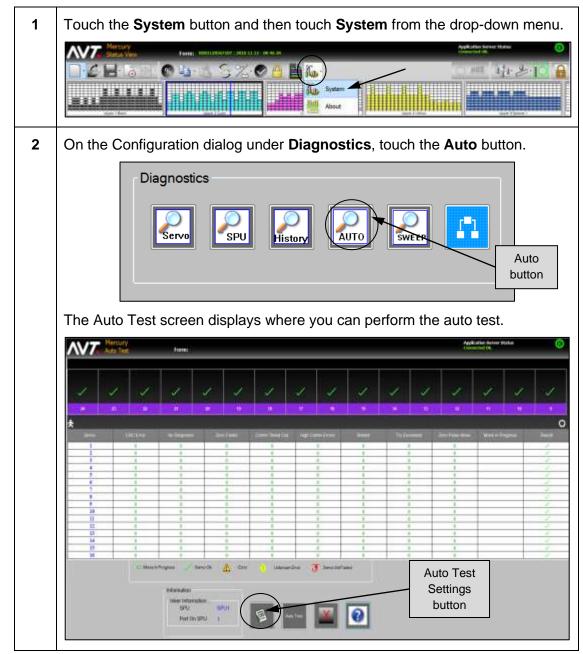
Notes:

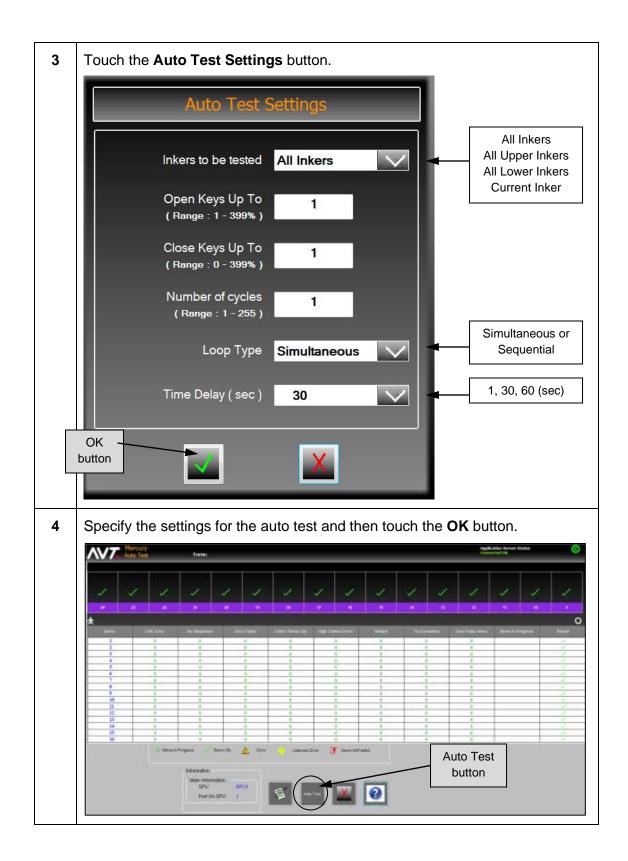
- If errors display on the screen during the test, click the **Stop** button (hand) to end the test. After the test completes, the Stop button becomes an Exit button.
- Touch the **Help** button (question mark) to access the *Mercury Service Manual* and go directly to the section of the manual for Sweep Test.

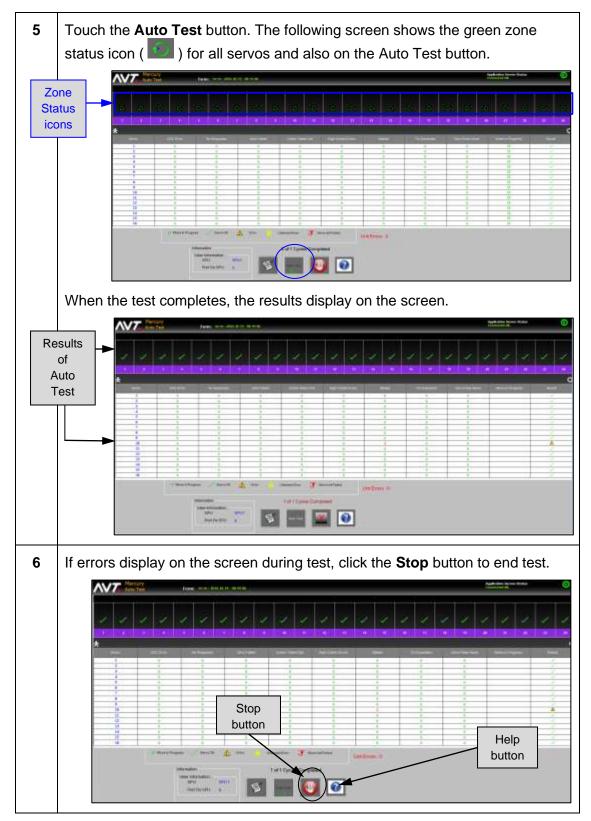
6.5 Perform Auto Test

You can use the Mercury Auto test diagnostic tool to test the fountain key actuators and verify that mechanical movement is reliable.

6.5.1 Run Basic Auto Test







Note: Touch the **Help** button (question mark) to access the *Mercury Service Manual* and go directly to the section of the manual for Auto Test.

6.5.2 Identify Failed Inker(s) During Auto Test

If errors are detected with one or more inkers during Auto Test, the application server stops the test and displays an error dialog.

Auto Test Errors					
8	Auto Test was stopped due to the error occurred on the following Inker(s):				
Upper 1					

This will let you know why the test stopped and identify which inker(s) are having issues before finishing the full Auto Test.

6.6 Re-Initialize SPU

A flashing **Set Press** button displays on the Mercury Status view to notify the user about an SPU re-initialization. The Set Press button only flashes when the Mercury workstation application is running and connected to the server application, and the SPU is re-initialized.

An SPU re-initialization may occur when:

- The SPU was power-cycled and the server was not aware the SPU was reset.
- There was a sudden loss of communication between the server and SPU, causing communication errors. The server re-initializes the SPU.
- A move timed-out on the SPU and the SPU was not responding.

After a successful re-initialization, commands can be sent to the SPU without zeroing the fountains.

Appendix A – Zone Status Icons

Under the ink zones on the Status View, there is an ink zone data display area that provides feedback on each zone setting.



Following is a list of all the **zone status icons**.

	Indicates ink servo value equals console value.			
C	Indicates servo for OCU zone is currently running.			
C	Indicates a stalled servo.			
₹	Indicates SPU failed to initialize.			
	Indicates a configuration error:			
506	 One of servos in that rail has gone bad. 			
and a	Harness has gone bad.			
	 Mismatch in configuration from MCxxxx.xml to actual servos on rail. 			
4	Indicates last move for OCU zone's servo returned a servo or SPU communication error.			
9 9	Indicates zones were retracted.			
3	Indicates SPU re-initialization is in progress.			
	Indicates zone is locked.			
\bigcirc	Indicates zone is in closed loop control.			

Appendix B – Declaration of Conformity

AV7.	
EC Declaration of Conformity	
Company Name and Address:	
AVT (Advanced Vision Technology) 10460 Miller Road Dallas, TX 75238 USA	
Name and address of the company authorized to compile the Technical File:	
AVT (Germany) GMBH 32 Donnersbergerstrasse Munich P0634 Germany Tel: + 49 - 89 - 216 - 68-079 Fax: + 49 - 89 - 216 - 68 - 166	
AVT declares under our sole responsibility that the product described as:	
Equipment Name: Mercury Generic Equipment Description: Remote Ink Control System for Printing Industry Model/Type: Serial number(s): 7168 - 99999	
Complies with the requirements of the following European Directives:	
2006/42/EC Machinery Directive 2004/108/EC Electromagnetic Compatibility Directive	
Main standards considered:	
EN ISO 12100:2010, EN 60204-1:2006 +A1:2009, EN ISO 13849-1:2008, EN 61000-6-2:2005, EN 61000-6-4:2007 +A1:2011	
AVT Technical File Document Number: 500G300068	
Date: 8/11/2015 At: AVT Dallas TX USA	
Name of Authorized company representative: Alan Then Signature: Alan Then, Seneral Manager, AVE-Dallas TX USA	
500G100196 Rev. A	

Revision History

Version 1.7

Revision Date	Revised By	Version	Section / Page Numbers	Revision Description
9/22/2020	SW	1.7 A	All	 Initial release of V1.7. Updated screen shots, as needed. Incorporated updates for V1.70 ("Adjust All Zone X5" to 4.1.2-4.1.3; "Enter Percentage Value" popup to 4.1.4; new sub-sections 5.10 - "Ink Sweep & Water Ramping", 5.11 - "CIC Press", and 5.12 - "Register Motor Moves"). Added number of forms to Recall Form View, section 3.3). Reordered topics in section 5, based on most popular features. Added CAT5 Ethernet cable to 1.2.

Version 1.6

Revision Date	Revised By	Version / EO	Section / Page Numbers	Revision Description
11/28/2017	SW	1.6 A (17392)	All	 Initial release of V1.6. Updated screen shots, as needed. Incorporated updates for V1.60, (new sections for Newspaper Press, Basic Servo Test, and Auto Retry Servo Test; details on Zero Inker Error dialog).
4/2/2018	SW	1.6 B (#####)		 Added new appendix to include "Declaration of Conformity". Added new section 1.1 to include "Mercury System Installation".

Version 1.5

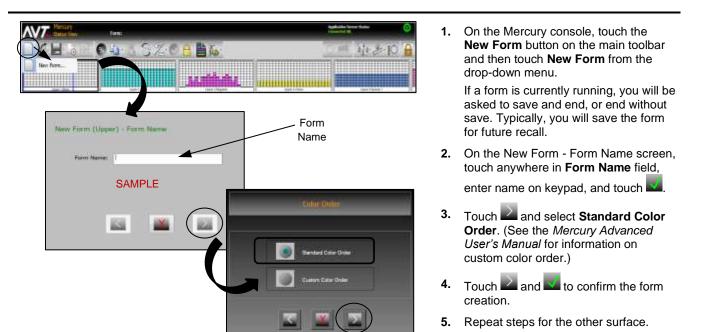
Revision Date	Revised By	Version / EO	Section / Page Numbers	Revision Description
11/21/2016	SW	1.5 A (17096)	All	 Initial release of V1.5. Converted version 1.2 from Frame-Maker to Word. Updated all screen shots. Incorporated updates for V1.32, V1.40, and V1.50.

Version 1.2

Revision Date	Revised By	Version / EO	Section / Page Numbers	Revision Description
5/20/2010	SW	1.2 (15448)	All	Initial release.
6/8/2010	SW	1.2 B (15600)	All Section 4 Section 3	 Updated all screen shots with main toolbar, to include Color OK button. Added new section (4.5) called "Save Current Ink Profiles with Color OK". Updated screen shots/description of End Form (3.2.4) and Recall/Save Form (3.5) when another form is currently running. Choose to save Color OK or current fountain profiles.
8/19/2010	SW	1.2 C (15660)	Section 2.1	Added new screen shots and explana- tion of system startup - initialization pop- ups.
11/9/2010	SW	1.2 D (15714)	Front matter and Quick Reference	Updated email addresses on Front Matter; added updates to Quick Ref.
3/9/2015	SL	1.2 E (16630)	Front matter	Updated address and logo on PDF file only.

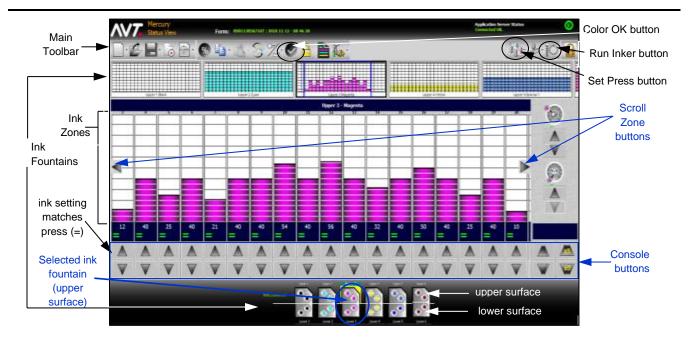
Mercury Quick Reference

Set Up a New Form



Adjust Ink Zone Settings

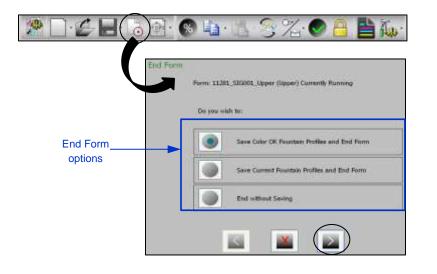
On the Status View, ink fountains display as thumbnails under the main toolbar and as icons at the bottom of the view. Use the **Scroll Zone** buttons to scroll to more ink zones. You can configure the number of ink zones that display.



Adjust Ink Zone Settings (continued)

- 1. Touch an ink fountain to select it. To select the ink fountain surface, touch an upper surface or lower surface.
- 2. Adjust one or more ink zones using the **Console** buttons. As you make adjustments, the slider moves up or down and the zone values (2-digit number) change.
- 3. Touch (Run Inker) to set ink zone adjustments or touch (Set Press) to send all adjustments to the press. When the ink zone settings match the press, the ink zones show an = sign.
- 4. Touch Not (Color OK) to save best ink profiles of a form and adjust scan correction values for selected paper type.

End and Save Form



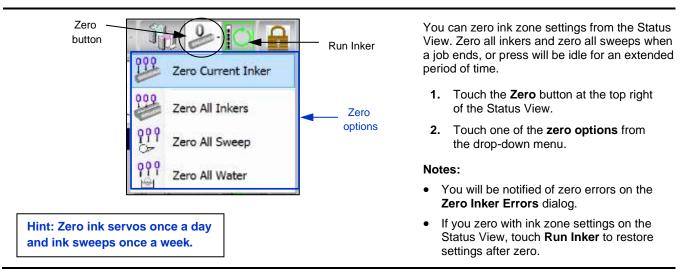
You end a form from the Status View.

- 1. Touch the **End Form** button on the main toolbar.
- 2. On the End Form screen, select either Save Color OK Fountain Profiles and End Form, Save Current Fountain Profiles and End Form or End without Saving.
- **3.** Touch and to confirm the end form.

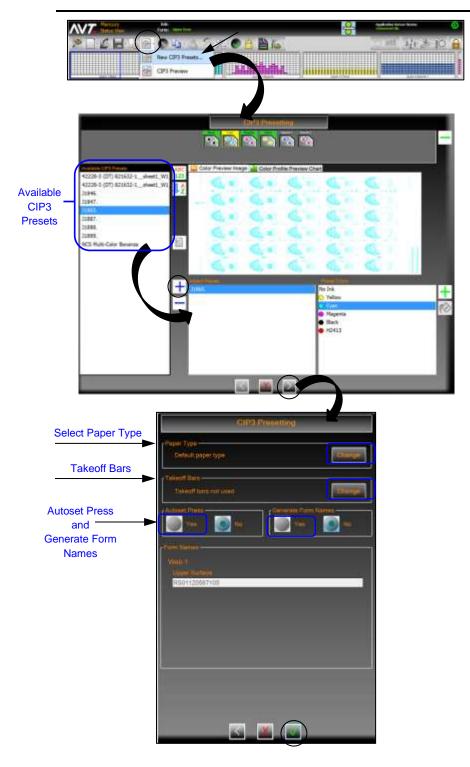
Note: Typically, you will end form and save it with the name you used to set up the form.

See the *Mercury Training & User's Guide* for more detailed information on saving a form.

Zero Ink Fountains







You can configure presetting for all inkers on the press using CIP3 presets. You set up CIP3 presets from the Mercury Status View.

1. On the Mercury console, touch the CIP3 button on the main toolbar and then touch New CIP3 Presets from the drop-down menu.

The CIP3 Presetting screen displays with a list of available CIP3 presets.

2. Touch a preset file from the Available CIP3 Presets list, touch the Add

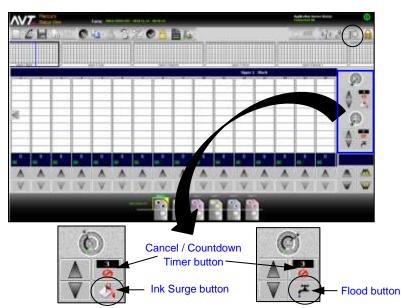
button (\bigcirc), select **surface** radio

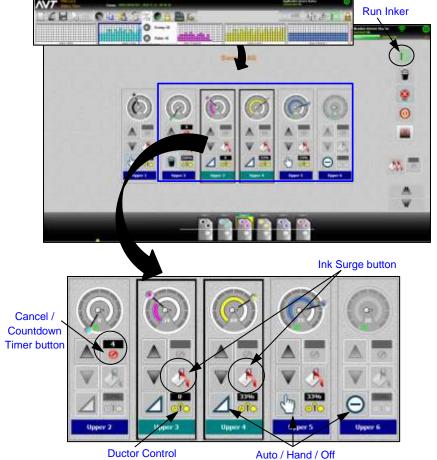
button, and then click

The CIP3 preset file is moved to the **Added Presets list**.

Typically, no changes will be needed to the color order. If changes or special colors are required, see the *Mercury Advanced User's Manual* for more information.

- 3. Touch do set additional CIP3 preset values.
- 4. To change the paper type, click on the **Change** button for **Paper Type**, select a paper type from the list, and then touch the **OK** button.
- If you are using takeoff bars, click on the Change button for Takeoff Bars, touch Yes, specify a valid Image Width, and then touch the OK button.
- 6. Touch Yes to Autoset Press.
- 7. Touch **Yes** to Generate Form Names. (You must end the previous form before creating a new name.)
- **8.** Click **w** to assign the preset values.
- 9. Repeat steps for the other surface.





(Function buttons)

Control Ink Sweep / Water Ramping (Optional Feature)

You can control sweep and water ramping on the Status View, and also from the Sweep All and Water All screens.

Adjust Ink Surge or Flood on Status View

You can adjust ink surge or water flood times for a selected ink fountain on the Status View.

1. Touch Ink Surge or Flood *Flood*

The **Cancel / Countdown** button shows time for surge or flood. You can touch the buttons multiple times to add surge or flood time. See the *Mercury Advanced User's Manual* for more information.

2. Click Run Inker D button to set the surge or flood adjustments.

Adjust Ink Surge on Sweep All Screen

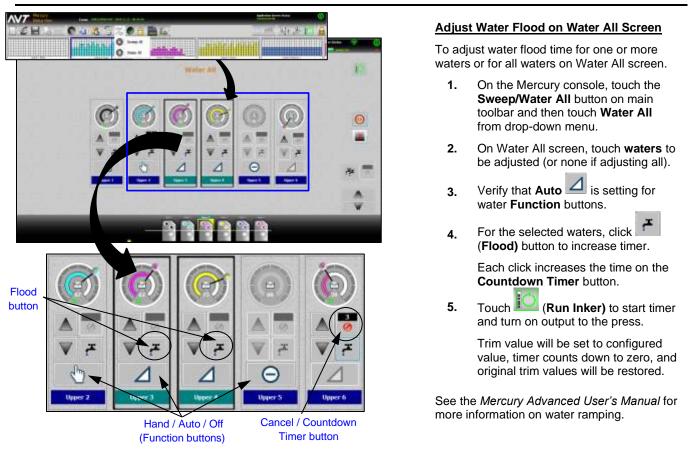
To adjust ink surge time for one or more inkers or for all inkers on Sweep All screen.

- On the Mercury console, touch the Sweep/Water All button on main toolbar and then touch Sweep All from drop-down menu.
- 2. On Sweep All screen, touch **inkers** to be adjusted (or none if adjusting all).
- 3. Verify that Auto is setting for inker Function buttons.
- For the selected inkers, click (Ink Surge) button to increase timer. Each click increases the time on the Countdown Timer button.
- 5. Touch i (Run Inker) to start timer and turn on output to the press.

Trim value will be set to configured value, timer counts down to zero, and original trim values will be restored.

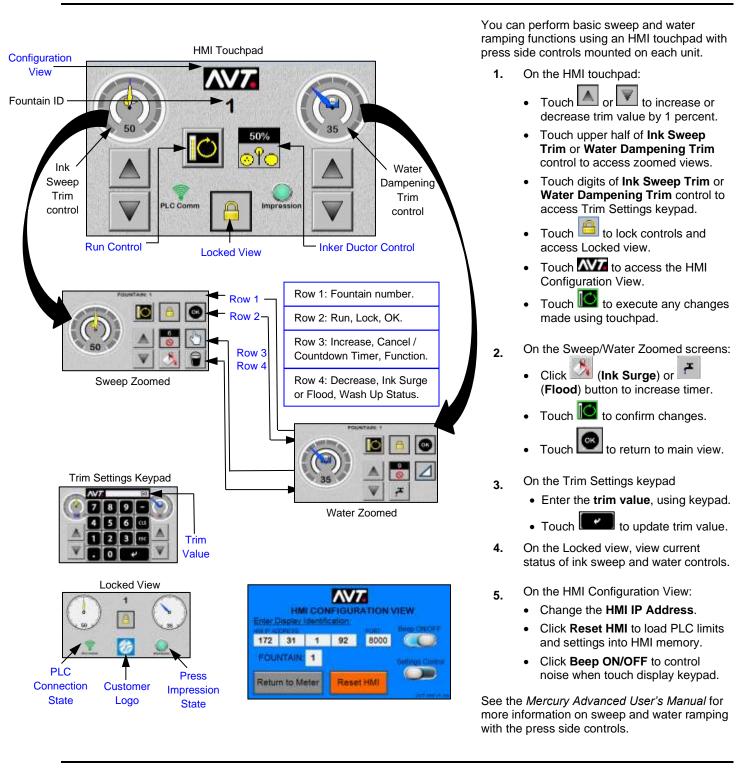
See the Mercury Advanced User's Manual for more information on sweep and water ramping.

button



Control Ink Sweep / Water Ramping (continued)

Ink Surge	Runs ink sweep at 100% for a pre-determined amount of time.		
Flood	Runs water control at 100% for a pre-determined amount of time.		
Surge All	Sends surge signal to all fountains. Fountain must be part of same split and in Auto mode.		
Flood All	Sends flood signal to all fountains. Fountain must be part of same split and in Auto mode.		
Cancel/Countdown Timer	Cancels surge or flood immediately. The <i>nn</i> part of button shows time for surge or flood.		
Auto / Hand / Off	Toggles to one of three states. Auto – Runs sweep or water at the setting on the dial. Hand – Runs sweep or water at predetermined speed. Off - Sets sweep/water to zero.		
Ductor Control	Toggles to one of four states, configured in SiteGen file.		



Control Ramping with Press Side Controls (Optional)

Contact Information: Service: +1 972-290-3121 support@avt-inc.com