

Freedom

6/8

owners manual



Introduction

Congratulations on your purchase of the Workhorse Products Javelin Pro Automatic Textile Printing Press.

Check the crate for damage, **DO NOT** accept the crate if damaged due to improper handling during shipping. Report any damage to the carrier at once as well as Workhorse Products at **800-778-8779**.

Inspect the crate contents IMMEDIATELY while the carrier is still there. Our packaging has been carefully designed to handle normal shipping conditions. However, we cannot be responsible for damage by the carrier. Upon first sight of freight damage notify or point out to the driver and file your claim with the carrier, then notify us.



The Freedom is the epitome of simple as it relates to screen printing. It's simple to set up, simple to operate, and simple to maintain. That said, The Freedom does not limit you to simple designs or small jobs. This machine turns any manual press operator into a mass producing printer. Freedom's fast indexing speed, simple to use controls and precise micro registration ensure that setups are as fast and easy as with your manual press. Add our patented FlashBack to the Freedom and Workhorse has re-written the book on affordable high production while keeping it simple. Automating your manual shop gives you freedom from: long hours at the press, aching elbows and wrists, late deliveries, high labor costs, and the list goes on.

Features:

Micro registration front & back for fast setups

heavy duty steel construction throughout

Easily adjustable screen clamps

One knob quick change squeegee

Precision milled Registration forks for exact registration

Production Counter

Variable off-contact adjustment

Easy release platens

60 doz./hr capability

Integrated safety system

Two year limited warranty

Micro processor controlled

Fast, easy, squeegee and flood angle, pressure adjustments

Sing or double print strokes per screen for darker garments

Independent head controls

Non-warping solid aluminum platen

Adjustable rear screen clamp

Adjustable print stroke

Foot pedal

Specifications

Press	Foot Print	Compressor HP Rating	CFM @ 120psi	Volts	Amps
FRD-6/8	10'5" (3.2m)	7.5hp	22cfm (7.6bar), (623 l/m)	110V, 50-60Hz,	10

Max Print Area	Portrait Positioning	Landscape Positioning
FRD-6/8	16 x 18"	30 x 18"

Accessory	Foot Print	Watts	Volts	Amps	Phase
FlashBack 16"	2' (extends from press)	4200W	220V	20	Single
FlashBack 20"	2' (extends from press)	5500W	220V	25	Single
Radiant In-Head	Installs In-Head	3015W	220V	14	Single



Questions? Give us a call!

800.778.8779

Visit our website at
workhorseproducts.com



Safety Procedures

1. MAIN AIR LOCKOUT VALVE: When servicing of the printer is required a special Lockout Valve has been provided as an added safety precaution. This valve is located before the main filter/regulator. This has a padlock hole through it. A padlock may be inserted to prevent air from being supplied to the printer.



2. SAFETY CABLES: Located around the perimeter of the printer, when disconnected at any junction they will cut power to all main controls and energize the main Dump Valve emptying all of the air from the machine.



NOTE: IT IS VERY IMPORTANT THAT THE TABLE BE IN ALIGNMENT BEFORE RECONNECTING THE SAFETY CABLE.

DURING AN EMERGENCY SITUATION: Push the emergency stop button or disconnect the safety cables.

SAFETY FIRST:

Always operate this or any other equipment safely. This equipment has heavy moving parts, which can cause serious injuries if all safety precautions are not observed.

DO NOT OPERATE THIS EQUIPMENT WITHOUT THE SAFETY CABLES IN PLACE AND OPERATIONAL.

Do not allow anyone not fully trained on the operation of this equipment to come within 3 feet of this equipment when in operation. Do not allow children near this equipment at anytime. Do not allow this equipment to operate while unattended. Disconnect the power source when crawling under the Safety Cable or the extended circumference of this equipment. Do not commence the operation of this equipment without some type of LOUD vocal warning such as "CLEAR". Do not commence the operation of this equipment without visual inspection to insure that no personnel are within the operation area of the equipment.

USE COMMON SENSE. - THIS IS HEAVY EQUIPMENT.

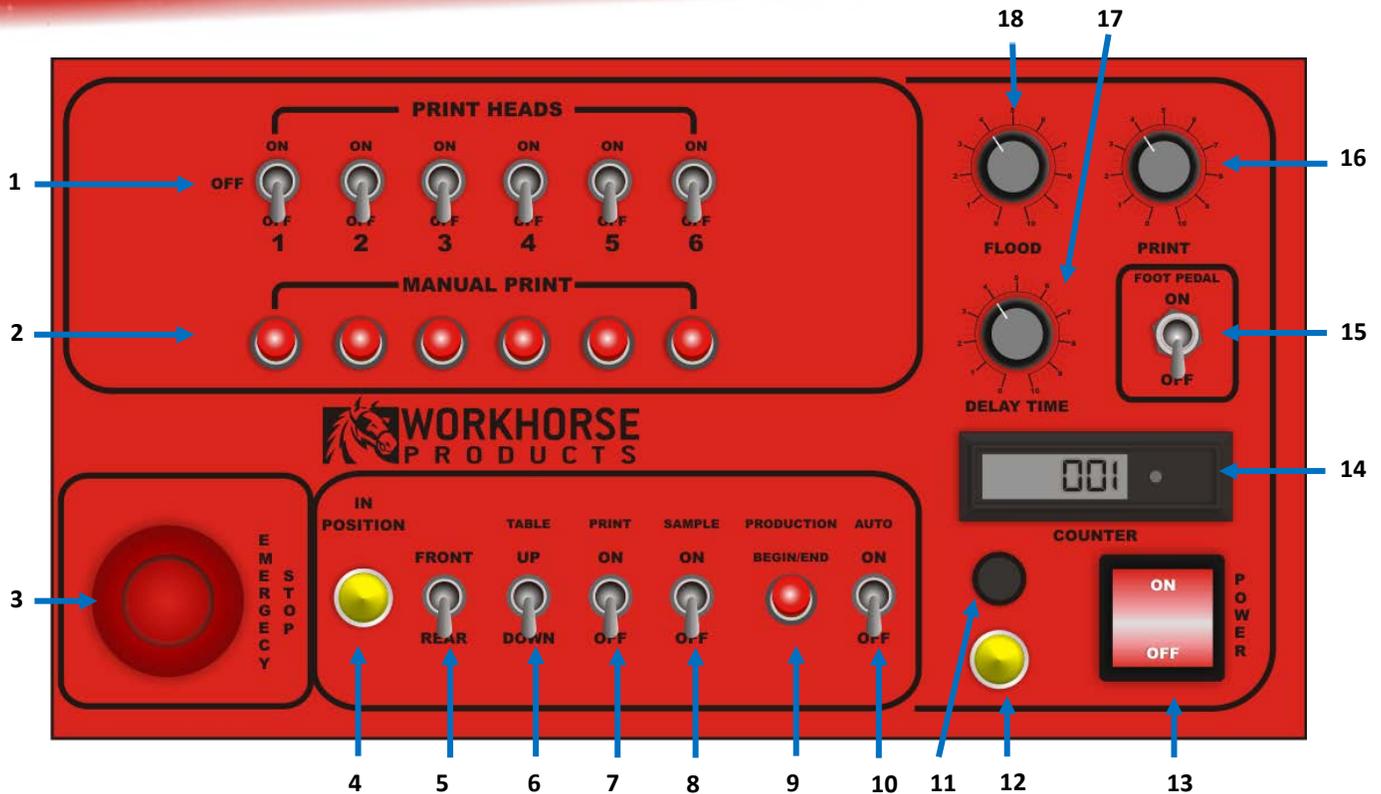
Imaging

It is necessary that you pre-register your screens when burning them for the automatic. The highest printed part of your total image should be no closer than 6-1/2" from the top outside edge of your screen frames. You must also center your total image (left to right). The end result of this preregistration is if you were to stack all three (3) screens of a three (3) color job and look through them, your image would be in registration, try to keep within 1/8" tolerance when burning screens.



The way you tape your screens if you plan to run more than a few dozen shirts is very important. To minimize emulsion breakdown, you should tape the entire back of your screen within an inch of your image area. Take extra care to ensure you have covered the area where the squeegee rests at both ends, and where the edges of the squeegee run along the screen when flooding and printing. If the image stops before the edge of the pallet, tape the underside of the screen to protect from the sharp pallet edge. Taping the inside of the screen in the squeegee path may damage your squeegee edge.

Controls



- 1. Print Head Selector Switch:** Each print head has its own selection switch that is independent of all others and may be set in any one of the following positions; OFF - Single, Print Stroke & Double Stroke. During a print cycle those heads in the OFF position will remain at rest. The remaining head(s) will print after the pallet table has raised up, then upon completion the pallet table will lower and rotate to the next station while the flood stroke is occurring. If a double print stroke is required for any head(s), the pallet table will not rotate after lowering but will rise again in the same position for the second print cycle before continuing to the next station.
- 2. Manual Print Buttons:** Each print head has its own numbered button, when one is depressed the pallet table will raise and the corresponding print head will print. The table will then lower but no table rotation will occur (used primarily to check registration).
- 3. Emergency Stop Button:** When activated the air pump valve will cycle and release all air from the printer and cut power to all systems. (Note It is very important that the table be in alignment before reenergizing the emergency stop).
- 4. In Position Indicator:** Before the press can begin any cycle or command the press must be "in position" meaning the correct sensors are reading for the command to begin.
- 5. Front/ Rear: Front Position;** The squeegees will remain in the printed-rear position to leave the screen flooded for air dry inks. **Rear Position;** The squeegees will remain in the flood-front position to leave the screen opened and not flooded, used for most non air-dry inks such as plastisol.
- 6. Table Up/Down:** In manual mode this will manually raise the table or lower the table, generally used during setup or registration.
- 7. Print On/ Off:** If a squeegee requires service , the activation of this switch will release the air to the print cylinders so that the squeegee may be removed for cleaning, revised, replaced or to be able to adjust the squeegee angle and pressure adjustment. Flipping the switch to the original position will again supply air to the heads allowing operations to continue.
- 8. Sample:** After registering a job it may be necessary to run a single sample to verify proper registration. Load test canvas, turn the sample on and the machine will print once on ever head that is turned on.

Controls

9. Begin/ End Production: Begin Production is used when first starting a production run. Engage Auto Start, then push Production Begin/End Button within 3 seconds. The pallet table will rotate and activate each head in turn as it proceeds around. When all heads have begun printing Auto Mode automatically begins. **End Production:** When finishing with a run, load your last shirt at Load On Station and push Production Begin/End Button. As the machine indexes, each head will deactivate in turn after printing and the machine will stop when the last shirt is completed.

10. Auto On/ Off: ON; Will start the printer into production run (flood, rotate and print). The table will begin rotation within 3 seconds of switching to Auto/On. Speed is controlled by the delay timer or the foot switch. **OFF;** In the manual stop position the table may be raised and lowered using the **Table Up/Down Switch**. The table can be rotated manually by hand. To print a desired head, select the number of the appropriate head and push that number switch. The table must be in the down position when printing a head.

11. Fuse: Used for circuit/ equipment protection if a fault occurs. For trouble shooting see question #1 in the FAQ section.

12. Power Indicator: Inline with the fuse above it, if a fault occurs blowing the fuse this light will be off. Under normal conditions this light will be on for the entire duration the press is on.

13. Main Power Switch: On Position: 110 Volt is supplied to the DC converter, computer and main air valve supplying air to the system. **Off Position:** Power is cut to main controls and air is released through main dump valve. **(Note it is very important the table be in the proper alignment before energizing the main power switch).**

14. Counter: Reset before each production run to keep track of the number of shirts printed.

15. Foot Pedal On/ Off: On position: To begin the production cycle, push the foot pedal down. When each print cycle is completed, the foot pedal must again be depressed in order for the cycle to start. **Off Position:** The delay Timer will energize and control the start of the next cycle.

16. Print Timer: This timer controls the time the pallets will remain in the up position while printing. Set the knob to the number that allows the slowest squeegee to complete its print stroke before the table lowers.

17. Delay Timer: After the print cycle is completed, the pallet table will lower and delay timer will be energized. Adjust the knob to the desired time for loading and unloading between print cycles. After the preset time is reached the table will rotate and begin the next print cycle. The delay timer is calculated in 1=1 sec.

18. Flood Timer: This timer controls the time the pallets will remain in the up position while printing. Set the knob to the number that allows the slowest squeegee to complete its print stroke before the table lowers.



Questions? Give us a call!

800.778.8779

Visit our website at
workhorseproducts.com

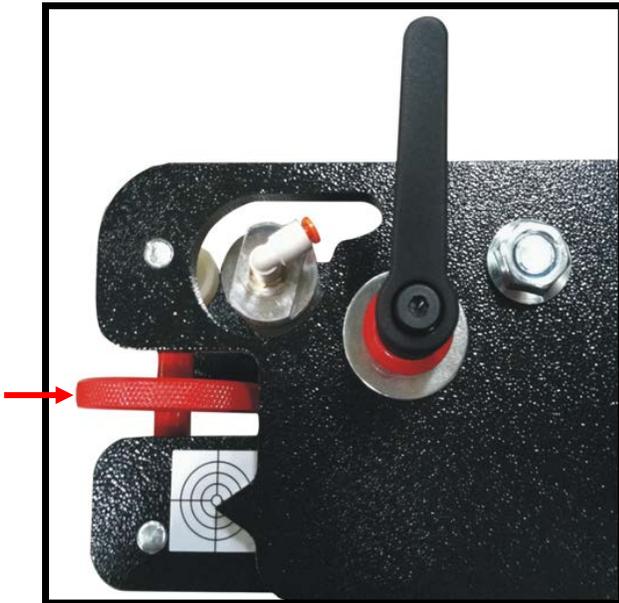


Micro Registration

MICRO LOCKING HANDLES: These Handles must be loosened to the Micro Screens. Loosen these Handles only enough to allow Micro adjustment. Excessive play will result in registration movement when Handles are re-tightened



FRONT MICRO UP / DOWN ADJUSTMENT: Turning the tip of these knurled knobs to the left will cause the image to move upwards on the shirt. Turning the knobs to the right will cause the image to move down on the shirt.



Questions? Give us a call!
800.778.8779
Visit our website at
workhorseproducts.com



Micro Registration

FRONT MICRO LEFT / RIGHT ADJUSTMENT: Turning this knurled knob away from you will result in the print moving right on the shirt. Movement towards you will cause the image to move left on the shirt.



MICRO REGISTRATION REQUIREMENTS AND TIPS: All Micros should be centered on grids before set-up. Rear clamps should be released when adjusting front micros more than 1/2".

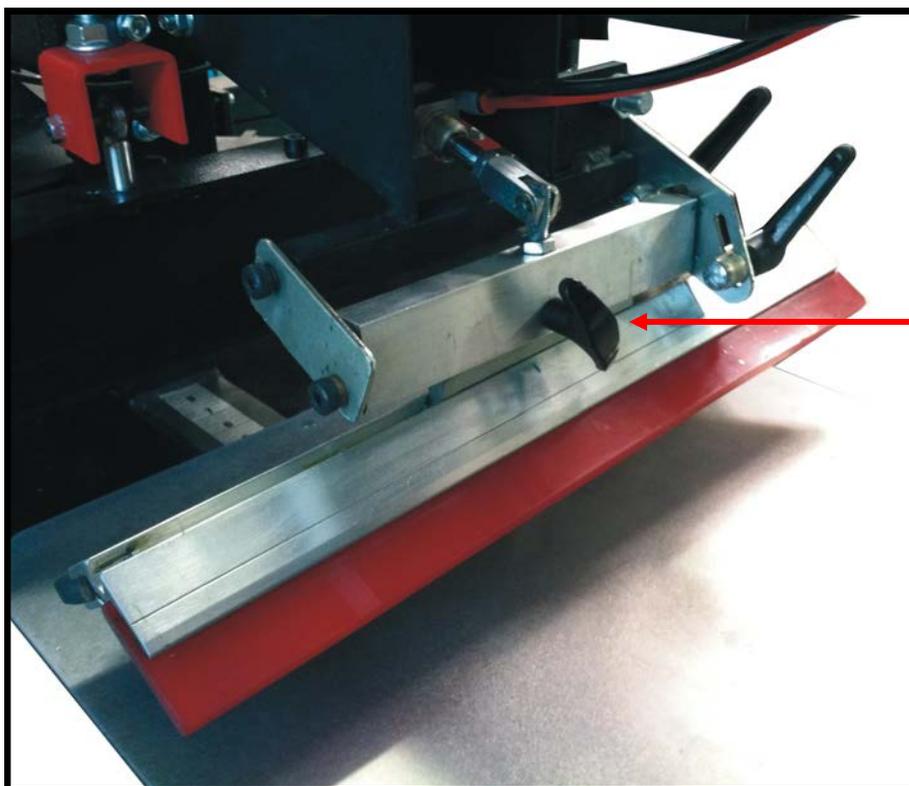
MICRO Adjustment Procedure:

1. Raise the Table.
2. Look through the screen at the art, adjust location and clamp front.
3. Micro front as needed.
4. Clamp rear.
5. Re-Micro front as needed.
6. If rear clamp are released, repeat steps 3, 4 and 5.



Squeegee Installation

Insert the squeegee tab into flipper block slot. Align the squeegee with flipper block hole and insert retaining pin.



Questions? Give us a call!

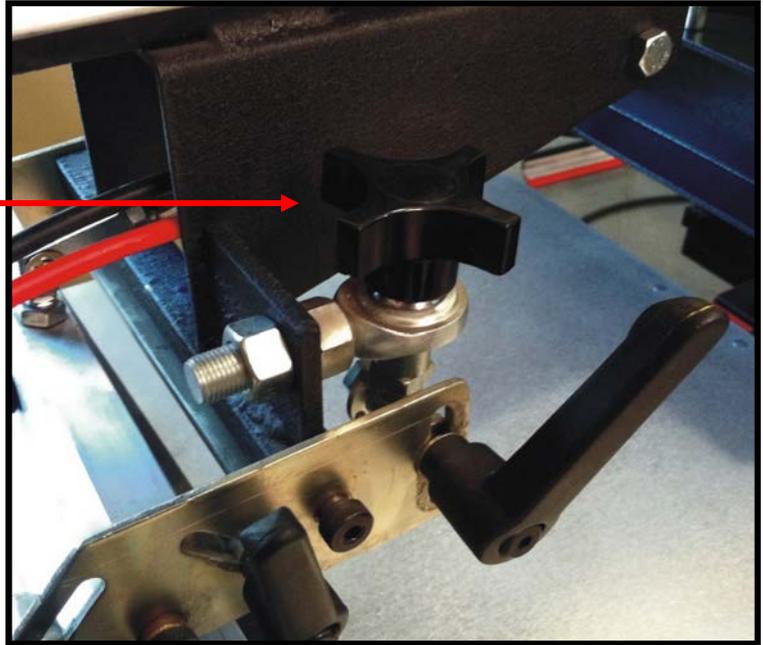
800.778.8779

Visit our website at
workhorseproducts.com



Squeegee Adjustments

To adjust the squeegee angle and pressure, turn the “print off”, loosen the squeegee pressure lock lever. To gain squeegee pressure turn the squeegee pressure knob clockwise until the desired pressure is reached. To lighten squeegee pressure turn the squeegee pressure knob counter clockwise until the desired pressure is reached. **Do not use pliers or extension pipes on any of**



When in the flood position the print blade has about 1/2" inch clearance between the edge of the blade and the surface of the screen. Push down on the print until it touches the Pallet. The flood blade should now have the 1/2" inch clearance from the blade to the screen. Holding the print blade firmly against the pallet, synch down the squeegee/ flood levers to lock in the angle.

IMPORTANT NOTE: YOU MAY NEED TO ADD OR REDUCE BLADE ANGLES AND/OR PRESSURE ON SOME JOBS DUE TO OFF CONTACT, INK VISCOSITY ETC.

MOST PRINTING WILL BE DONE USING YOUR 70 DUROMETER BLADE TO PRINT AND 80 DUROMETER TO FLOOD. HOWEVER WHEN A HARDER BLADE IS REQUIRED, I.E., FOUR COLOR OR HALFTONES ON A SMALL MESH, FEEL FREE TO EXPERIMENT WITH PRINTING 80 DUROMETER AND FLOODING 70 DUROMETER.



Questions? Give us a call!

800.778.8779

Visit our website at
workhorseproducts.com



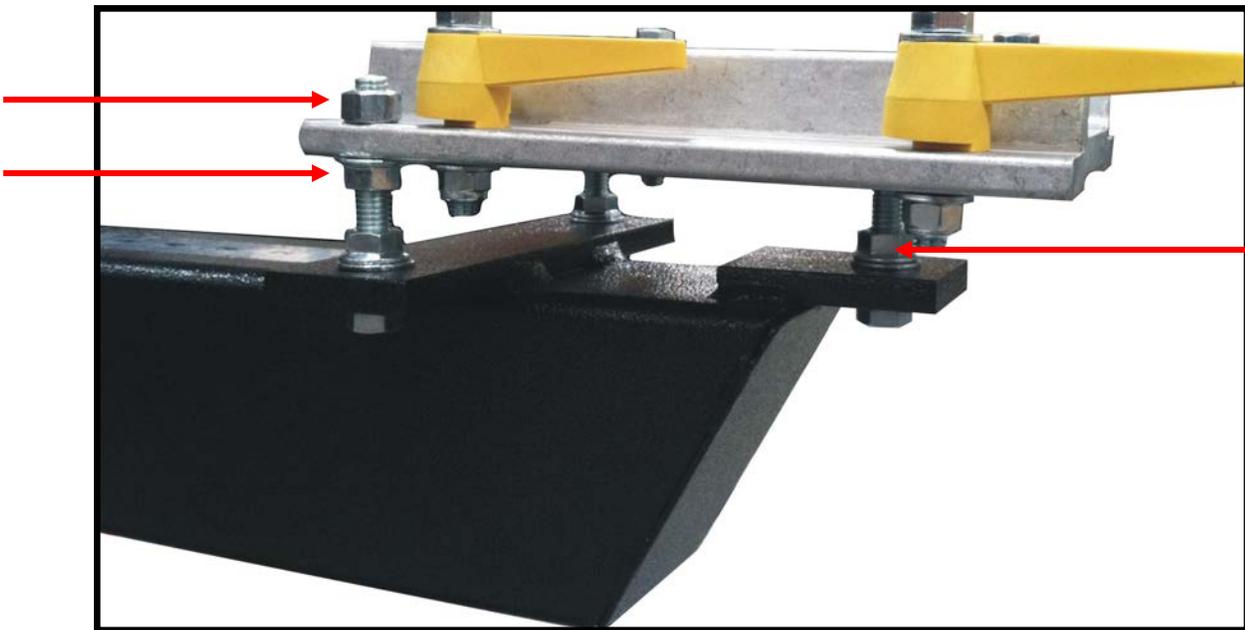
Pallet Leveling

Required tools: (2) 9/16" combination wrench. (2) 1" square 31" long steel tubing or 31" long screen frame w/mesh

Set-Up Inspection: A: Insert 31" screen or (2) pieces of 1" steel tubing in the screen clamps. When using steel tubing, align outside edges of steel 1" from the outside edge of screen clamp. When using a screen install normally. In manual mode raise table. Visually inspect off contact between the steel (or Screen frame) and the pallet.

Adjustment: If the pallet is not level with steel tubing or screen use the following procedure. Loosen the uppermost nuts on top of the pallet aluminum. Using a 9/16th wrench to raise the pallet, use the 9/16th nut on bottom side of the pallet aluminum base to raise the pallet if you need to loosen the uppermost nuts on the Pallet Leveling Bolt even more do so. To lower the pallet use the same nut used to raise it on the bottom side of the pallet bracket turning it in the opposite direction. After raising or lowering the pallet tighten the uppermost nut on top of the pallet aluminum. Base

Important: You must level all the pallets to the same print head. The three Leveling bolts are attached to the holding brackets secured to the Press. The holes for the three leveling bolts are slotted so you can move the Pallet side to side as well. After you have leveled all the Pallets, adjust the off contact on the remaining heads to the SAME Pallet.



Questions? Give us a call!

800.778.8779

Visit our website at
workhorseproducts.com



Index Shock Adjustment

The type 1 shock has a scale engraved on the ring at the end of the shock. This ring butts against the threaded body of the shock where there is a dimple indicating the setting of the shock.



When the table indexes the shock should be adjusted to bring the table to a stop, bottoming out all the way without shaking. If the shock is too stiff it will not compress enough on impact causing registration problems the same issues can occur if the shock is set too soft as well as damage to the press.

The shock is very sensitive to change, adjust with caution moving in fractions between the numbers. The lower the number the stiffer the shock gets.

Note: the number indicated in the picture above does NOT reflect what the shock setting is on each press. Always consult a trained Workhorse products technician before any adjustments are made.



Questions? Give us a call!

800.778.8779

Visit our website at
workhorseproducts.com

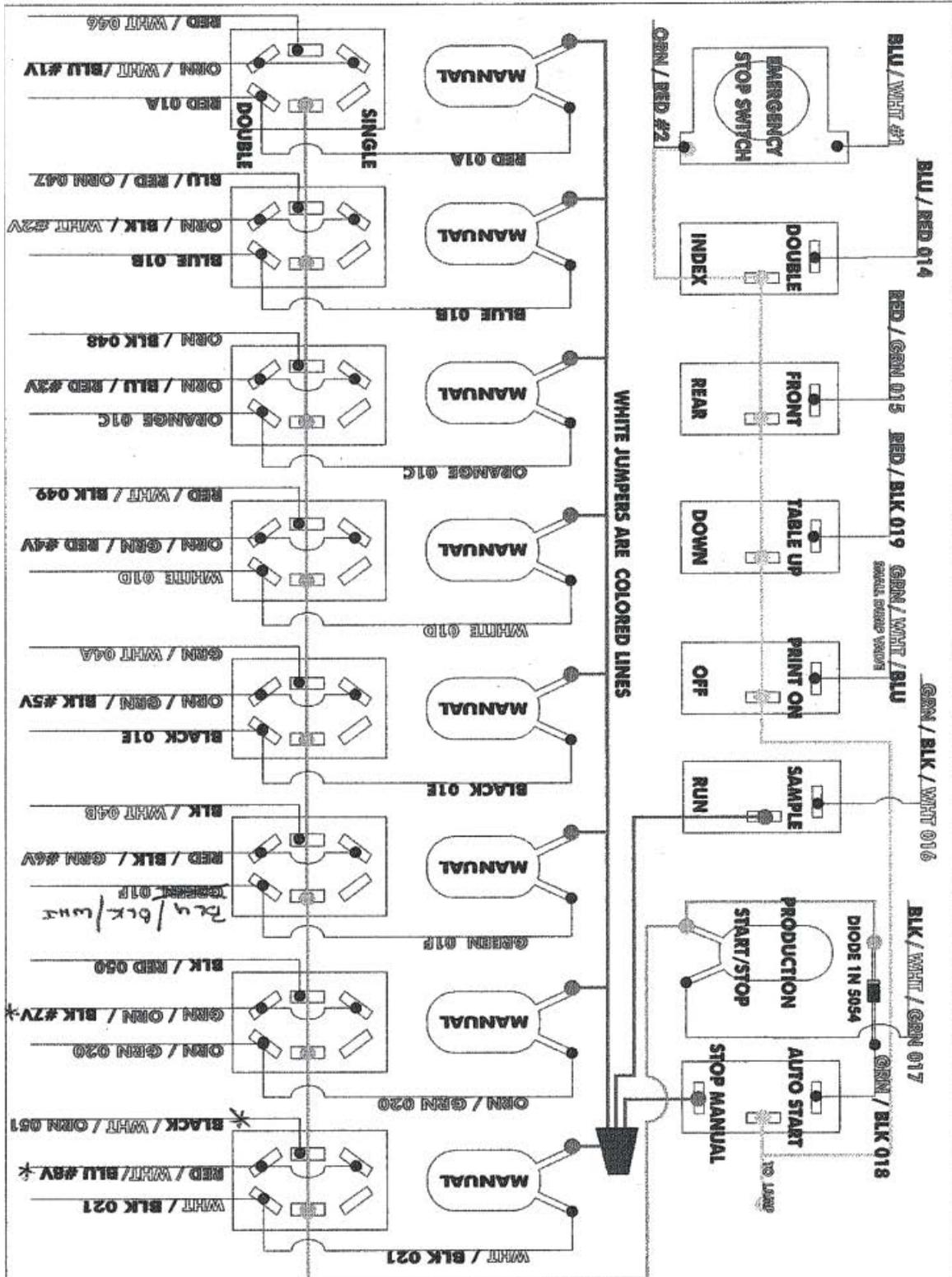


Wiring Diagrams

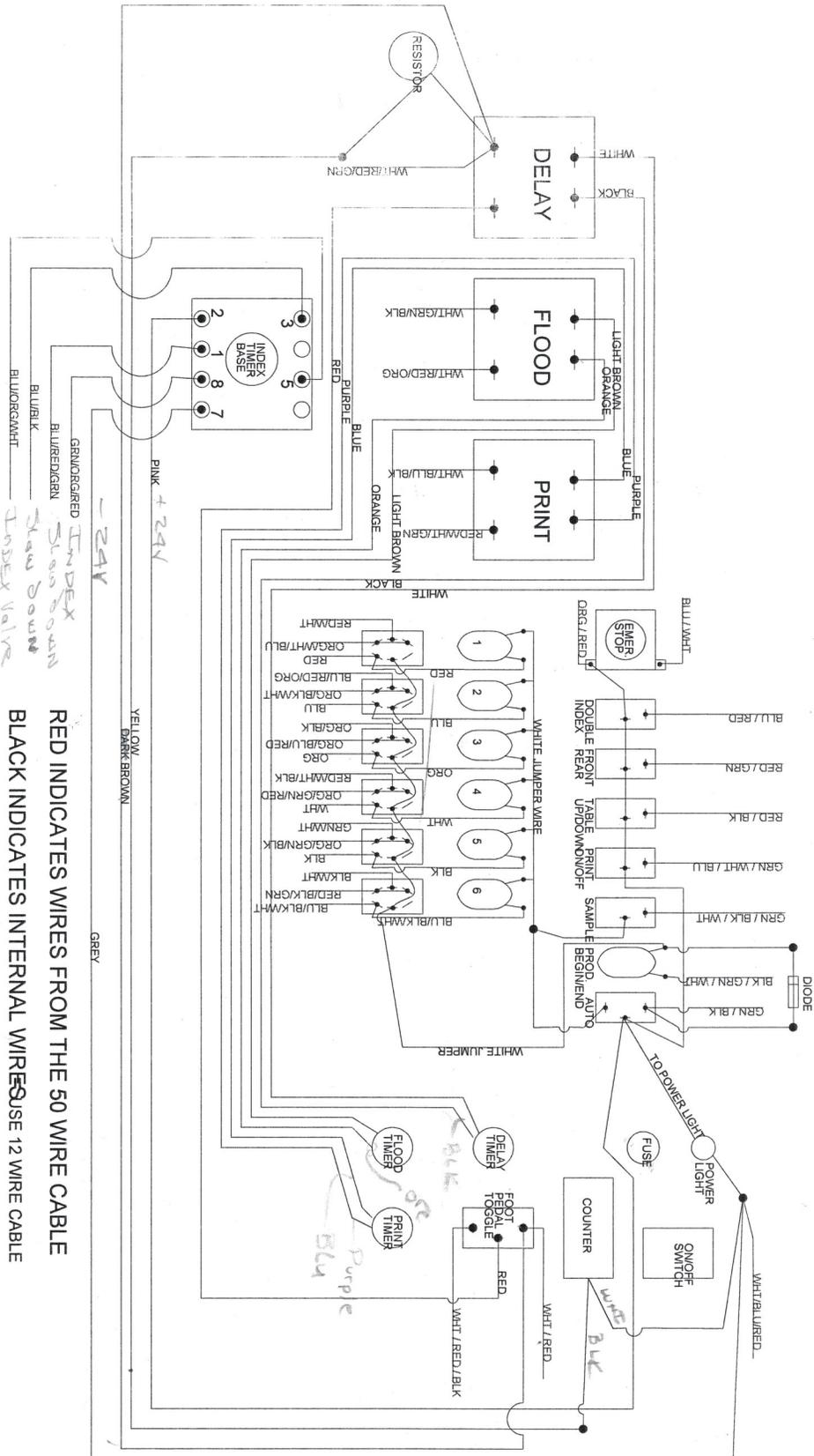
WARNING!

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

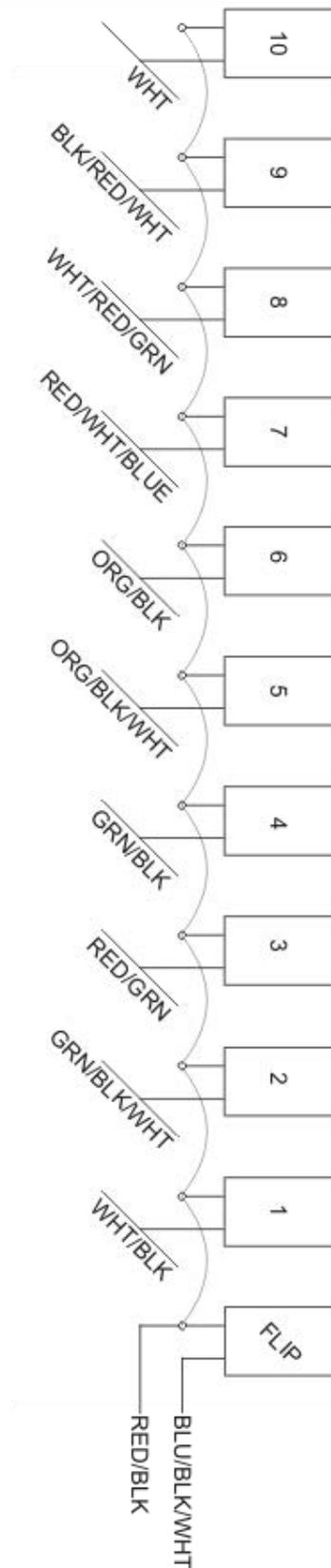
All service should be done by or under the supervision of a trained technician



Wiring Diagrams



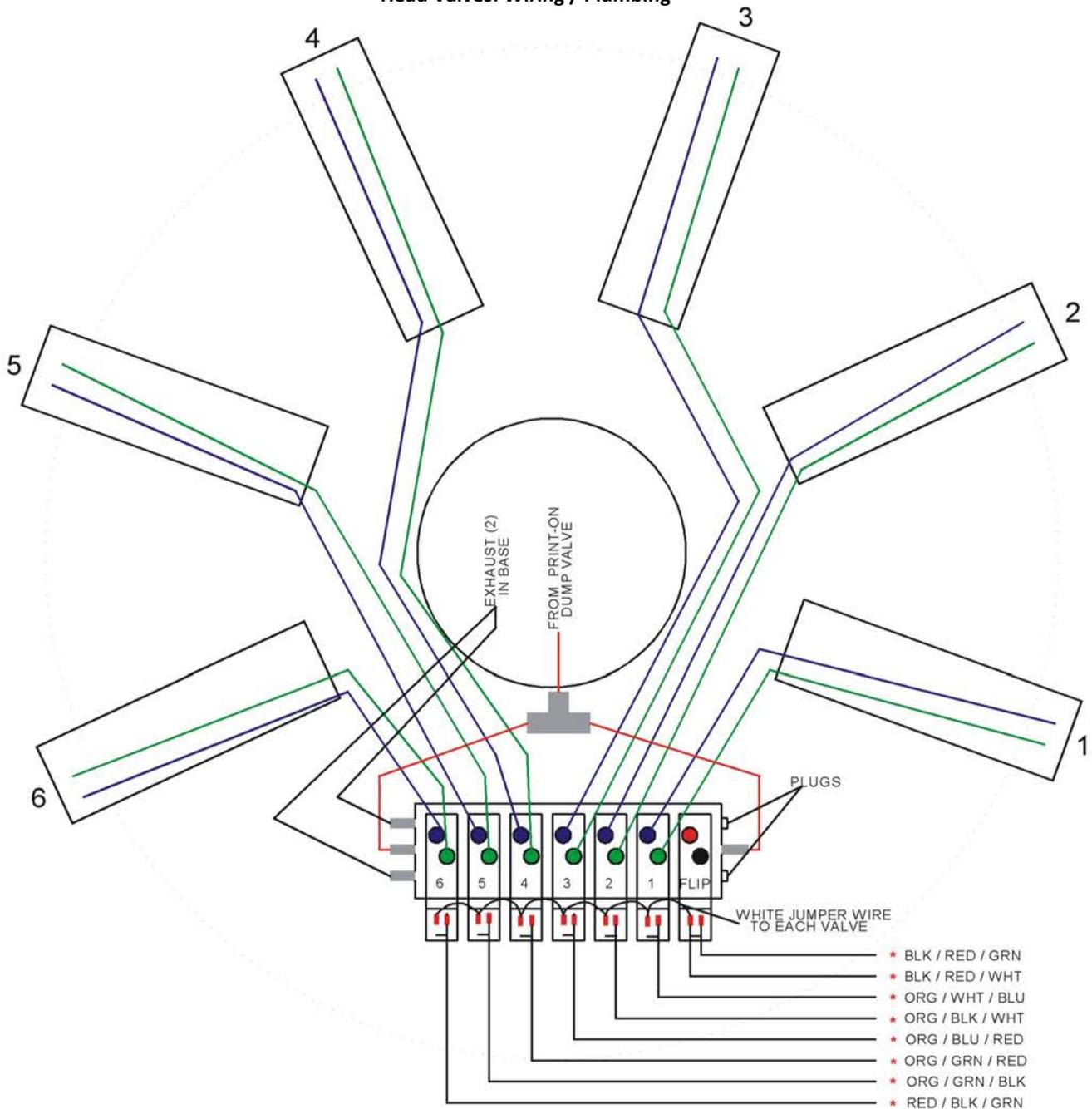
Wiring Diagrams



Note: Diagrams only represent up to a 6 color press for further instructions contact Workhorse Products

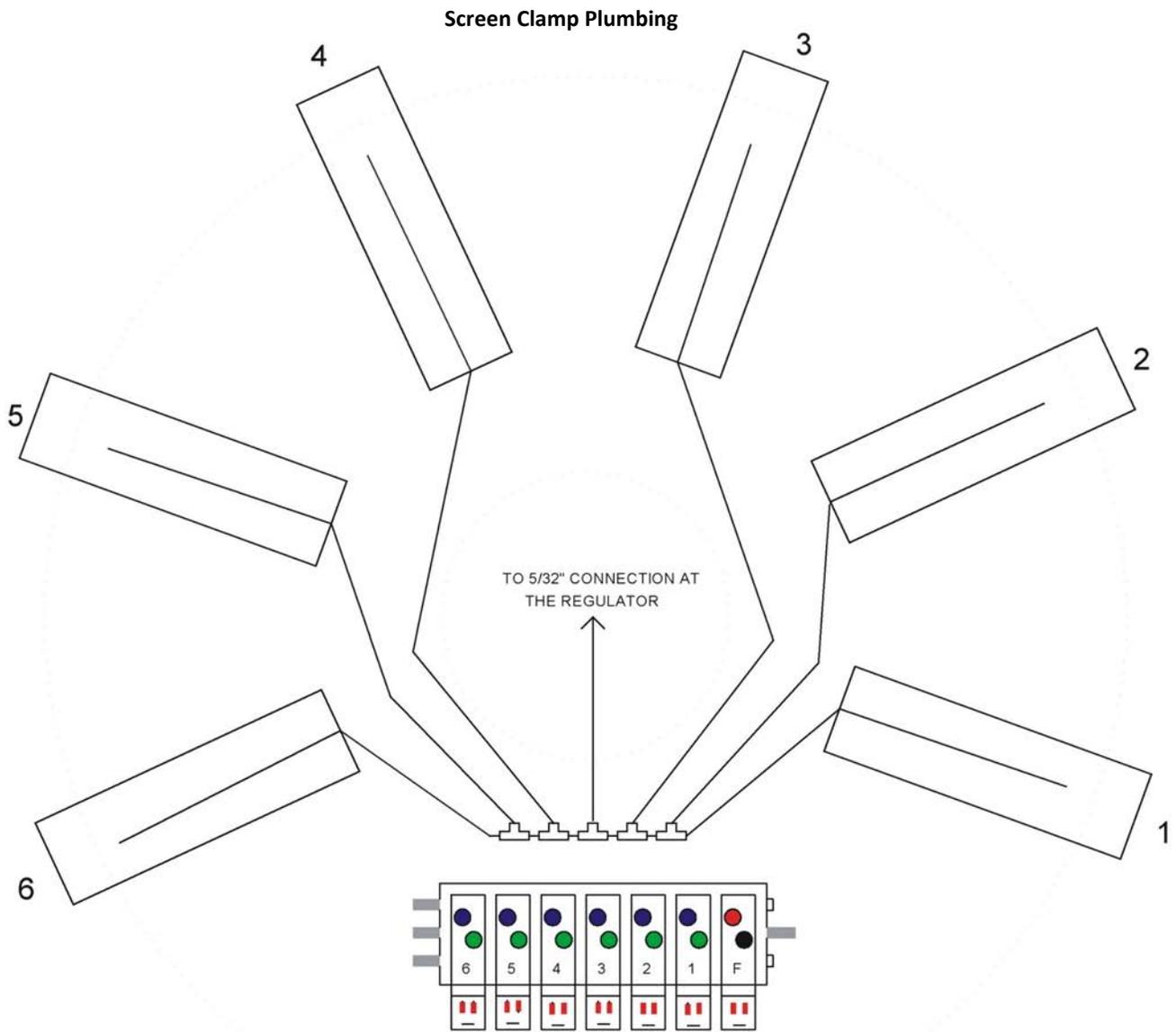
Plumbing Diagrams

Head Valves: Wiring / Plumbing



- (6) 1/4" BLUE TUBING 36" LONG
- (6) 1/4" GREEN TUBING 36" LONG
- (2) 3/8" RED TUBING 12" LONG
- (1) RED 3/8" TUBING 48" LONG
- (2) 3/8" BLACK TUBING 48" LONG
- (1) 3/8" TEE CONNECTOR

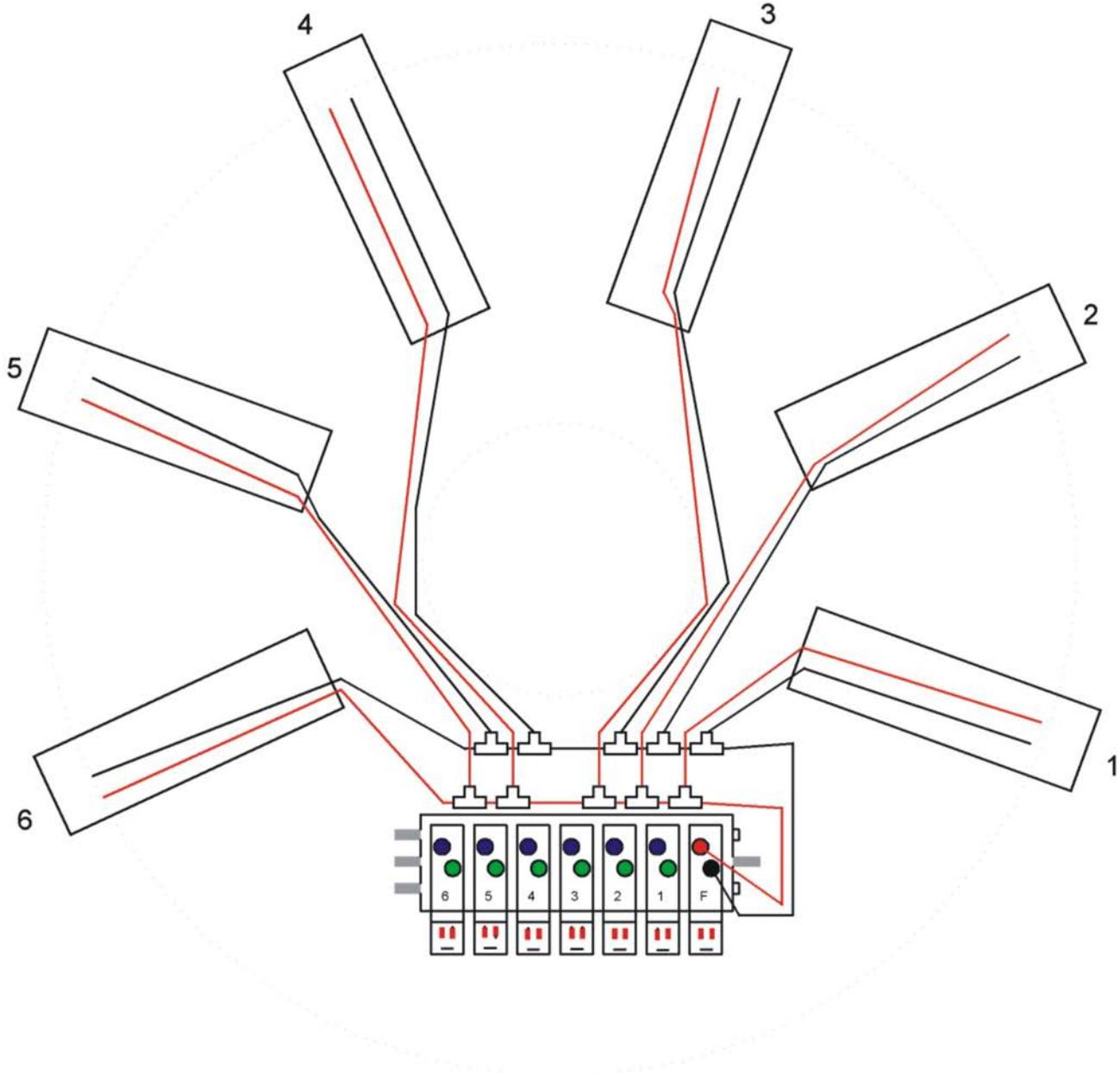
Plumbing Diagrams



- (6) BLACK 5/32" TUBING 36" LONG
- (4) BLACK 5/32" TUBING 1.5" LONG
- (5) 5/32" TEE CONNECTORS

Plumbing Diagrams

Flip Cylinder and Valve Plumbing



- (6) 1/4" BLACK TUBING 36" LONG
- (6) 1/4" RED TUBING 36" LONG
- (5) 1/4" BLACK TUBING 1.5" LONG
- (5) 1/4" RED TUBING 1.5" LONG
- (1) 1/4" BLACK TUBING 14" LONG
- (1) 1/4" RED TUBING 14" LONG
- (10) 1/4" TEE CONNECTORS

Maintenance

MAINTENANCE AND UPKEEP

lubricating should be performed a minimum of every 5,000 prints. Grease the aluminum track that the indexing carriage travels in. Place a small amount of white lithium grease on your finger and apply to the inside of this track in the grooved area that the bearing plastic carriage slides in.

Make sure that the Chiller on your air supply has the capacity to do an effective job. Water in the air can reduce the efficiency of the printer and cause expensive service problems in the future. Failure of the printer due to moisture in the air supply is not covered by the manufactures warranty.

NOTE: Water is your pneumatic system's worst enemy! You must always ensure that the air being delivered to your press is free of any moisture. Regularly check your Chiller for proper operation. Drain your compressor daily. Change the filter in the eliminator a minimum of every 4 months.

If you see milky fluid in either side of your F.R.L. (Filter, Regulator and Lubricator), your air-drying system has failed! Failure to maintain your press and failure to keep detailed maintenance records could void your warranty!



Questions? Give us a call!

800.778.8779

Visit our website at
workhorseproducts.com





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/Odyssey 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. Notwithstanding 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 as 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 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 Products before any part will be accepted. Replacement parts are sent out freight collect.

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.

Registration Form	
Company Name: _____	Contact Name: _____
Address: _____ _____	Phone Number: _____
City: _____	Fax Number: _____
State: _____	Email : _____
Country: _____	Cell Number: _____
Zip Code: _____	Serial Number: _____
Model Number: _____	Date Recived: _____
Date Purchased _____	

Please Fax Registration Form for warranty to take place