



WORKHORSE PRODUCTS

PRECISION SCREEN PRINTING EQUIPMENT

Owner's Manual

Mach Series



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Congratulations on your purchase of the Mach Series.

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.

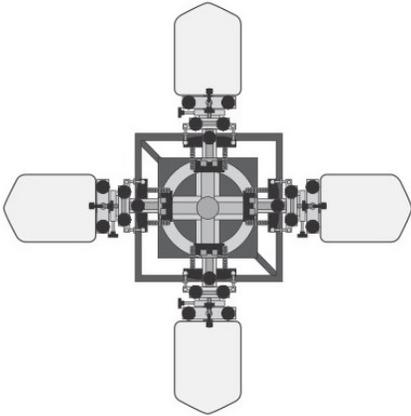
Be sure to inspect the crate contents IMMEDIATELY, while the carrier is still present. Even though our packaging has been designed to handle normal shipping conditions, we cannot foresee damages done by the carrier. We will not be responsible for damages that occur during transportation.

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 Mach Series. There are step-by-step instructions to assemble the press, accompanied with links to videos for further assistance. Also included are explanations of the product's key features, and additional information that will help with the maintenance of your press.

Specifications

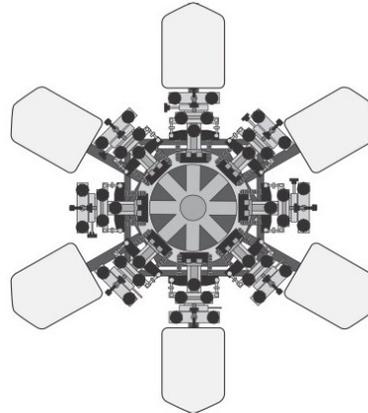


M-44-M

4 Color, 4 Station

Max Screen: 32" (81CM)

Dimensions: 103" x 34-36"

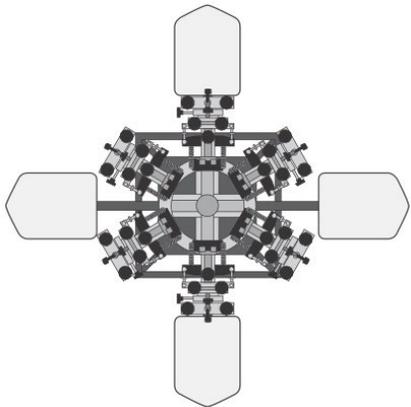


M-86-O

8 Color, 6 Station

Max Screen: 21" (53CM)

Dimensions: 111" x 34-36"

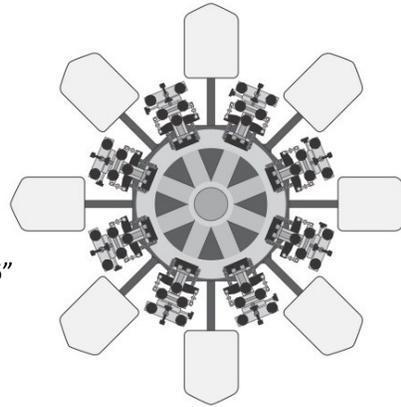


M-64-O

6 Color, 4 Station

Max Screen: 23" (58CM)

Dimensions: 103" x 34-36"

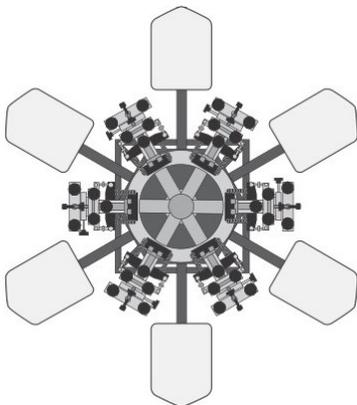


M-88-O

8 Color, 8 Station

Max Screen: 26" (66CM)

Dimensions: 130" x 34-36"

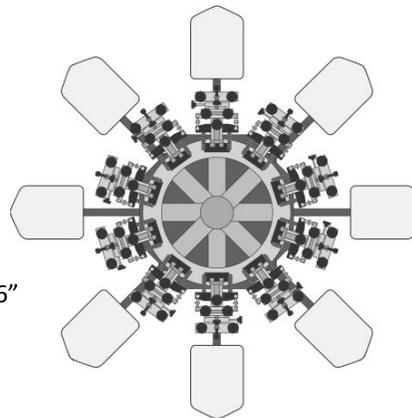


M-66-M

6 Color, 6 Station

Max Screen: 26" (66CM)

Dimensions: 111" x 34-36"



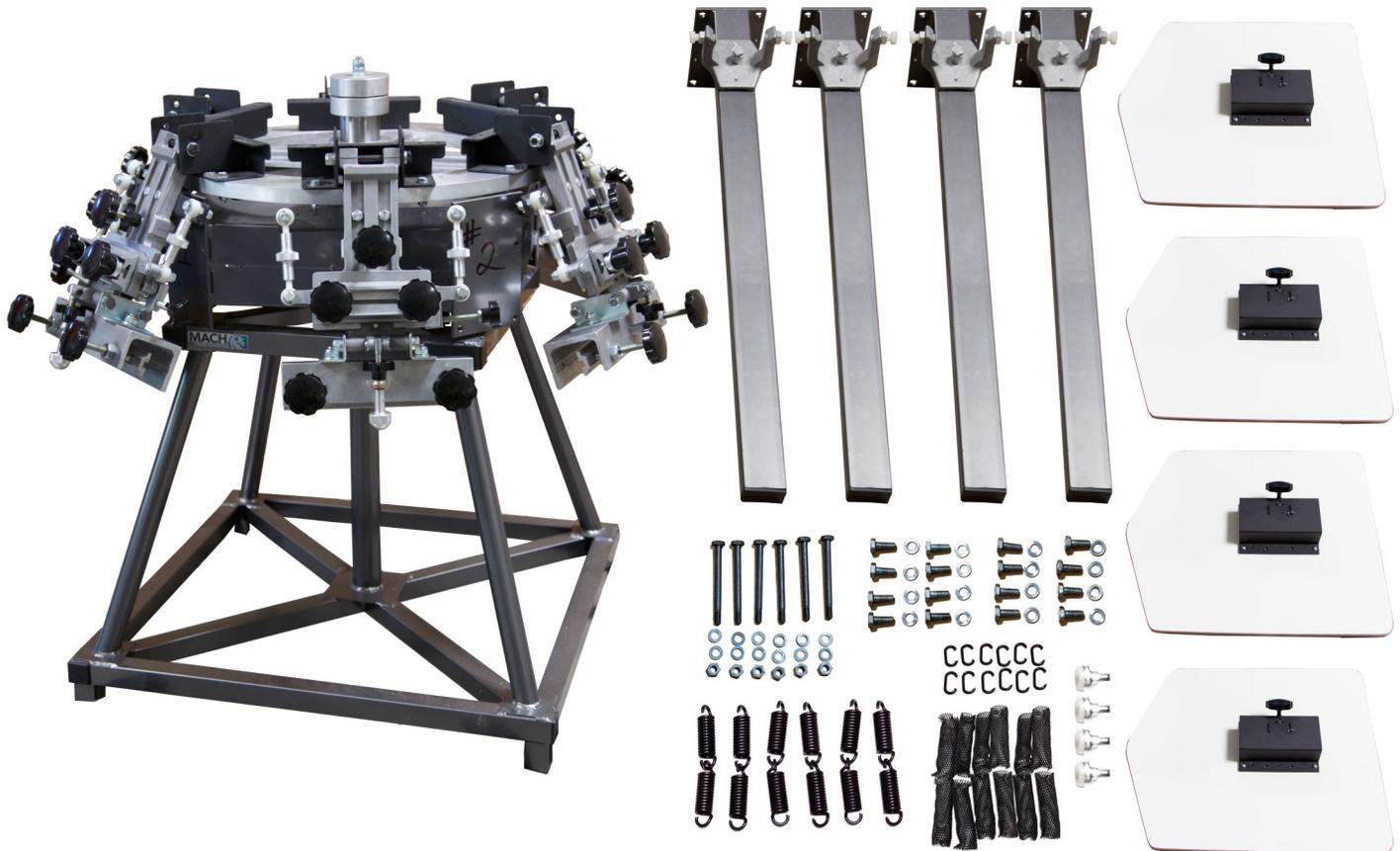
M-108-O

10 Color, 8 Station

Max Screen: 23" (58CM)

Dimensions: 130" x 34-36"

Parts for Assembly



Description	Part Number	Description	Part Number
Print Arm	Pre-Assembled	1/2" Flat Washer	43-FLT-M12-10
Platen (15" x 18")	12015	Roll Pin	45-1260
Print Head Spring	71010	Base	Pre-Assembled
Nylon Netting	10-8000	Hex Bolt (1.5"x 25mm)	41-HB-M10-20
Hog Ring	71007	Leg Levelers (1.75"x 60mm)	41-HTB-M12-30
Hex Bolt (1.25" x 40mm)	41-HTB-M8-20		

The quantity of parts differs depending on the specific model being assembled. In this manual a 6 Color/ 4 Station Mach Series Manual Press is being assembled. **The quantity of parts will not match if assembling another model of the product.**

Step 1: Inserting levelers/casters.

Tools needed:

- 3/4" Wrench and Socket
- 3/4" Wrench and Socket

Parts needed:

- 4 x Levelers/Casters
 - Base
-

1. Install the leveling nut onto the leveling bolt until it's 1" from the bolt head. When installing the levelers ensure that they are all the same height. Use a 3/4" wrench on the head of the bolt and a 3/4" wrench on the nut to tighten. Repeat this process for each leg on the press



2. To install the caster system thread the top of the bolt into the bottom of the press, where the levelers would be installed. Thread until the very bottom.



3. After the casters are threaded by hand, use a 3/4" deep socket wrench to tighten.



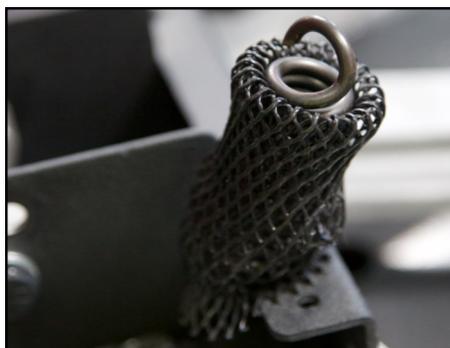
Step 2: Installing the print head.

Parts needed:

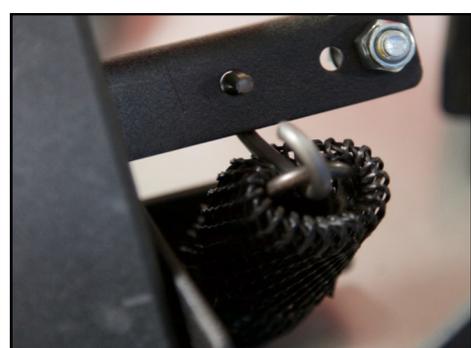
- 6 x Stop Bolts
- 12 x 1/2" Flat Washers
- 12 x Hog Rings
- 12 x Lock Nuts
- 12 x Nylon Nettings



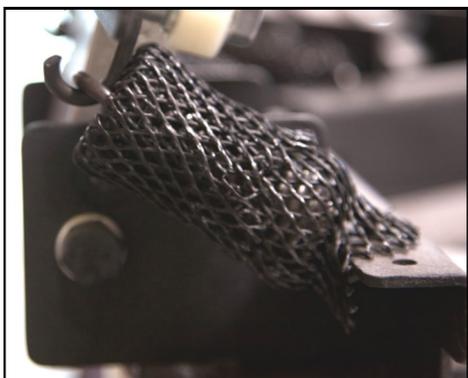
1. Raise the print head and insert a spring into the bottom-left hole of the attachment arm bracket.



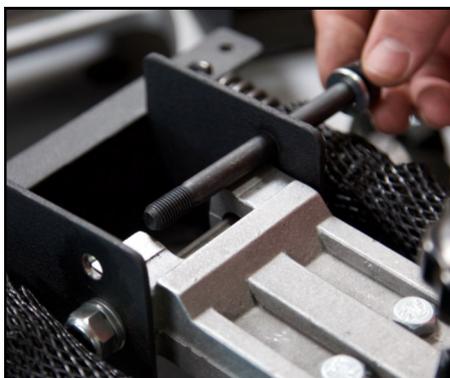
2. Cover the spring with nylon netting and leave the top of the spring exposed.



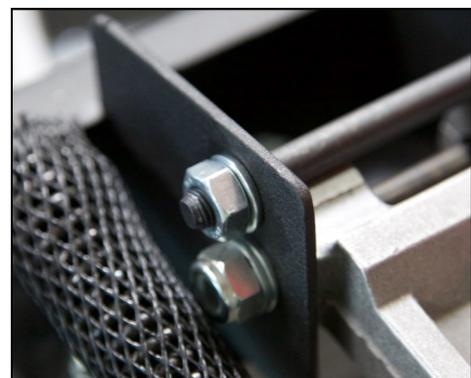
3. Connect the hog ring to the spring and then hook the hog ring onto the print head. Use the hole closest to the print head.



4. Pull the nylon netting over the hog ring to cover the entire assembly. Repeat steps 1-3 for the other side of the print head.



5. After both springs and hog rings are attached, push down the print head to insert a stop bolt with a 1/2" washer into the upper hole of the print head.



6. Screw on a 1/2" washer and a lock nut onto the other side of the bolt. Tighten the stop bolt by hand as much as possible. Repeat steps 1-6 for every print head on the press.

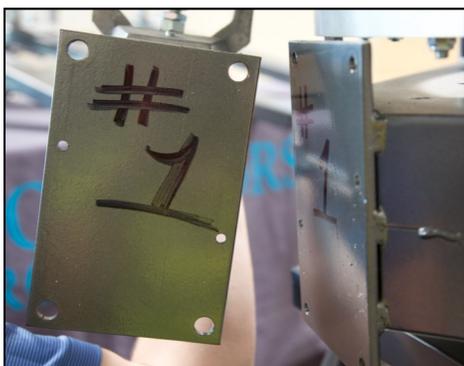
Step 3: Installing the print arms.

Tools needed:

- Hammer
- 3/4" Socket Wrench

Parts needed:

- 16 x Hex Bolts (1.5" x 25mm)
- 16 x Flat Washers (1/2")
- 8 x Roll Pins



1. It's very important to match the numbers on the print arm with the numbers on the base. These are factory set for proper leveling and alignment. Align the holes on the print arm with the holes on the base.



2. Insert a bolt (1.5"x 25mm) and 1/2" flat washer into the top-right corner first and the bottom-left corner second. Only tighten by hand for now.



3. Insert a roll pin into the middle-right hole first, followed by the middle-left hole second. After both pins are inserted by hand, lightly hammer them so it inserts into the hole of the press base. Leave 1/4 of the pin exposed.



4. After both spring pins are installed, insert the other two hex bolts and flat washer so that every corner hole is filled.



5. After installing the two bolts with the washers, tighten them with a 3/4" socket wrench. Do not overtighten to avoid compressing the print arm. Repeat steps 1-5 for every print head. **Don't adjust the bolts on the support arm, which are located under the print arm.**

Step 4: Attaching the platens.

Parts needed:

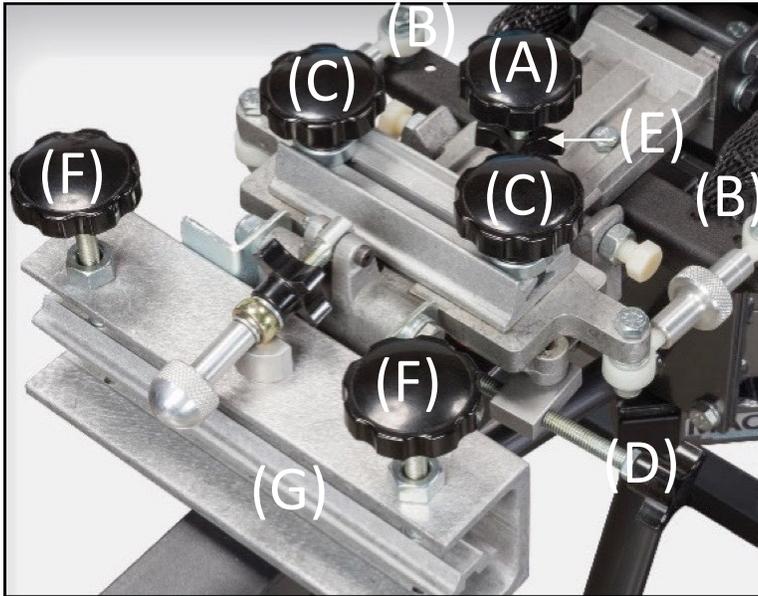
- Platens

1. Lower one of the print heads and slide the platen onto the print arm until it's 1/2" from the end of the screen clamp. Securely tighten the bottom knob. Repeat for every print head.

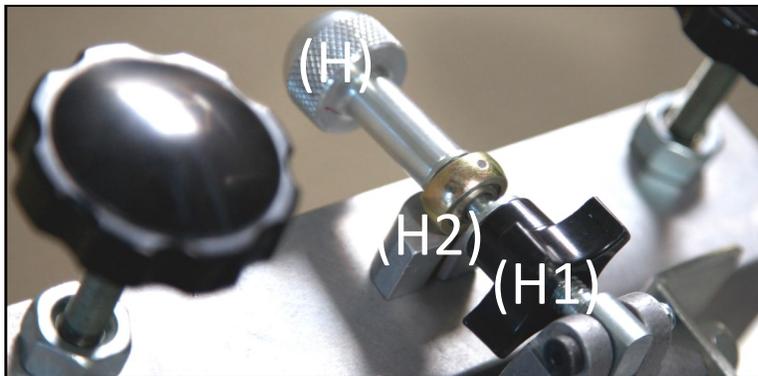
Congratulations! The Mach Series is now fully assembled.



Remember, don't adjust the bolts and nuts located on the support arms. They are factory set for proper leveling and alignment. One of the many advantages of the Mach Series is that when it's manufactured it's also fully assembled, making it leveled and inspected at the factory. This quality control process is to ensure success when assembling the press on location.

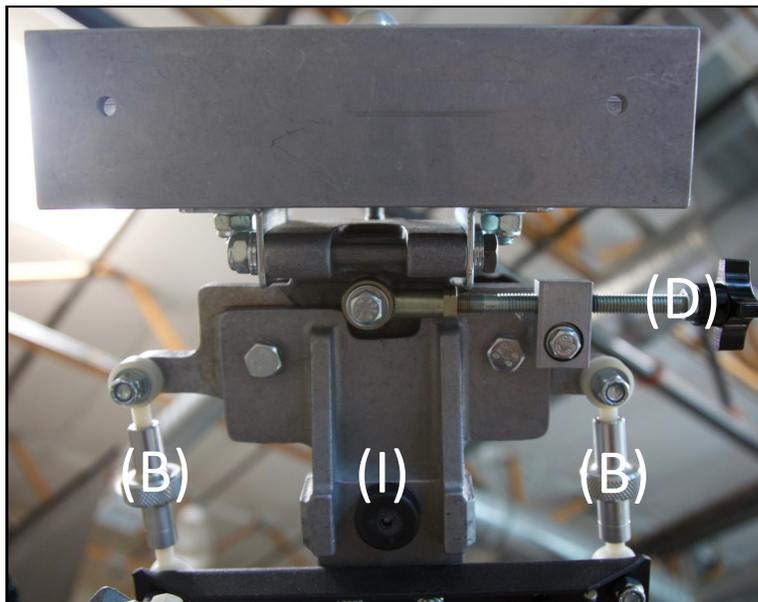


- (A) Off Contact Adjustment Knob
- (B) X and Y Micro Adjustments
- (C) Micro Lockdown Knobs
- (D) Side-to-Side Adjustment
- (E) Off Contact Jam Knob
- (F) Screen Lockdown Knobs
- (G) Off Contact Clamp & Screen Holder
- (H) Screen Tilt Adjustment
- (H1) Screen Tilt Jam Nut
- (H2) Screen Tilt Ring
- (I) Off Contact Foot Pad



Adjusting the Off Contact: (A, E & I)

Even though the Mach is automatically set at a standard off contact, there will be instances that require adjusting it. To adjust, loosen the off contact adjustment knob (A) and unscrew/screw down the off contact adjustment knob to adjust the foot pad (I) to the desired off contact. Tighten the jam knob (E) to prevent the off contact knob (A) from moving, avoid over tightening.

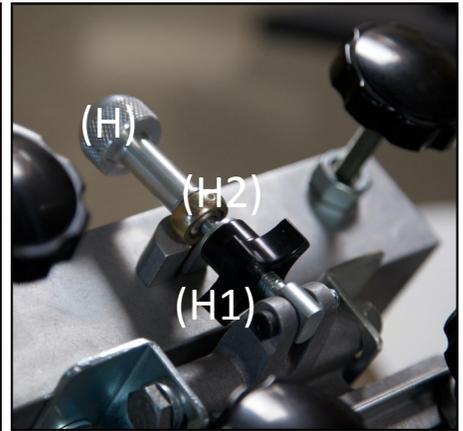
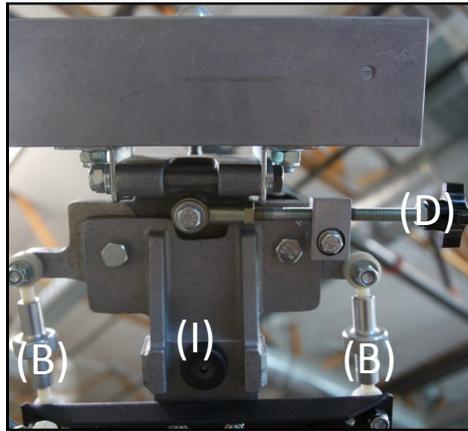
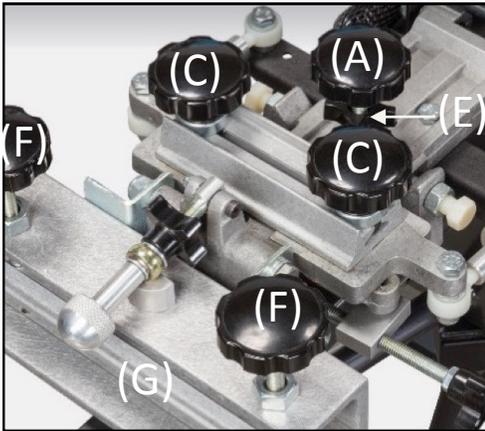


Adjusting the Screen Tilt: (H, H1, & H2)

First, loosen the screen tilt jam knob (H1) to create room to adjust the screen tilt and loosen the screen tilt knob (H). Hold the screen and tilt it so that the screen is parallel with the pallet. Then tighten the screen tilt jam knob (H1) until it's against the screen tilt ring (H2). While holding the screen tilt jam knob, tighten the screen tilt knob until it tightens the screen tilt jam knob against the screen tilt ring.

Tip: To set the off contact consistently, use two 16x1" 10mm strips of plastic for each distance. Place one strip on the platen and one at the front and back of the screen, adjust the screen tilt (H) until it makes contact with both strips. This will ensure that the front of the screen is parallel with the back of the screen.

Print Head and Micro Adjustments



- | | | |
|---------------------------------|---------------------------|----------------------------|
| (A) Off Contact Adjustment Knob | (E) Off Contact Jam Knob | (H) Screen Tilt Adjustment |
| (B) X and Y Micro Adjustments | (F) Screen Lockdown Knobs | (H1) Screen Tilt Jam Nut |
| (C) Micro Lockdown Knobs | (G) Off Contact Clamp & | (H2) Screen Tilt Ring |
| (D) Side-to-Side Adjustment | Screen Holder | (I) Off Contact Foot Pad |

Using the X and Y Micro Adjusters: (C)

Always loosen the micro lockdown knobs (C) before adjusting the micros. To adjust the registration turn the X and Y micro adjusters (B). To move the screen left/right or up/down use the micro adjusters (B). To move the screen up/down without moving it to the left/right, turn both micro adjusters at the same time. After adjustments are finished tighten the micro lock down knobs (C), but don't over tighten.

Using the Side-to-Side Micro Adjuster: (D)

Always loosen the micro lock down knobs (C) before beginning the adjustment. Turn the side-to-side micro adjuster to move the screen side to side, to properly set it must be used in conjunction with the X and Y micro adjusters (B). To utilize the full range of movement both sets of adjusters must be used. Always center the micros either after completing a job or beginning one, because it will save a lot of movement.

The Register Gate and Bolt:

The print dead has a register locator attached under the micro lockdown knobs (C), which fits into the register gate in order to center the screen. The two plastic bolts are used to adjust the centering of the screen. The bolts will eventually wear down, so it's essential to adjust the bolts to keep the screen centered.

Locking Down a Screen:

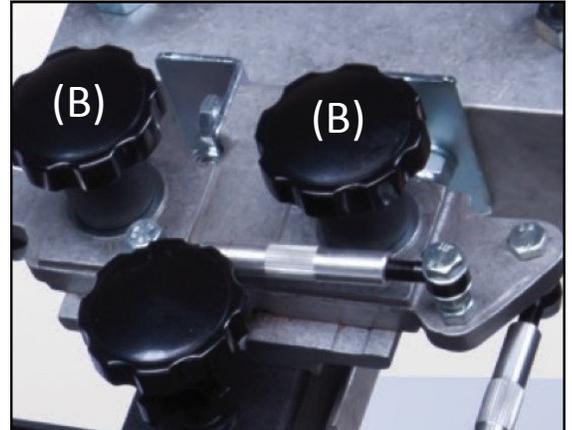
To place a screen in the print head, loosen the two screen lockdown knobs (F) and raise the screen lockdown clamp bar (G) until the screen can fit in. Then push the screen all of the way to the back of the screen clamp. After the screen is properly placed tighten the two screen lockdown knobs, but don't over tighten.

Tip: When using a back clamp printing press always measure the design height from the back of the screen, to confirm the design will register even when using different size screens.

The Mach Series does not require much maintenance, but periodic lubrication and cleaning will ensure smooth operation and extended life of the components. Wipe the press daily to remove spray adhesive and lint. Do not let the spray adhesive and lint accumulate.

To lubricate use heavy duty wheel bearing grease. Unscrew the (B) micro lock down knobs and both of the nuts that attach the micro adjusters to the micro plate, lift up a little and put grease under the micro plate to provide easy movement of the micros.

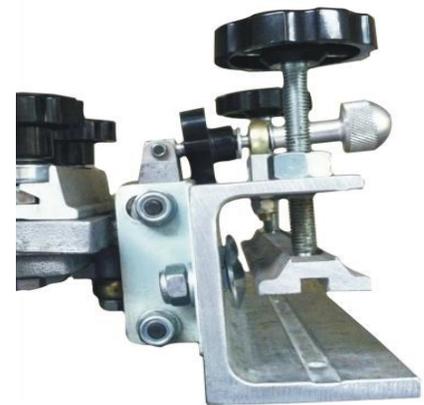
To lubricate the micros back off the adjusters so most of the thread shows, apply a small dab of grease and work into the threads. Then screw down to reveal the other side and then repeat for the other side. After all of this, re-center the micros.



Micro Plate

Don't forget to grease the off contact bolt head that is located in the inside of the off contact clamp and screen holder. Loosen the off contact bolt and pull the large bolt head out slightly, then apply grease on the threads and the print head pivot bolt.

Do not grease the white plastic print head centering bolts



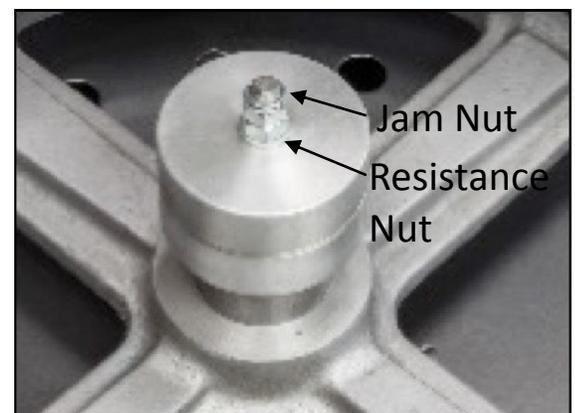
Off Contact

To lubricate the carousel center float arms, just apply grease under the arms. Do not attempt to loosen or adjust the center cap.

To clean the press avoid using alcohol based solvents. Oil based paint thinner is better, because it won't cut and dry out the grease.

Troubleshooting

If there are issues turning any of the knobs or micro adjusters, check to see that they are not gummed up with spray adhesive or ink. Also, make sure they are being clean with an oil based solvent and lubricate. If the carousel becomes stiff or too easy to rotate, check to see that the top tension nut is not too tight or loose because it will determine if the tapered bearings need grease. Take off the jam nut to reach the resistant nut.



Carousel Center Float Arms

Parts List



Description	Part no.
Complete arm assembly. Includes everything to add a print station	21001R
Nylon Registration bolt kit. Includes Lock nut Package of 12	73007R
Spring and Ext. Hog Ring kit. Package of 12	71010R
NOTE: these should be replaced annually !!	
Y-axis Adjusting assy. Knob and nylon eye bolts Package of 2	20005R
Knob, micro cinch Package of 2	74006R
Screen Clamp Knob Package of 2	74011R

Pallets:

Description:	Top w/ bracket	Standard Top	Aluminum Top
10 x 14 youth	12010	12110	12180
15 x 18 adult	12015	12120	12181
18 x 20 oversize	12020	12130	12182

Vacupallet Graphics Printing Pallet:

Vacuum Pallet with bracket, pump and footswitch 18 x 24 Part no. 12513

EZ-CAP Cap Printing Pallet:

E-Z Cap Pallet 3 x 4.75 w/110 Cap Screen and Squeegee Part no. 12011

E-Z Cap Screen #110 Mesh Part no. 12012

E-Z Cap Screen #124 Mesh Part no. 12013

Gripper Jacket Printing Pallet:

EZ-Pocket Pocket Printing Attachment:

E-Z Pocket Pallet E-ZP 4 x 4 Part no. 12005

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. 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 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: _____
City: _____	Fax Number: _____
State: _____	Email : _____
Country: _____	Cell Number: _____
Zip Code: _____	Serial Number: _____
Model Number: _____	Date Recivied: _____
Date Purchased _____	

Please Fax Registration Form for warranty to take place