WORKHORSE PRODUCTS

PRECISION SCREEN PRINTING EQUIPMENT

Owner's Manual

SABRE SERIES

Models: SAB86, SAB810, SAB1012, SAB1214

67-1610 Rev J15

Introduction

Congratulations on your purchase of the Sabre.

Check the crate for damages. DO NOT accept the crate if there are any damages caused by improper handling during shipping. Immediately report any damages to the carrier and contact Workhorse Products at, 800-778-8779.

Be sure to inspect the crate contents immediately, while the carrier is still present. Even though our packaging has been designed to handle normal shipping conditions, we cannot foresee damages done by the carrier. We will not be responsible for damages that occur during transportation.

If there are damages immediately notify the driver, file a claim with the carrier, and call Workhorse Products.

The Importance of the Owner's Manual:

The purpose of the Owner's Manual is to familiarize you with the parts and operations of the Sabre.

MODEL #	SABRE AUTOMATIC PRESSES
SAB68	6 Color, 8 Station Electric Index, Electric Heads Max Print Area: 20X20" (51X51CM) W/ Every Other Head 32X20" (81X51CM) Power: Electric, 1 Phase, 220V, 50-60HZ, 13 AMPS; Air 110 PSI (6.9 BAR), 5 CFM (142 L/M) Diameter: 12'6" (3.8M) Weight 3,120 Lbs(1,415KG) Speed 750-850 (60-70 Dozen) Per Hour
SAB810	8 Color, 10 Station Electric Index, Electric Heads Max Print Area: 20X20" (51X51CM) W/ Every Other Head 32X20" (81X51CM) Power: Electric, 1 Phase, 220V, 50-60HZ, 16 AMPS; Air 110 PSI (6.9 BAR), 6 CFM (170 L/M) Diameter: 14' (4.3M) Weight 4,225 Lbs(1,916KG) Speed 750-850 (60-70 Dozen) Per Hour
SAB1012	10 Color, 12 Station Electric Index, Electric Heads Max Print Area: 20X20" (51X51CM) W/ Every Other Head 32X20" (81X51CM) Power: Electric, 1 Phase, 220V, 50-60HZ, 20 AMPS; Air 110 PSI (6.9 BAR), 7 CFM (198 L/M) Diameter: 15'6" (4.7M) Weight 6,175 Lbs(2,8006KG) Speed 750-850 (60-70 Dozen) Per Hour
SAB1214	12 Color, 14 Station Electric Index, Electric Heads Max Print Area: 20X28" (51X71CM) W/ Every Other Head 44X28" (112X71CM) Power: Electric, 1 Phase, 220V, 50-60HZ, 25 AMPS; Air 110 PSI (6.9 BAR), 12 CFM (340 L/M) Diameter: 18' (5.5M) Weight 8,000Lbs (3,6296KG) Speed 750-850 (60-70 Dozen) Per Hour

SABRE ROLL IN FLASHBACK FLASH CURING UNIT

SFB2020	Flashback: 20X20" (51X51CM) Power: 220V, 50-60HZ, 4,400 Watts, 20 AMP

SABRE PLUG N GO AND UNIVERSAL QUARTZ FLASHES

SBR2032QF	Quartz Flash: 20X32" (51X81CM)Power: 3 Phase, 220V, 60HZ, 40 AMPS W/ 1 Phase, 60 AMPS
SBR2024QF	Quartz Flash: 20X24" (51X61CM) Power: 3 Phase, 220V, 60 HZ, 50 AMPS
SBR2032UN	QF W/ Photocell: 20X24" (51X61CM) Power: 3 Phase, 220V, 60HZ, 40 AMPS W/ 1 Phase, 60 AMPS
SBR2024UN	QF W/ Photocell: 20X32" (51X81CM) Power: 3 Phase, 220V, 60 HZ, 50 AMPS

Introduction

Operation of Machine

The Sabre incorporates modern electronic technology with sophisticated electric indexing and an extremely precise registration system. The Sabre also provides smooth and efficient operation with excellent print quality and unsurpassed functionality. It is important that the operation and maintenance of your new machine follow the guidelines specified in this manual. The guidelines are specific to the intended function of the machine (textile screen printing); any use, other than the intended function, will void your warranty and may result in personal injury. Compliance with the operation, maintenance and safety guidelines of the machine will ensure years of trouble-free printing.

Before You Begin

Throughout this manual, references will be made to features, functions, and controls used in the day-to-day operation of the machine.

Safety Guidelines

The Sabre has been designed to give years of reliable service. It is essential that operators be alerted to the safe operation of this machine, and the practices to avoid what could lead to serious injury. The following safety guidelines are necessary for the safe installation, operation, and maintenance of the machine.

Introduction

Workhorse Products has set forth all efforts to design and manufacture safe and dependable machines. However, it is impossible to predict all situations and circumstances that may cause dangerous conditions. Therefore, Workhorse Products requires all operators and maintenance personnel use every means possible to ensure the safe operation of the machine which will, in turn, ensure the safety of the personnel.

Following are the fundamental safety guidelines:

Installation:

- o Adequate power supplies (electrical and pneumatic) should be installed and connected by certified technicians.
- o The machine should be located in an area with sufficient room to operate.
- o The machine should be secured to the floor.

Operation:

- o The area around the machine should be maintained in a clean and obstacle free condition.
- o The Sabre should only be operated according to the specifications of the machine.
- o The operator should make a visual inspection of the machine before operating.
- o Safety devices should be inspected daily.
- o If the machine does not appear to be functioning properly, immediately stop the operation and attend to all issues/concerns.
- o The machine should NEVER be operated unless all safety precautions and devices are in place.
- o Maintain a safe distance from all moving parts.
- o Loose clothing should not be worn while operating the machine.
- o Operators should wear any/all safety equipment necessary to operate the machine.
- o Maintain proper settings and adjustments for operation of the machine.
- o NEVER attempt to enter in to or crawl under the machine while it is in operation.
- o Clear the machine of all garments, ink, and potential hazards at the end of the day.
- o Maintain a copy of the Operation & Maintenance Manual within reasonable distance to the machine.

Maintenance:

- o Equipment modifications are not allowed without written consent from Workhorse Products.
- o All power supplies should be turned off while performing machine maintenance.
- o Maintenance of all power supplies (electrical and pneumatic) should be performed by certified technicians.
- o Only qualified personnel should perform machine maintenance.
- o Maintenance questions/issues/concerns should be directed to Workhorse Products.

The machine operator is responsible for compliance with all safety guidelines set forth and the use of general industry safety precautions. Personal and property damage claims are disqualified if damages result from operators failing to follow published safety guidelines.

Safety Procedure

WARNING

RISK OF ELECTRICAL SHOCK! Turn ALL power to unit OFF before service.

All service should be done by, or under the supervision of a trained technician.

SAFETY FIRST:

Safety is essential to properly utilize the Sabre. The equipment is made of heavy moving parts and if the safety precautions are not observed serious injury could occur.

DURING AN EMERGENCY SITUATION:

Push the emergency stop button or disconnect the safety cables.

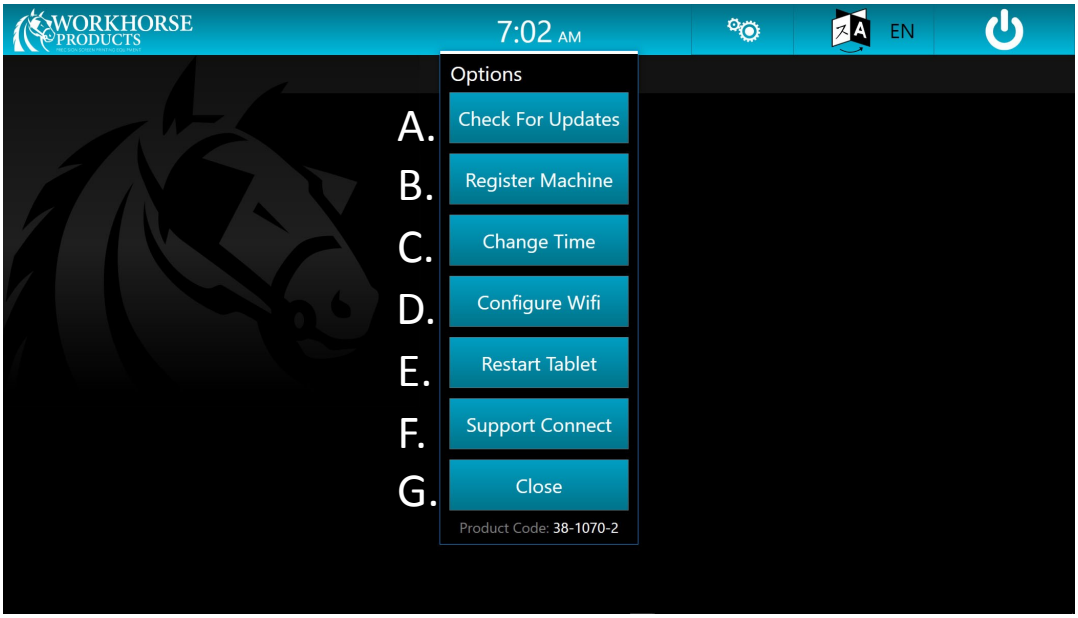
- DO NOT operate this equipment without functional safety cables in place.
- DO NOT allow anybody who has not been trained in the safe operation of the machine near the machine.
- DO NOT allow children near the equipment at any time.
- DO NOT leave the equipment unattended while operating.
- DO NOT operate the equipment without vocal warning. For example, “CLEAR” or “READY”.
- DO NOT operate without visual inspection to ensure there are no personnel within the operational area of the equipment.
- ALWAYS disconnect the power source when servicing or entering the machine.

1. MAIN AIR LOCKOUT VALVE: A lockout valve located before the main filter regulator has been provided as an added safety precaution. The valve allows for a padlock to be installed, preventing air from being supplied to the equipment.

2. SAFETY CABLE: The safety cables are yellow cables that route around the perimeter of the equipment. If disconnected the main control’s power will be interrupted and air will be emptied from the machine by the main dump valve.

THIS PRODUCT IS INTENDED FOR INDOOR USE ONLY

Touchscreen Controls



There are a number of functions that can be preformed on the "off" screen:

1. The power button in the upper right-hand corner will turn the machine on, and will supply power to all of the devices on the machine. The display will then change screens to "Manual Mode", and show every print head (as shown below).

2. The language button is located to the left of the power button and can be used to change the language of the machine.

3. The systems button is located to the left of the language button, which controls:

A. "Check for Updates" - Will check the Workhorse cloud system for firmware updates (Wi-Fi connection required)

B. "Register Machine" - Resister the machine online.

C. "Change Time" - Adjusts the date and time on the machine.

D. "Configure Wi-Fi" - Opens the Wi-Fi configuration menu, where the machine can connect to Wi-Fi. When connected to Wi-Fi the machine can receive updates, communicate with the cloud, and allow for remote troubleshooting.

E. "Restart Tablet" - Will restart the machine if needed. This button should not be used on a regular basis.

F. "Support Connect" - Directly connect with Workhorse Products support.

G. "Close" - Will close the sub-menu and return to the "off" screen.

Touchscreen Controls

A—"Full Auto" mode will automatically index the machine after the prior print sequence has finished. This mode eliminates the use of the foot pedal or the "Continue" button to begin the next print sequence. In "Full Auto" mode the foot pedal acts as a "Skip Shirt" button.

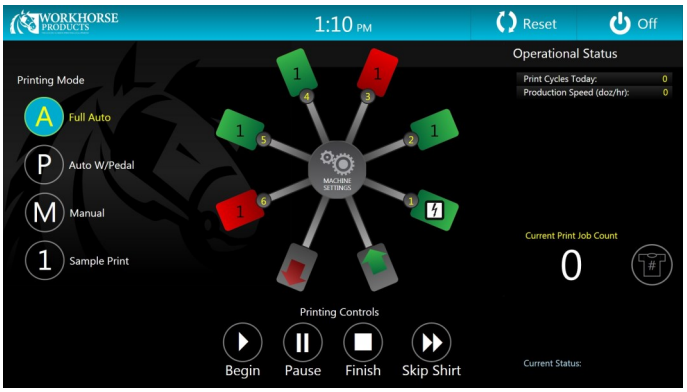
P —"Auto w/Pedal" mode will only allow the machine to begin the next print sequence when the foot pedal is used or the "Continue" button is pressed.

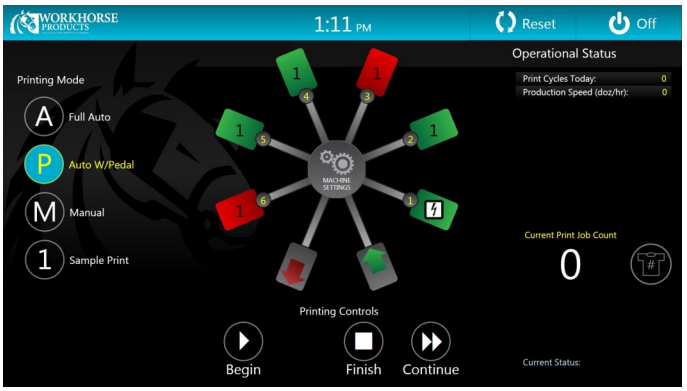
M — "Manual" mode is typically used to set up the press. This mode gives the operator complete control of the press functions.

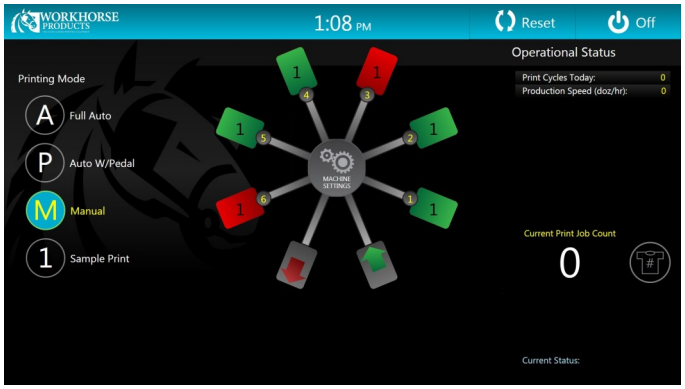
1 — "Sample Print" mode allows the operator to send one item around the machine to ensure the setup is accurate.

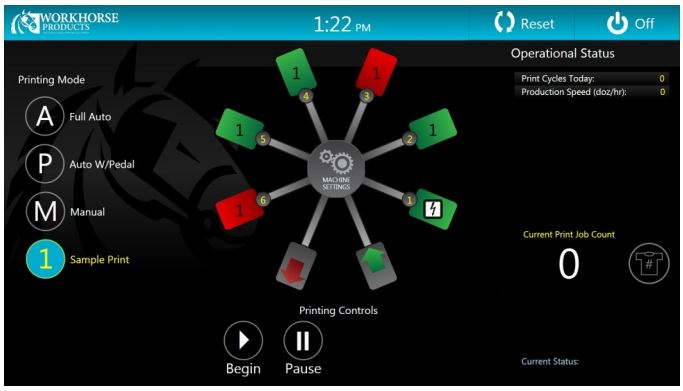
The buttons on the bottom of the screen will change according to the "Print Mode" selected. These buttons signify the basic functions needed when printing:

- **"Begin"** will start a new print job, and sequentially print and flash on the heads that are activated.
- **"Pause"** will pause a print job at any time. To resume, press this button again.
- **"Finish"** will sequentially deactivate the print and flash heads as the last item is finishing.
- **"Skip Shirt"** While in "Full Auto" mode, this function makes it possible to not place an item on a pallet. As it indexes, the machine will not print or flash on the selected pallet, (the foot pedal serves the same function).
- **"Continue"** while in "Auto w/ Pallet" mode will continue the print sequence, (the foot pedal serves the same function).

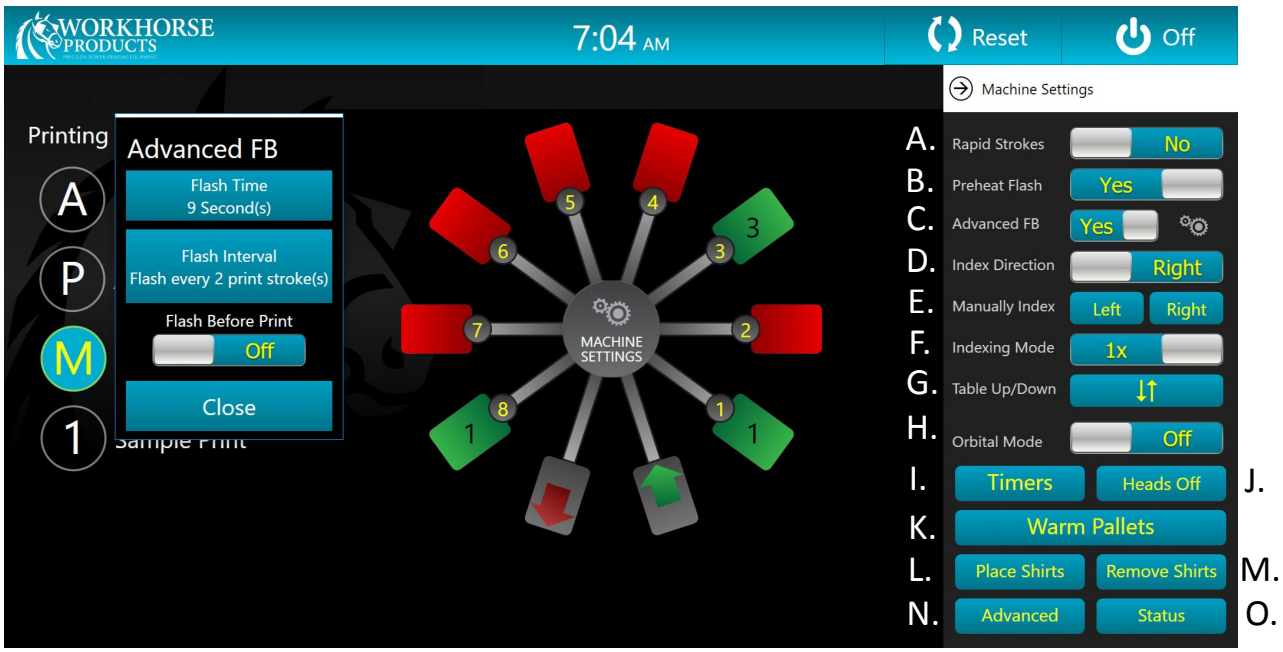








Touchscreen Controls



A. "Rapid Strokes" - This function will not lower the table between multiple print strokes on the same head. The item will remain against the screen as the head floods the ink and prints again. The "Rapid Stroke" function can significantly increase production.

B. "Preheat Flash" -

C. "Advanced Flashback" -

D. "Index Direction" - Will change the direction the pallets index, either right or left. The icons for load and unload will swap and the head numbers will remain the same. The machine is designed to run in either direction for any length of time.

E. "Manually Index" - Will allow the operator to immediately index the machine in the chosen direction.

F. "Indexing Mode" - This function allows the operator to index one or two pallets at a time. (double-indexing)

G. "Table Up/Down" - Will immediately raise or lower the pallets.

H. "Orbital Mode" - A mode that allows the operator to send garments around the press multiple times to maximize print head and flash capabilities.

I. "Timers" - Opens the "Timers" page—reference page 11 of this manual.

J. "Heads Off" -

K. "Warm Pallets" - The machine will index and the flash heads will cycle to warm the pallets to an ambient temperature in preparation for production.

L. "Place Shirt on All Pallets" - This function will tell the machine that a shirt is loaded on every pallet, signified by a shirt icon on the pallet. The "Place Shirts om All Pallets" function can be useful to clear shirts when terminating a job after it has started.

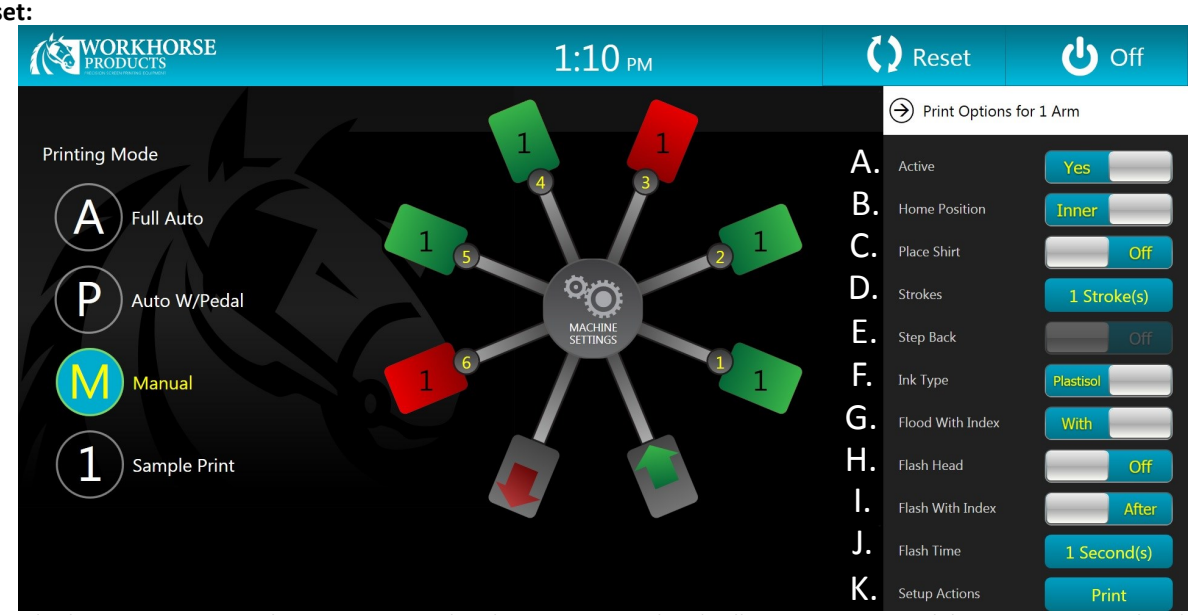
M. "Remove All Shirts" - This function will tell the machine that the operator has removed all shirts from each pallet, signified by the lack of a shirt icon on each pallet. The "Remove All Shirts" can be useful when terminating a job after it has started.

N. "Advanced" - This function will open the "Advanced Settings" menu.

O. "Status" - Shows the current status of all inputs and outputs of the machine.

Touchscreen Controls

To access the "Print Options" menu, press on the specific print head that needs to be adjusted. In this menu the following can be set:



A. "Active" - This button activates or deactivates a print head. An active print head will appear in green, while an inactive print head will appear as red. An inactive print head will not perform any functions during a print sequence.

B. "Home Position" - This button will specify where the print head should be while in a rest state. "Inner" denotes nearest to the center of the machine. This can be used to reverse the flood and print direction on a print head.

C. "Place Shirt" - This button will virtually place a shirt under a specific print head, which is signified by a shirt icon. This indicates there is a shirt ready to be printed under the head.

D. "Strokes" - This feature the operator to set up multiple print strokes on a specific head. Press the "1 Stroke(s)" button to open a sub menu which allows the operator to enter the desired amount of strokes. Press the green checkmark to save the selection.

E. "Step Back" - The head will step backwards by one print head before continuing. Reference page 11 of this manual.

F. "Ink Type" - This button lets the operator select either water based or plastisol ink. This function determines when the head should flood to minimize drying issues with water based ink.

G. "Flood With Index" - This button will direct the head to flood the screen while indexing. Selecting "With" will significantly increase production.

H. "Flash Head" - Selecting this button will prevent the machine from flooding or printing on a head that contains a flash cure.

This button is necessary when working with a Workhorse Flashback in the heads-up position or any flash unit that does not plug into the flash jack on the print arm control panel. When using a Workhorse Quartz Flash or Flashback the system will automatically detect that a flash has been connected. A lightning bolt icon will appear on a digital print head if a Workhorse Quartz Flash or Flashback has been connected, or when the "ON" button has been pressed.

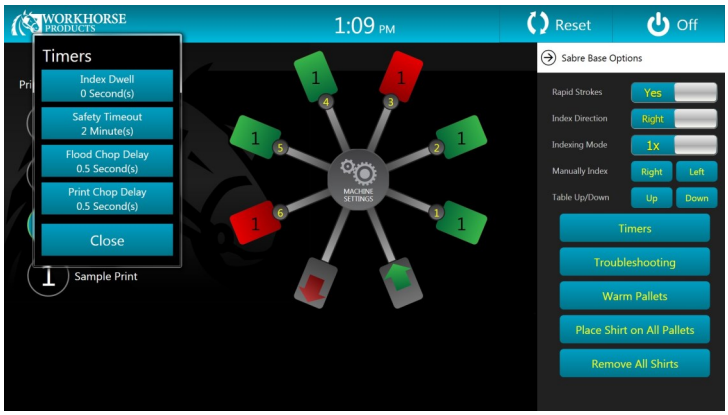
I. "Flash with Index" - This button will begin the flash cycle as the index cycle begins. The "Flash with Index" function can help increase productivity by pre-heating the flash.

J. "Flash Time" - When selected, a sub menu opens and a number pad will appear to allow the operator to specify the number of seconds the flash will be energized. When using a Workhorse Quartz Flash, the time will be controlled automatically. When using a different flash, including a Workhorse Flashback, this will allow the machine to not lower the table before the time has expired.

K. "Print"/ "Flash " - This button will immediately cycle the print sequence for this print head only. The head will either print or flash, depending on the settings.

Touchscreen Controls

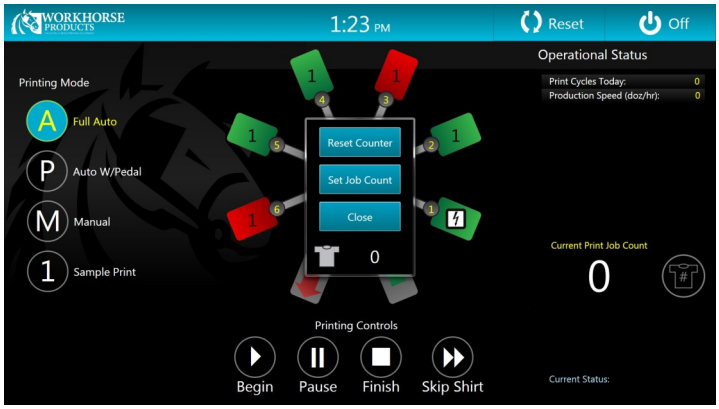
The "Timers" menu allows the operator to set timers that can be used to adjust the press.



- **"Index Dwell"** - Delays the machine before it indexes again in (A) "Full Auto" mode. This function slows the machine to allow more time to unload and load the press before the print cycle completes.
- **"Safety Timeout"** - Automatically disables the foot pedal from starting a print sequence while in (P) "Auto w/ Pedal" mode if the pedal has not been pressed within the same amount of time.
- **"Flood Chop Delay"** - Delays the flood carriage from moving after the print and chop sequence has completed.
- **"Print Chop Delay"** - Delays the print carriage from moving after the flood and chop sequence has completed.
- **"Close"** - This will close the sub-menu.

To access the "Counter" menu, press the round shirt button next to the current print job count. A sub-menu will appear with the following functions:

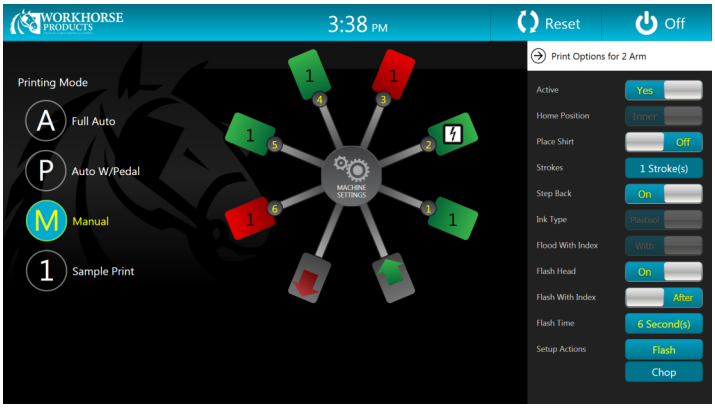
- **"Reset Counter"** - Resets the counter back to zero.
- **"Set Job Count"** - Allows the operator to select the number of items to be printed before a warning appears and the machine is paused.
- **"Close"** - This will close the sub-menu.



The step back function is a powerful feature allowing the press to perform a print, flash, print, and a second flash while only using two print heads (instead of four). To activate this feature, setup one head as a flash and turn "Step Back" mode on for that head (as seen on the screen capture to the right):

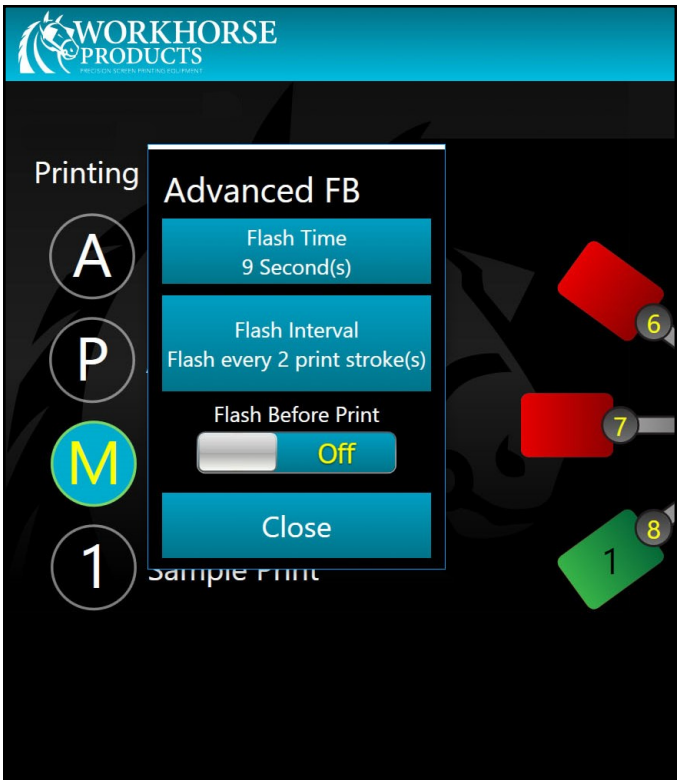
With the settings configured per the example the machine will perform as below:

1. Forward index and print the item on head 1.
2. Forward index and flash the item that was printed on head 1.
3. Reverse index and print the same item on head 1.
4. Forward index and flash the same item on head 2.
5. Forward index and print all remaining configured heads.



Touchscreen Controls

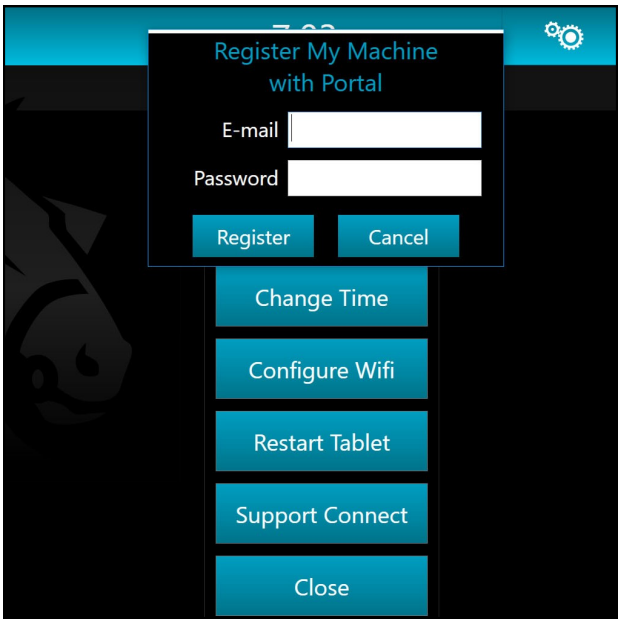
Advanced Flashback settings allows for the user to have more control on how the flash interacts with the press. To make "Advanced FB" available the "Rapid Strokes" function needs to be in the off position and the flashback needs to be in "Print-Print-Flash" mode.



- **"Flash Time"** - The amount of time it takes for the flash to shuttle in and out. Press "Flash Time" to easily change the amount of flash time.
- **"Flash Interval"** - The amount of print strokes before the flashback flashes. Press "Flash Interval" to easily change the amount of print strokes. For example, to Print-Print-Flash-Print, set the flash interval to two strokes.
- **"Flash Before Print"** - Turn the flash on before indexing. This allows for the pallets to be heated up even at the very beginning of a job, so that every garment is equally cured.
- **"Close"** - Exit the Advanced Flashback menu.

Easily register the machine with the portal by accessing the main menu on the "off" screen.

- **"Register Machine"** - By pressing this the tablet will bring the user to the Workhorse website to register the machine. Registering is important because it makes it possible for the machine to receive system updates and connect with Workhorse maintenance.



Touchscreen Controls

The "Troubleshooting" menu can help fix any issue that may arise with the press. This feature captures detailed information of the machine's function and logs it, to assist the operator and Workhorse Products technical support to quickly diagnose a problem.

The **"Machine Maintenance"** section notifies the operator when maintenance is required. Routine maintenance is required to maintain optimal operating conditions.

The **"Print Arms"** section allows the operator to change the physical I/O ports for each print head. This function can be useful if a problem arises with an I/O port on the press. Workhorse Products technical support is available to assist with this function.

The lower portion of this page shows the status of all physical inputs in real-time, which can be useful with troubleshooting a potential sensor issue. Workhorse Products technical support is available to assist with this function.

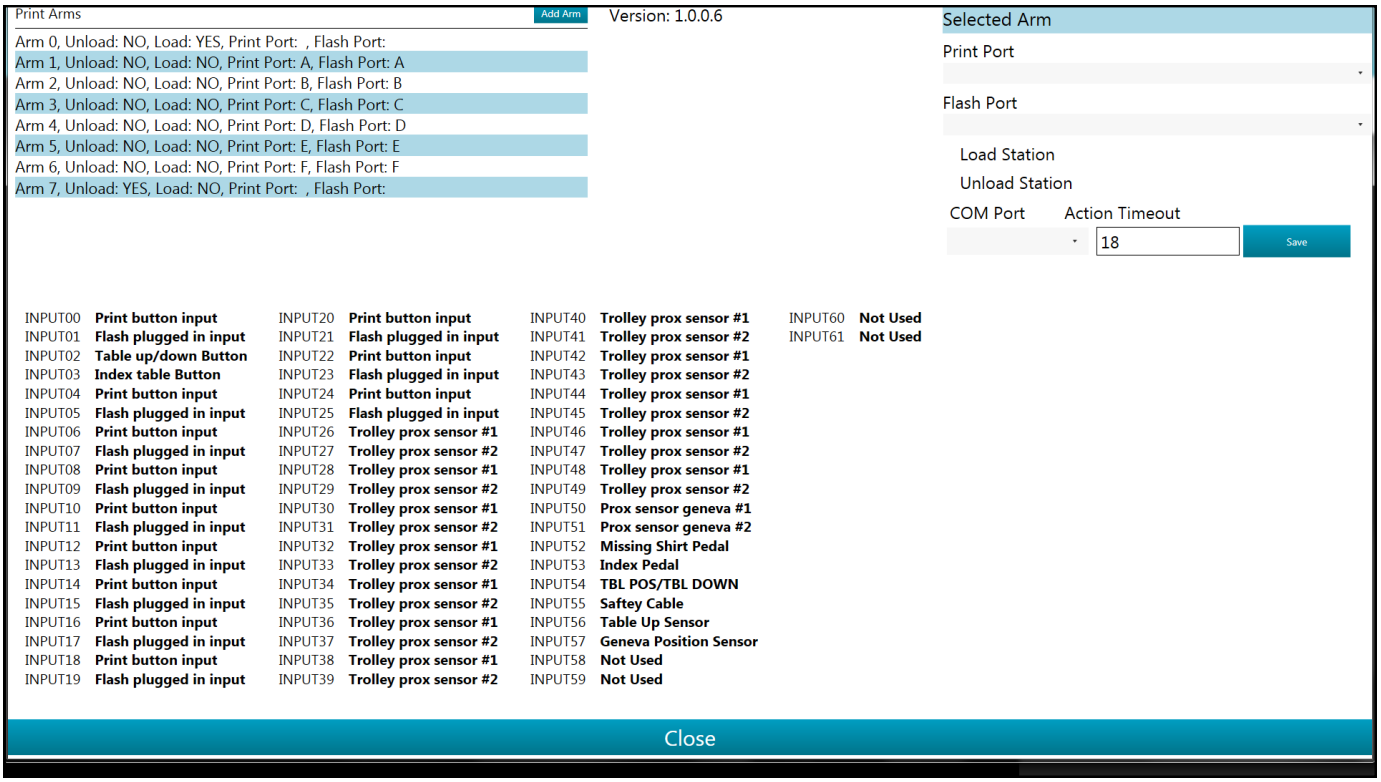
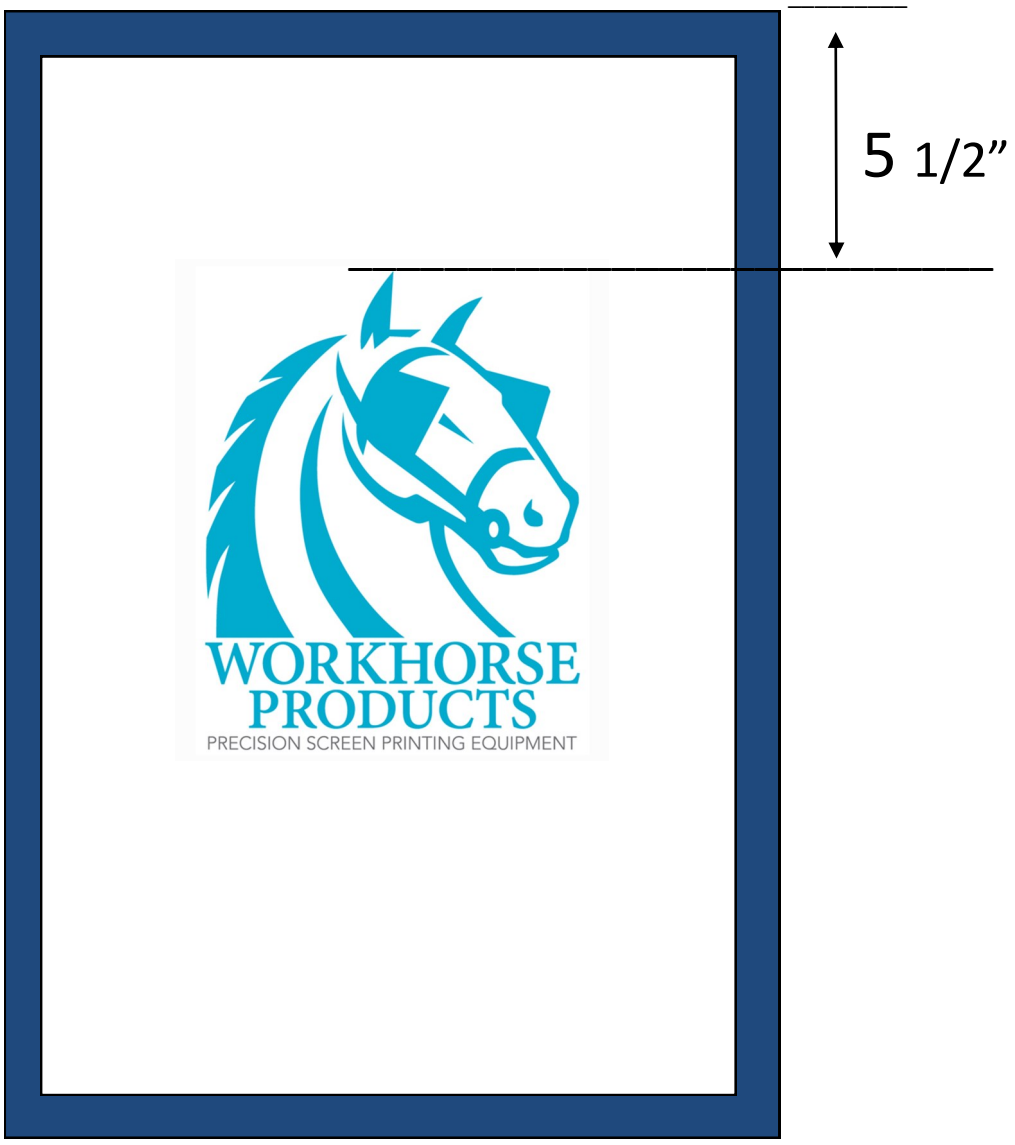


Image Placement

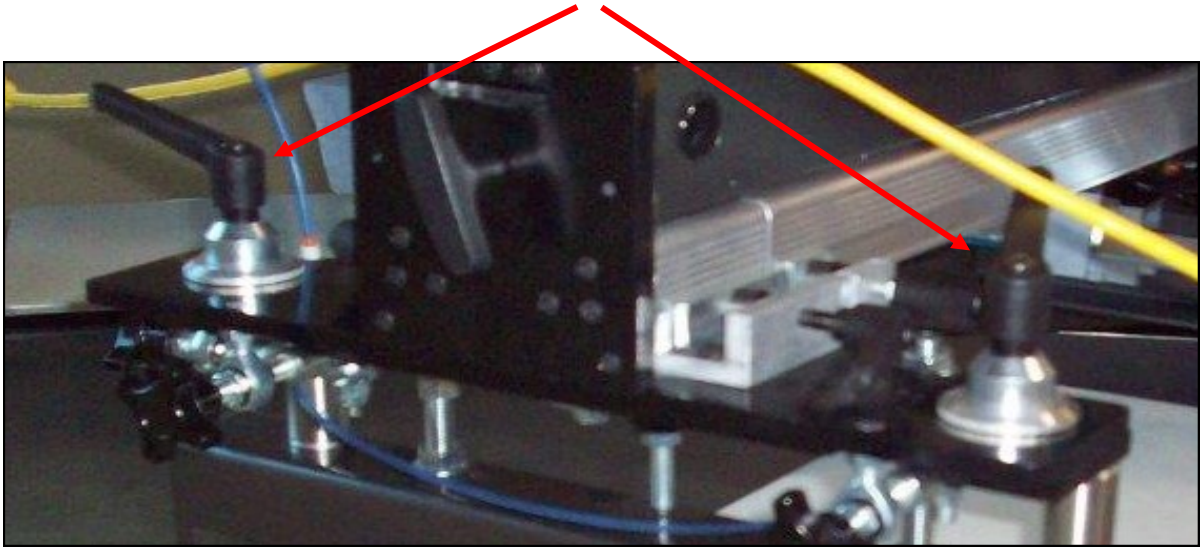


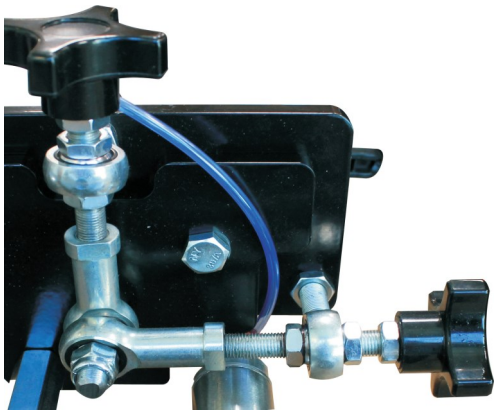
Workhorse Products Screen Making Suggestions:

- Screens should be pre-registered.
- The image should be centered side to side.
- The highest printed part of the image should be at least five and one half inches from the top outside edge of the screen frame.
- Maintain image placement on each screen to one eight of an inch of one another.
- Taping the back of the screen within one inch of the image area will minimize emulsion breakdown for longer runs.
- Tape the sides on the inside of the screen where the squeegee rests to protect the mesh.

Micro Registration

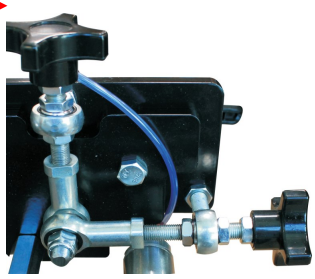
MICRO LOCKING HANDLES: Loosen these handles to move the screen and perform micro adjustments.





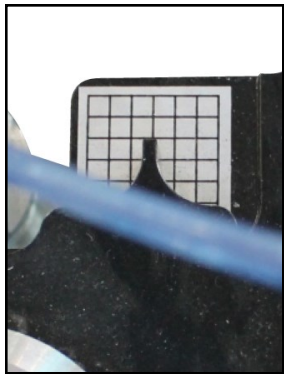
FRONT MICRO LEFT / RIGHT ADJUSTMENT: Turning this knob counter-clockwise causes the image to shift to the left on the garment being printed. Turning the knob clockwise causes the image to shift to the right on the garment being printed.

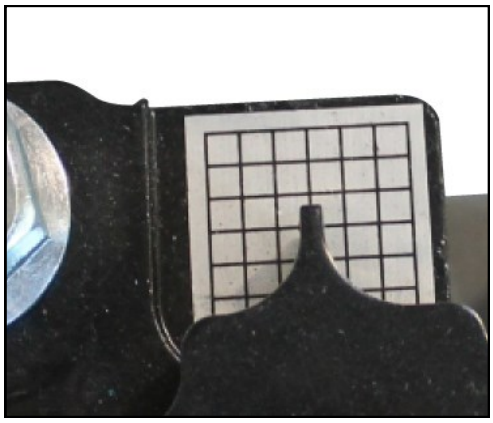
FRONT MICRO UP / DOWN ADJUSTMENT: Turning this knob counter-clockwise causes the image to shift down on the garment being printed. Turning this knob to clockwise causes the image to shift up the garment being printed.

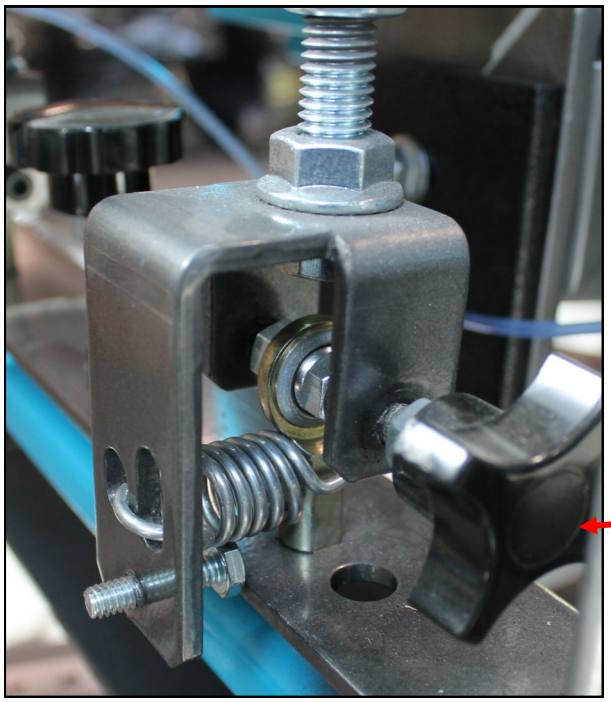


Micro Registration

Before setting up the job, adjust the knobs so that the arrow is in the center of the square. The micro adjust being centered signifies there is plenty of micro adjustment to properly register the job.



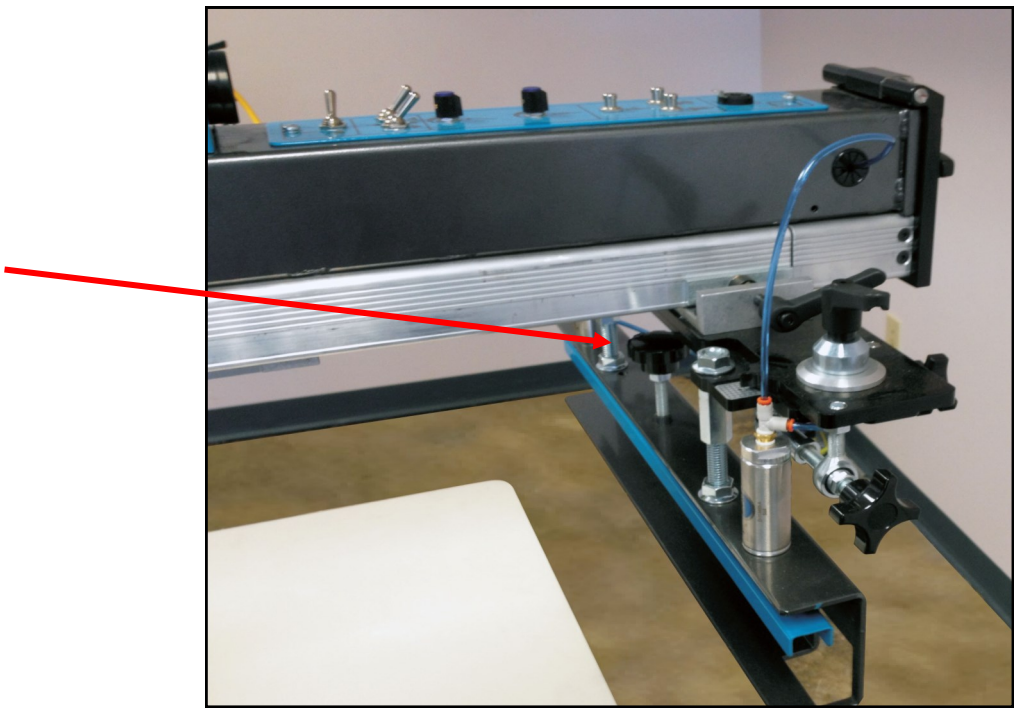


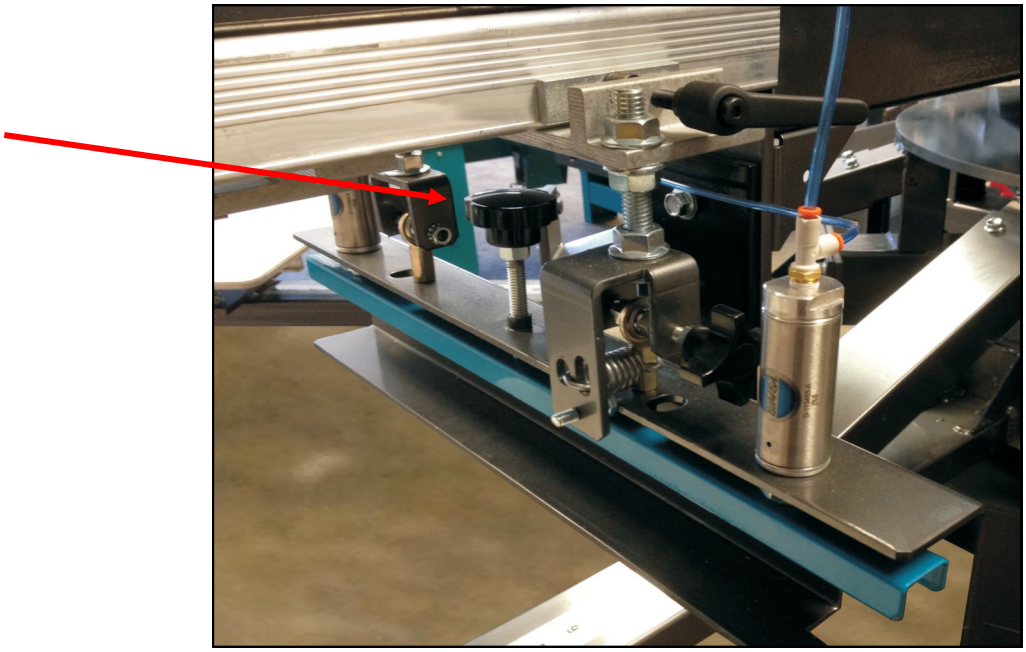


The rear micro is equipped with side to side adjustments for micro adjustment. Turn the knob counter-clockwise to shift the screen to the right. Turn the knob clockwise to shift the screen to the left.

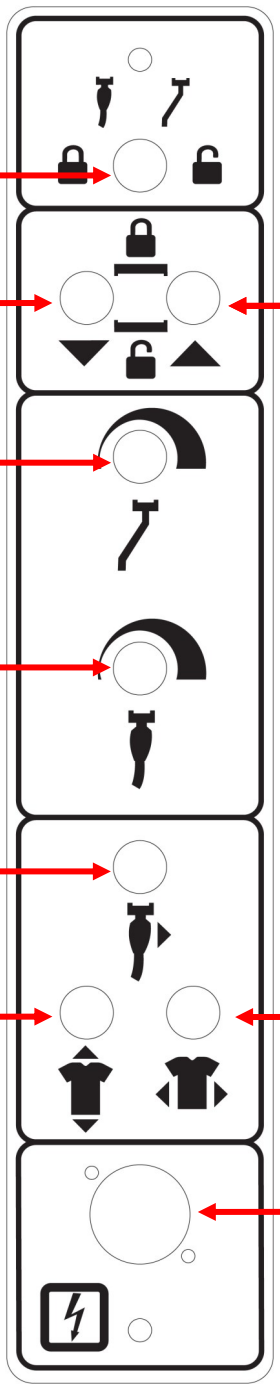
Micro Registration

After screen alignment is completed, lock the screen clamps to hold the screen in registration. The control panel on top of the print head triggers the pneumatic cylinders to lock down the clamp bars.





Print Head Controls



Squeegee and Flood bar Pneumatic Lock

Front Screen Clamp Lock or Unlock

Flood Speed Control

Print Speed Control

Manual Test Print

Table Up

Rear Screen Clamp Lock or Unlock

Index Tables

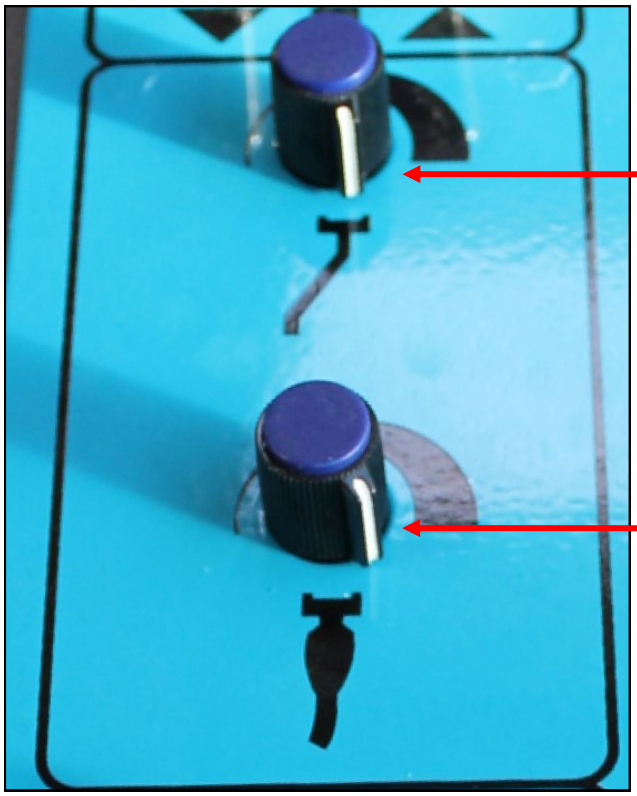
Quartz Flash Connection

Print Head Controls

Manually test a stroke while setting up a design. Press and hold the button for one second to activate.

The table is cycled by pushing and holding the button with the shirt icon with arrows on each side for three seconds. The machine will rotate in the direction that was specified earlier.

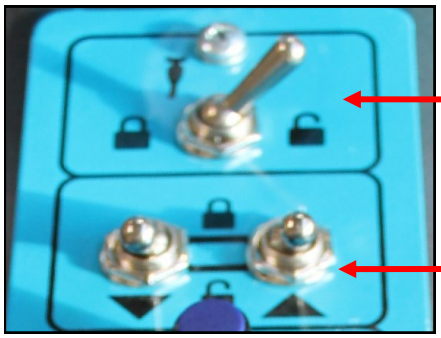
The pallet is raised and lowered by pushing and holding the button with the shirt icon that has arrows above and below it for one second. The machine will raise. Press and hold again to lower the machine.



Flood speed is adjusted by turning the knob clockwise to increase or counter-clockwise to decrease the speed of the carriage.

Print speed is adjusted by turning the knob clockwise to increase or counter-clockwise to decrease the speed of the carriage.

Print Head Controls

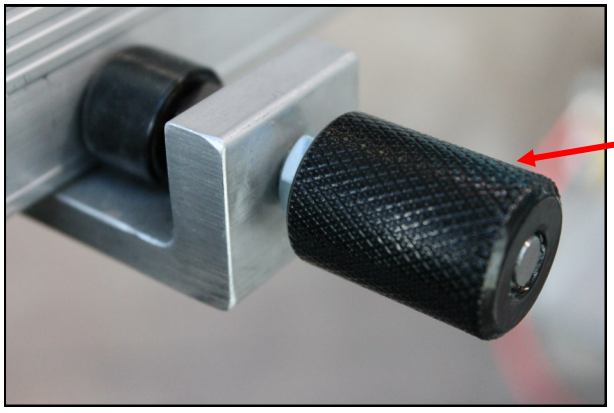


The toggle valve locks and unlocks the squeegee and flood bar into position.

The pair of toggle valves locks and unlocks the screen clamps. Each valve operates either the front or rear screen clamps.

Each print head has a stroke length adjustment. The sensors on the squeegee carriage read this information to determine when to limit the carriage travel.

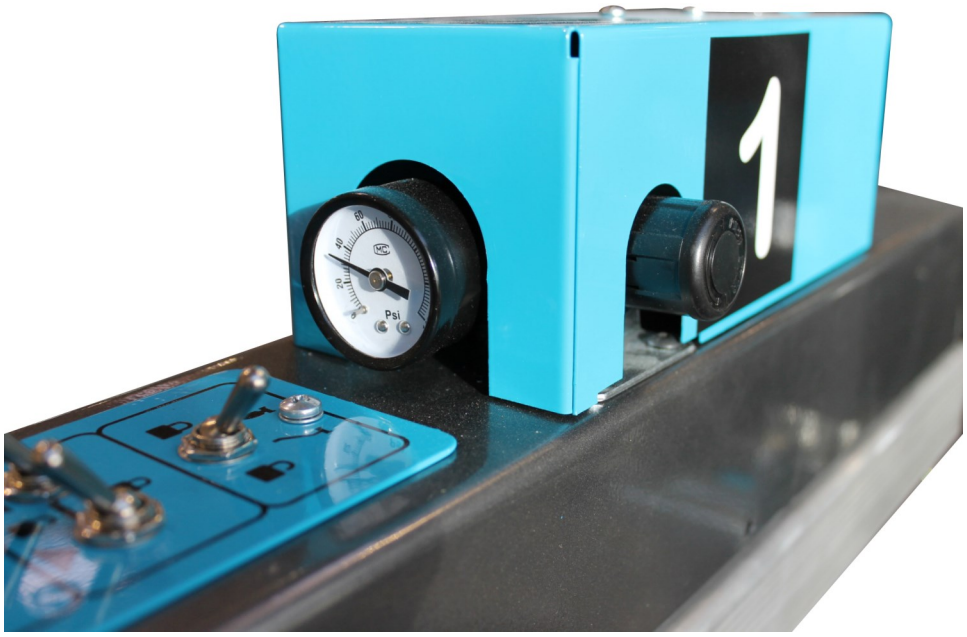
To control the stroke length for the flood stroke, move the black knurled knob fore and aft on the print arm to limit carriage travel.



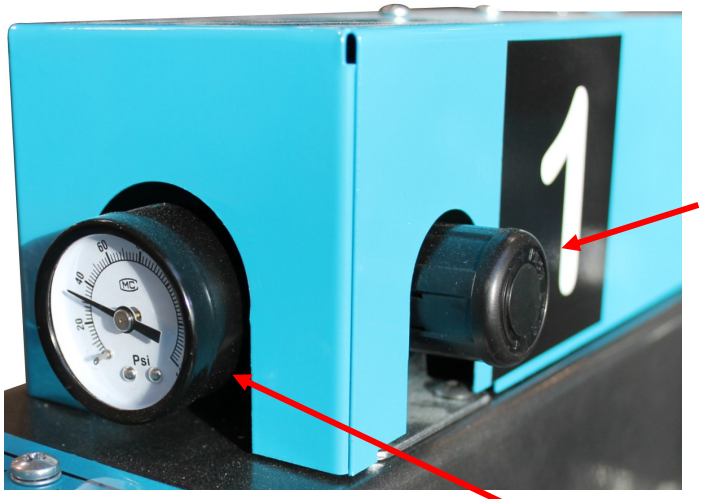
To control the stroke length for the print stroke, move the black knurled knob fore and aft on the print arm to limit carriage travel.

The carriage will only travel the distance between the two black knurled adjustment knobs.

Print Head Controls



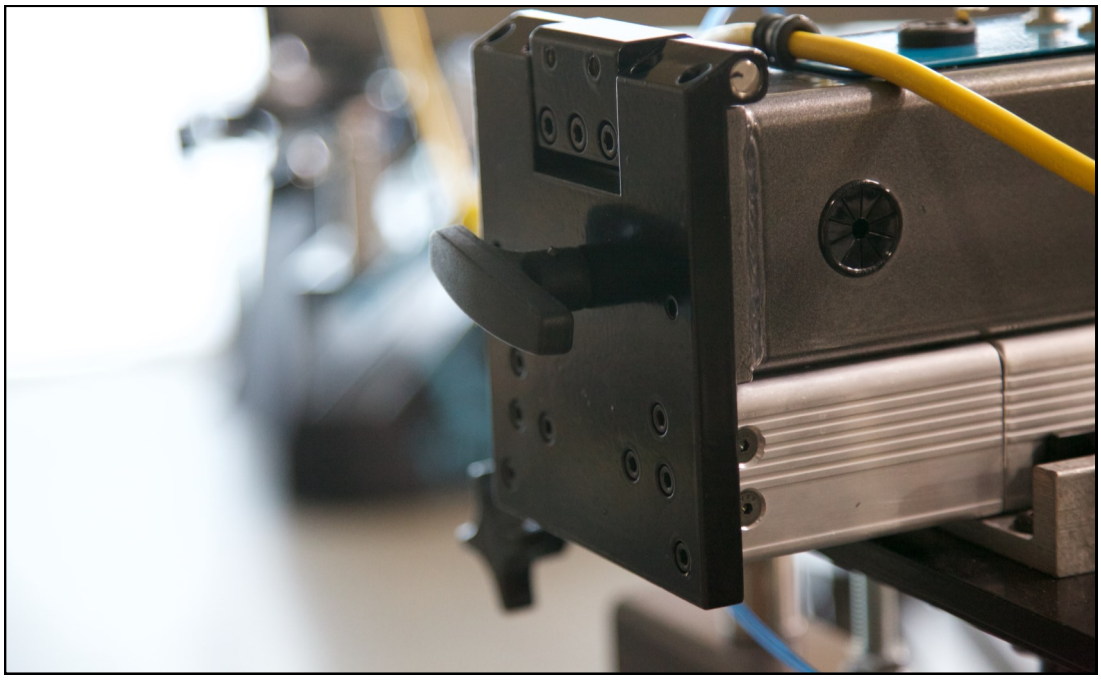
Each print head has an independent regulator and gauge to control the air pressure. The air pressure determines how much pressure is applied to the squeegee and flood bar.



Air pressure adjustments are made with the black knob located on the right side of the housing. To increase air pressure, turn the knob clockwise. To decrease air pressure, turn the knob counter-clockwise.

The air pressure is displayed on the gauge located on the front of the housing. Workhorse Products recommends an initial setting of 35-40 PSI. Thicker inks may require increased pressure for optimal results.

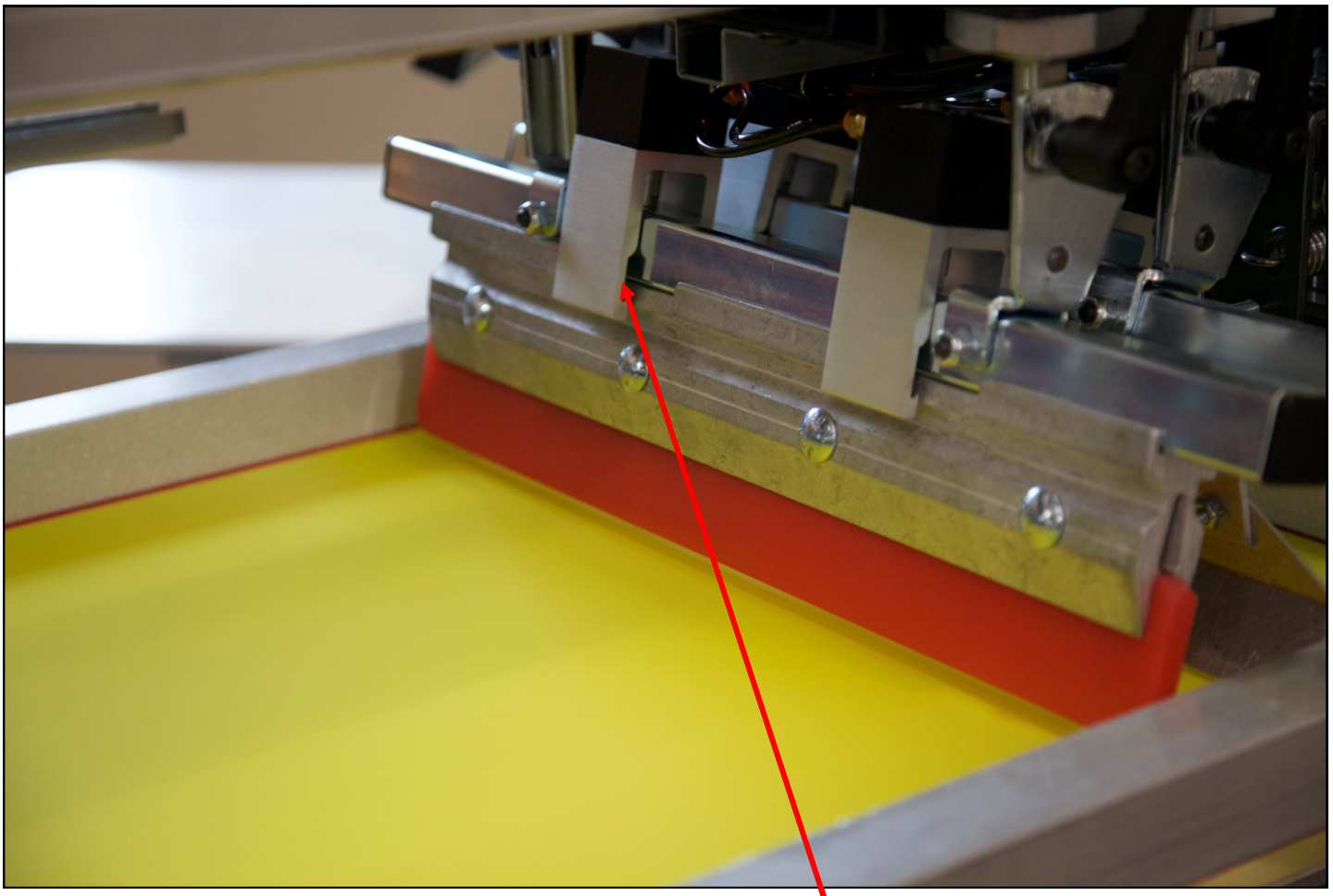
Head Tilt



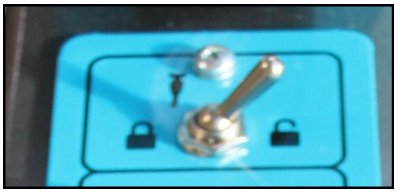
Loosening the knob on the front of the print head will allow the front screen clamp to pivot up allowing clearance for a roll in flash.

Pivoting the head up will allow the clearance needed for flash or Flashback (In Heads Up Mode) to be installed in a particular station.

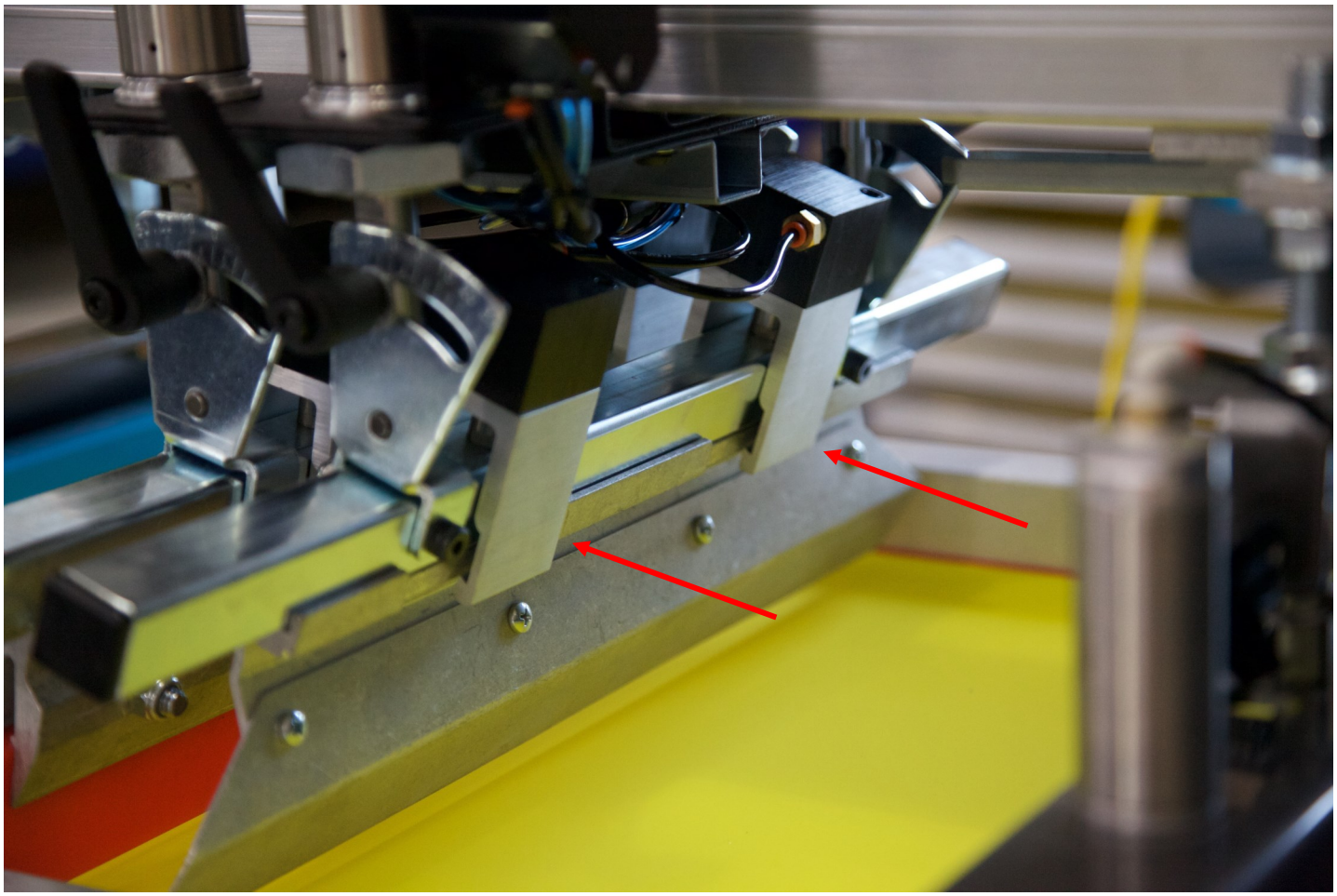
Squeegee and Flood bar



To install the squeegee and flood bar, align the notch in the top of the squeegee and flood bar with the clamps and slide to the left. Install the flood bar first, followed by the squeegee. Lock the squeegee and flood bar into position using the switch located on the print head control panel.

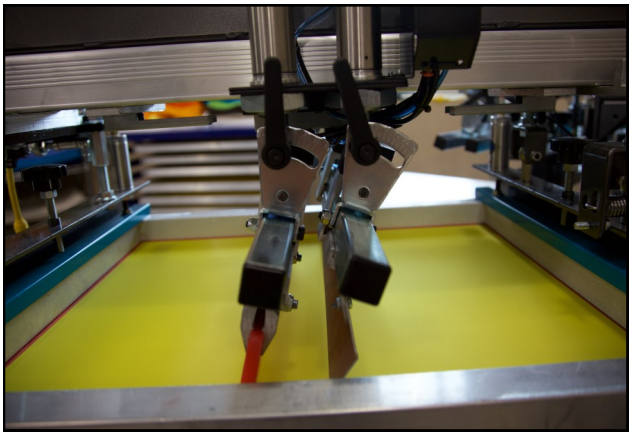


Squeegee and Flood bar



This image shows the backside of a flood bar. Notice the notches and clamp cylinder lockdowns for installation.

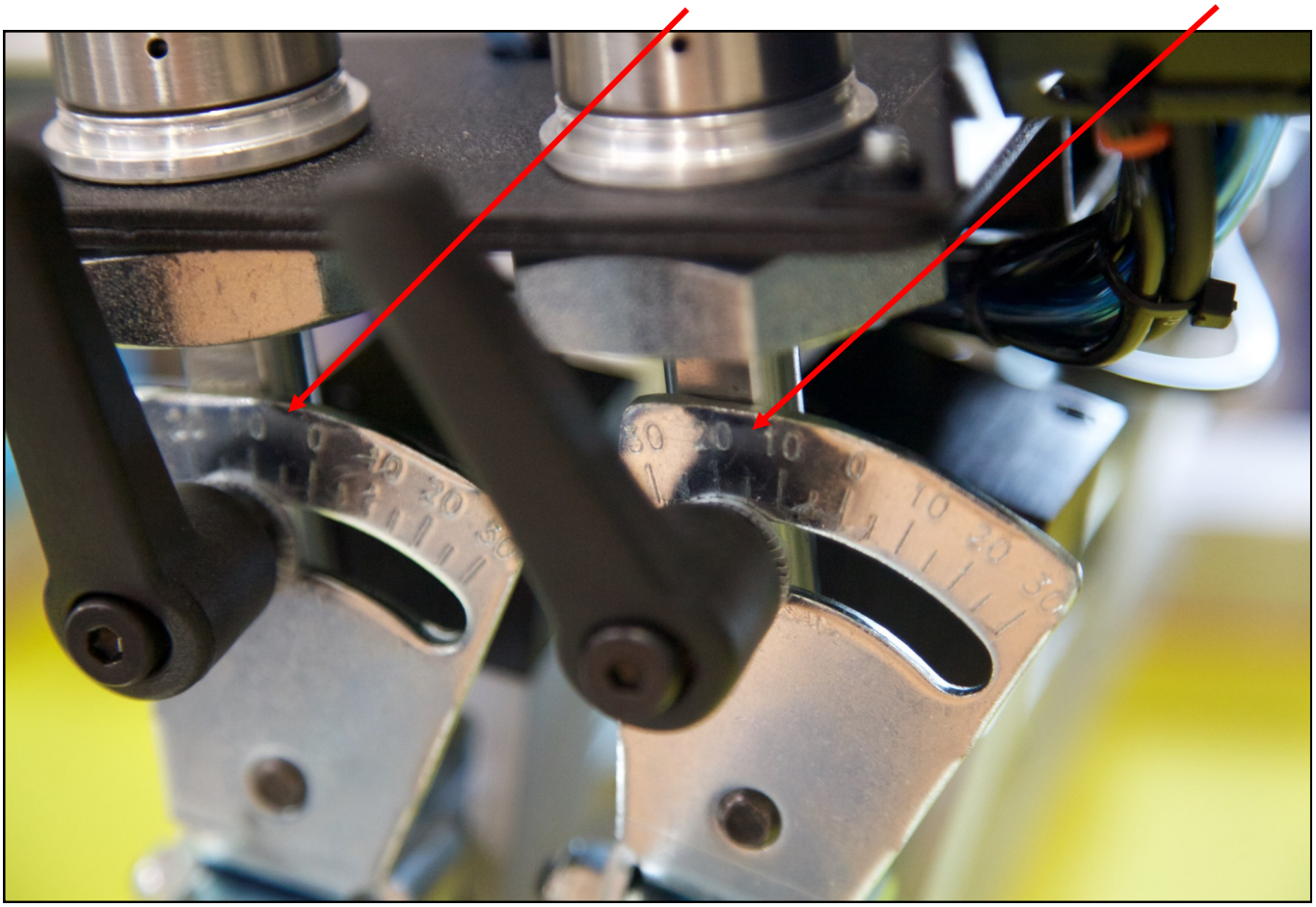
Squeegee and Flood bar



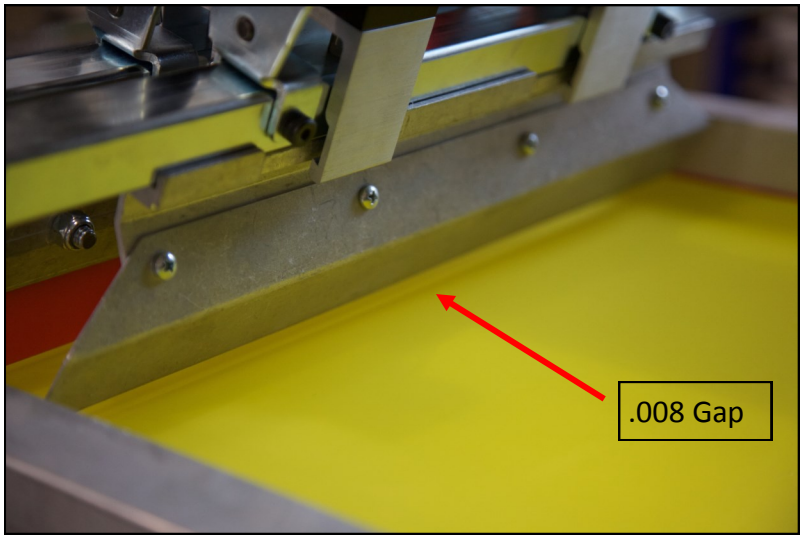
Set the angle of the squeegee and flood bar after installation. Workhorse Products recommends setting the squeegee angle at 10 degrees and the flood bar angle at 20 degrees.

To adjust the angles, loosen the black levers on the adjustment flange and twist the bar the squeegee and flood bar are mounted to. Tighten the levers to maintain the desired position.

The photo below shows the squeegee angle set to 10 degrees and the flood bar angle set to 20 degrees.



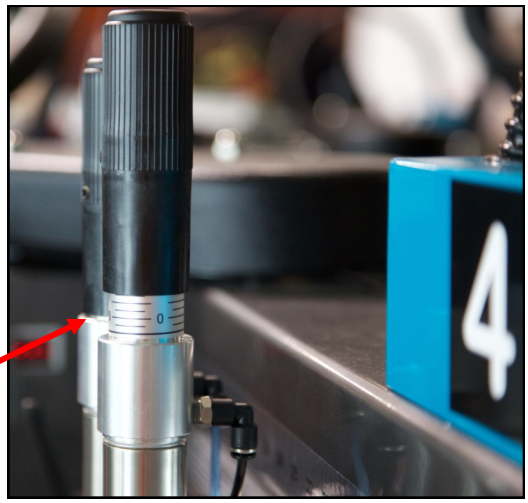
Squeegee and Flood bar



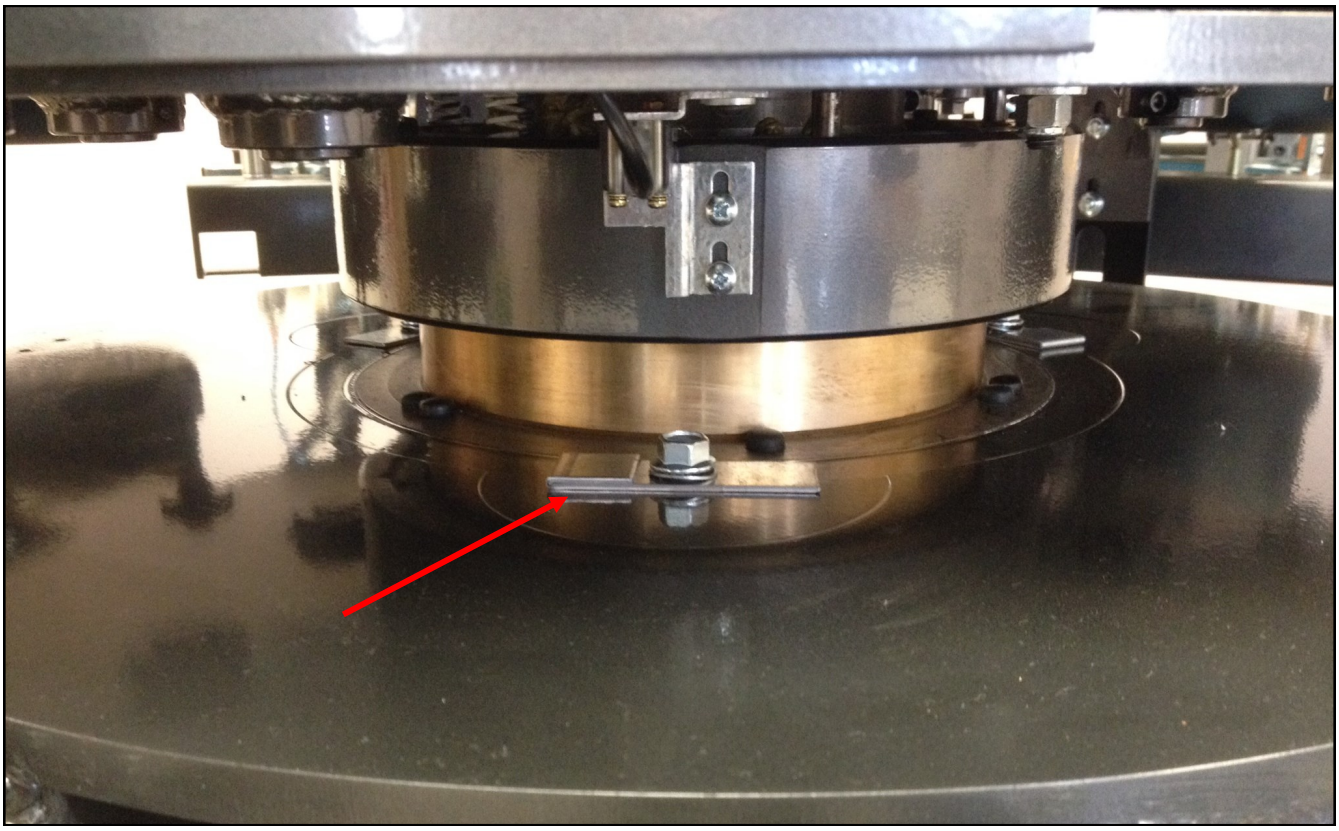
Set the squeegee and flood bar pressure after setting the proper angle to avoid damage to the screen mesh

1. Push down on the pressure adjust knobs to ensure the flood bar is not contacting the mesh.
2. Adjust pressure knobs to maintain a gap of .008” between the flood bar and the mesh.
3. Test the flood and adjust accordingly.
4. Pull the carriage forward to confirm the screen is flooded properly.
5. If the angle of the squeegee has changed, the flood bar pressure will also have changed. Review the flood bar pressure to avoid tearing the screen mesh.

To add or remove pressure, turn the black knob on top of the chopper cylinders. Turning the knob clockwise will lower the gap, shorten the stroke, and reduce the pressure applied.



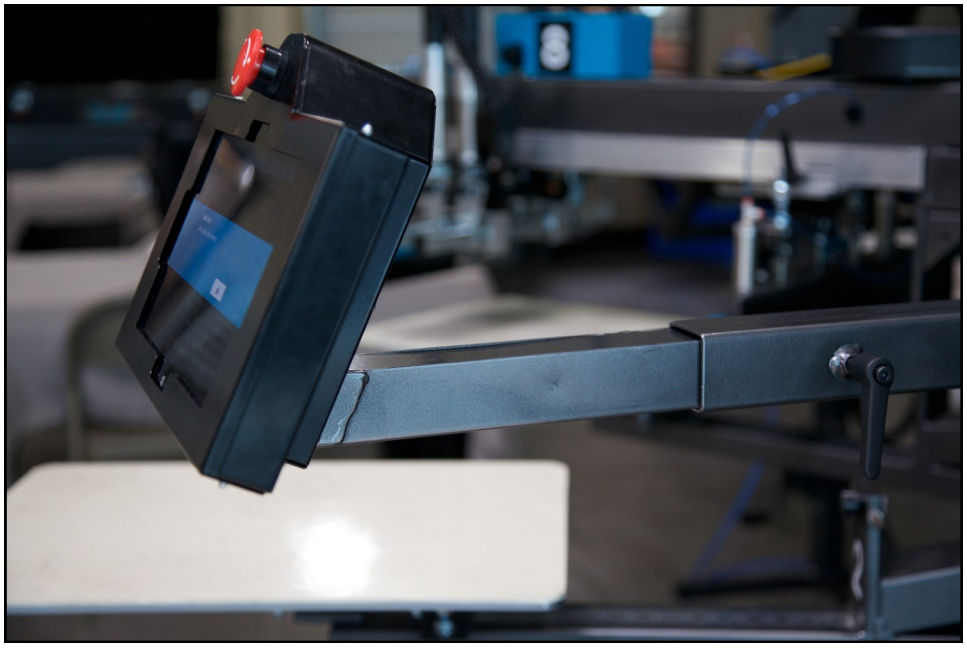
Off Contact



The machine's off contact is factory set for most printing operations and is adjustable if needed.

To adjust the off contact, adjust the metal tabs that are located on the wheel. Each tab has two sides and either side may be used. Rotating the tabs under the ring will increase the off contact. Ensure that the tabs do not contact the center ring which may decrease the machine's off contact.

Control Arm



The control box is telescopic. It can be adjusted in or out by loosening the handle located on the side of the control arm.

Pallet Leveling

What is needed:

- Two 9/16” combination wrenches.
- Two 1” square 31” long steel tubing, OR 31” long screen frame with mesh.

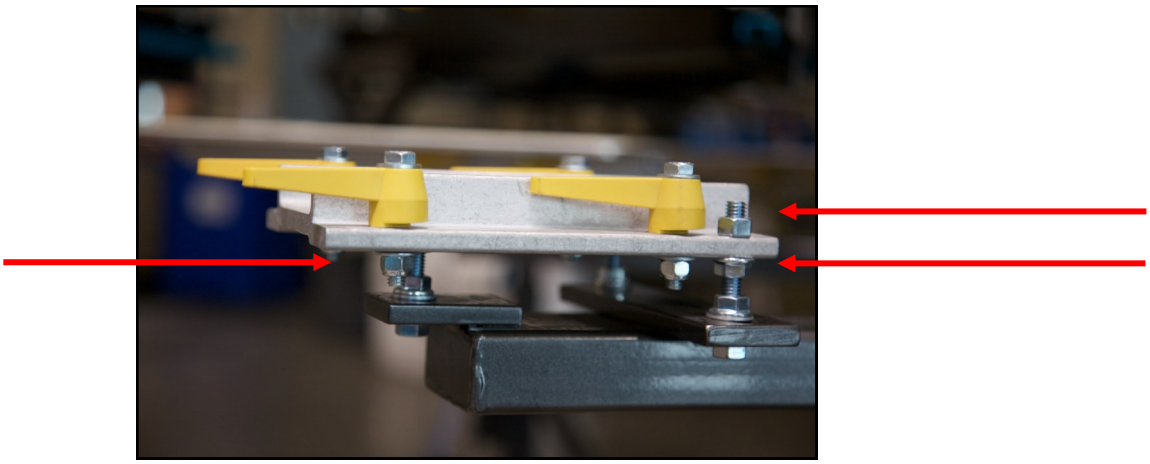
Set-Up Inspection:

Insert a 31" screen OR two pieces of 1” steel tubing into the screen clamps. When using steel tubing align the outside edges of the steel one inch from the outside edges of the screen clamp. In “Manual” mode raise the table and visually inspect the off contact between the steel tubing/screen frame and the pallet.

To level the pallet with the steel tubing or screen frame:

1. Loosen the uppermost nuts on top of the pallet aluminum.
2. Use a 9/16” wrench to raise the pallet by rotating the top nut. Use the other 9/16” wrench to adjust the nut on the bottom side of the aluminum pallet base to raise the pallet.
3. If needed, loosen the uppermost nuts on the pallet leveling bolt.
4. To lower the pallet use the same nut on the bottom side that was used to raise it. Turn the nut in the opposite direction.
5. After levelling the pallet, tighten the uppermost nut located on top of the aluminum pallet base.

Important: Level all pallets using the same print head. The three leveling bolts are attached to the holding brackets, which are secured to the press. The holes for the three leveling bolts are slotted, making it possible to move the pallet side-to-side. After all pallets are level, adjust the off contact on the remaining heads to the same pallet.



Maintenance

WARNING!

RISK OF ELECTRICAL SHOCK! Turn ALL power to unit OFF before service.

All service should be done by or under the supervision of a trained technician

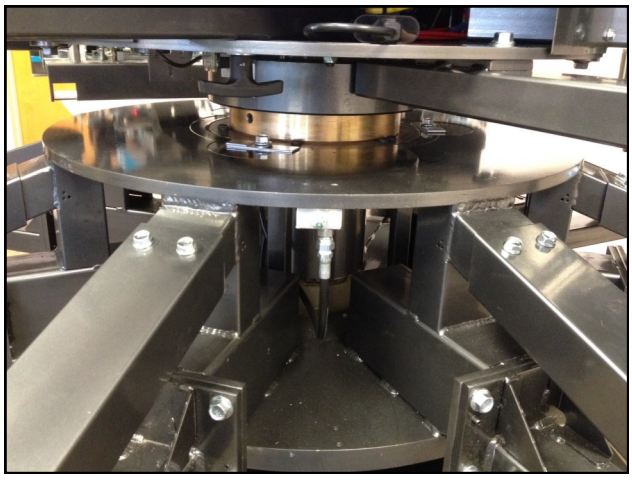
Moisture in the air supply can reduce the efficiency of the printer and cause premature component failure. Please ensure that the air dryer attached to your air supply is rated for the correct capacity. Component failure caused by moisture in the air supply is not covered by the manufacturer warranty.

NOTE: Please ensure that the air being delivered to your press is free of any moisture. Workhorse Products recommends the following maintenance be performed:

1. Regularly check the air dryer for proper operation.
2. Drain compressor daily.
3. Change the filter in the eliminator no less than every 4 months.

If milky fluid is observed in either side of your filter, regulator, lubricator (FRL) the air drying system has failed!

Cycle Number	Recommended Maintenance
75,000	Grease center shaft and thrust bearing
250,000	Check print arm belt tension
200,000	Check compressor and dryer
100,000	Check fan intake on Flashback
300,000	Check flashback reflectors



To grease the center of the machine, there is one port that will grease both the top and the bottom of the wheel. After the first application rotate the tables a few times and reapply.

Limited Warranty

Although every effort has been made to provide accurate specifications, Workhorse Products does not assume any liability for damages, whether consequential or incidental, that may result from the use or misuse of the indicated specifications. Workhorse Products requires the use of a licensed industrial electrician for the installation of electrical service to equipment requiring electrical power.

Workhorse Products reserves the right to alter specifications in the manufacture of its products. It is understood and agreed that Seller's liability for any equipment whether liability in contract, in tort, under any warranty, in negligence, in strict liability or otherwise shall not exceed the return of the amount of the purchase price paid by Buyer. Not withstanding the foregoing provision, under no circumstances shall Seller be liable for special, indirect or consequential damages. The price stated for the equipment is a consideration in limiting Seller's liability. No action regardless of form, arising out of the transactions under this Agreement may be brought by Buyer more than one (1) year after the cause of action has occurred. Our warranty is specified is exclusive and no other warranty, whether written or oral, is expressed or implied. Workhorse Products specifically disclaims the implied warranties of merchantability and fitness for a particular purpose. Equipment manufactured or sold by Workhorse Products is warranted against defects in workmanship and materials for a period of one year from receipt by customer. All warranties initiate from date of shipment to original customer. Replacement parts are covered for the term of the equipment warranty period. Parts not under warranty are covered for thirty (30) days from receipt by customer. Any part found by Workhorse Products to be defective in material or workmanship within the stated warranty period will be replaced or repaired at Workhorse's option without charge.

AFTER OBTAINING AN RMA# SEND RETURNED FREIGHT PREPAID TO 3730 E. Southern Avenue, PHOENIX, AZ 85040 USA.

Written authorization must be obtained from Workhorse before any part will be accepted. Replacement parts are sent out freight collect.

Parts sent out prior to receiving defective require a credit card hold for cost plus freight. Upon return of defective part, if it is deemed that the part was not damaged by customer but failed, the cost of the replacement part will be refunded.

This warranty does not extend to expendable parts such as filters, fuses, elements and brushes. Workhorse does not warrant failure of parts or components resulting from misuse or lack of proper maintenance. Installation, inspection, and

Registration Form

Company Name: _____ Contact Name: _____

Address: _____ Phone Number: _____

_____ Fax Number: _____

City: _____ Email : _____

State: _____ Cell Number: _____

Country: _____

Zip Code: _____ Serial Number: _____

Date Recivied: _____

Model Number: _____

Date Purchased _____

Please Fax Registration Form for warranty to take place