



# **MACH SERIES OWNER'S MANUAL**

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<https://support.workhorseproducts.com/store/>

## CONGRATULATIONS!

***You are now the proud owner of a MACH SERIES Manual Printing Press.  
We thank you for choosing Workhorse Products!***

While our packaging has been designed to handle normal shipping conditions, we cannot foresee damages caused by the carrier and are not responsible for damages that occur during transportation.

Please check the contents of the packaging for damages immediately.

*If shipping damage has occurred:*

- 1) Contact the carrier to file a claim immediately
- AND ----
- 2) Contact Workhorse Products at 800.778.8779

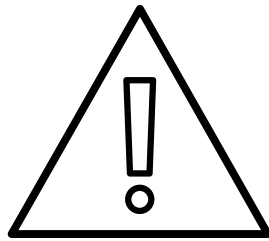
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# INTRODUCTION & SAFETY INFORMATION

## 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 Model. There are step-by-step instructions to assemble the press as well as troubleshooting information. Also included are explanations of the product's key features and additional information that will help with the maintenance of your press.



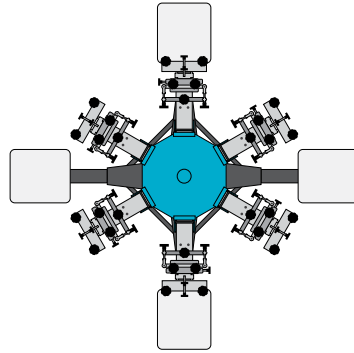
## SAFETY

The Mach Series Manual Printing Press is intended to be used for manual screen printing of textiles. To avoid damage or injury, please be sure to use only for the purpose it was designed for.

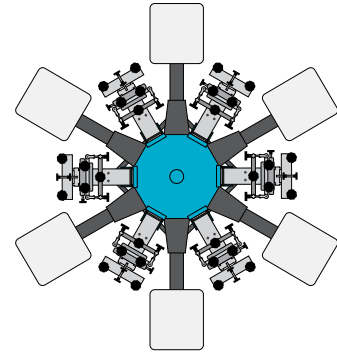
- › Anybody operating the press should first read through this owner's manual to ensure a full understanding of how to properly use and maintain the Mach.
- › Do not sit, stand, or apply excess weight on press.
- › Do not place foreign objects on press.
- › Be sure print heads are in their upright position when installing and removing screens.
- › Keep small children and pets out of reach of the press.
- › Be sure the area around the press is free of clutter, spills, or debris.
- › **IMPORTANT:** Shipping boxes and equipment are heavy. Use two persons for lifting!

# SPECIFICATIONS

## MACH 6/4

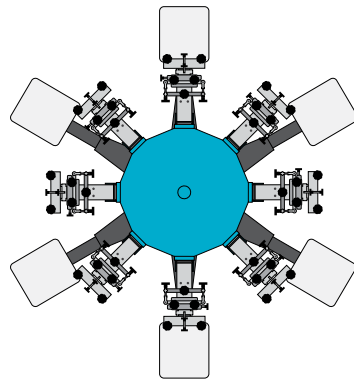


## MACH 6/6

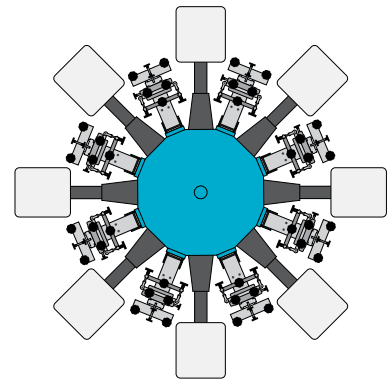


<i>Part Number</i>	MCH-64-MP	MCH-66-MP
<i>Colors/Stations</i>	6 Colors/4 Stations	6 Colors/6 Stations
<i>Max Screen Width</i>	25" (63.5cm)	25" (63.5cm)
<i>Dimensions (Diameter x Height)</i>	117" x 34-36" (297cm x 86-91cm)	117" x 34-36" (297cm x 86-91cm)

## MACH 8/6



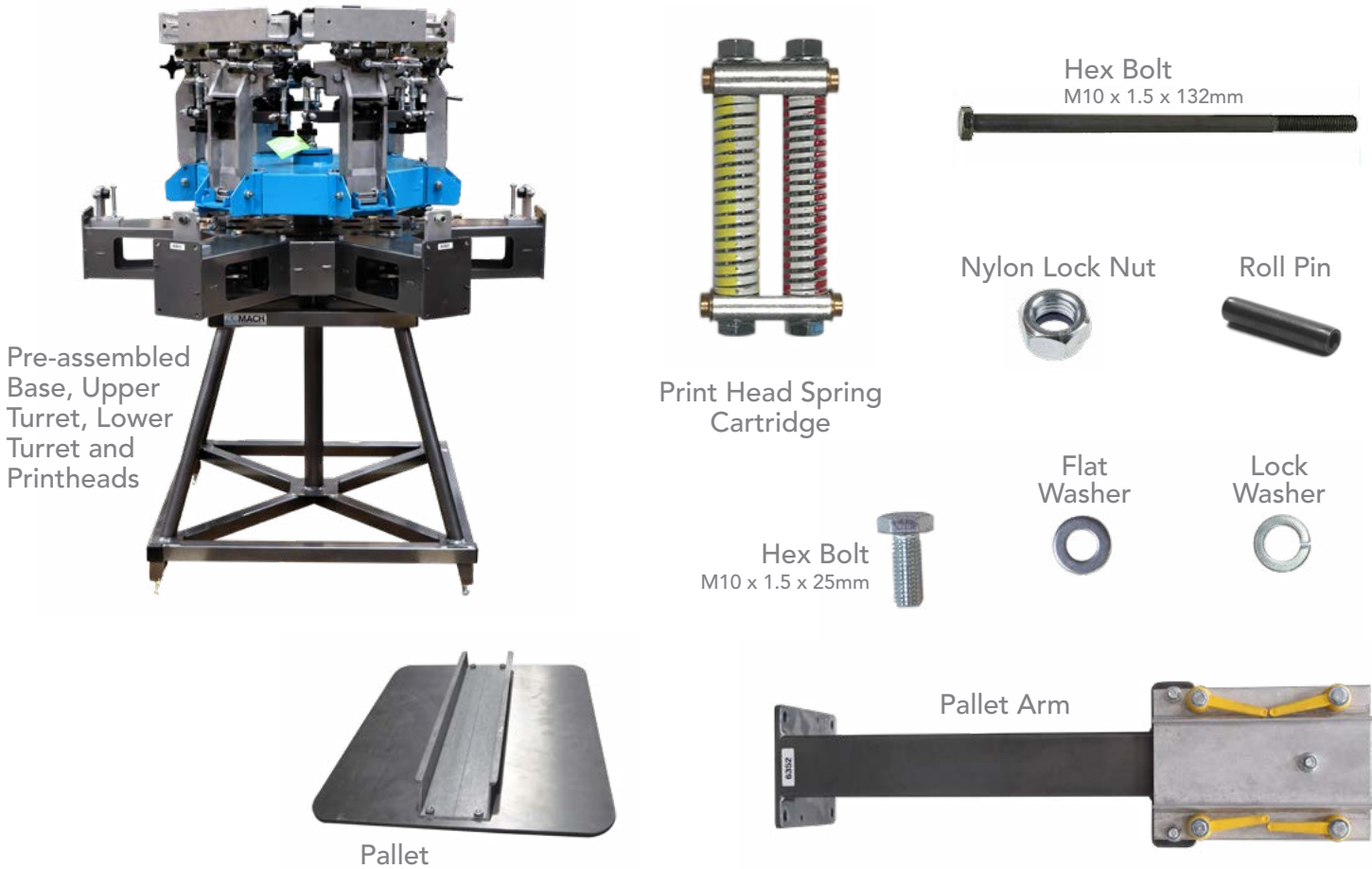
## MACH 8/8



<i>Part Number</i>	MCH-86-MP	MCH-88-MP
<i>Colors/Stations</i>	8 Colors/6 Stations	8 Colors/8 Stations
<i>Max Screen Width</i>	25" (63.5cm)	25" (63.5cm)
<i>Dimensions (Diameter x Height)</i>	134" x 34-36" (340cm x 86-91cm)	134" x 34-36" (340cm x 86-91cm)

# PARTS FOR ASSEMBLY

**NOTE:** Quantity of parts depends on model purchased. Reference the correct model in the table below for correct quantity of parts.



PART NO.	DESCRIPTION	QTY. 6/4	QTY. 6/6	QTY. 8/6	QTY. 8/8
PRE-ASSEMBLED	Base, Upper Turret, Lower Turret and Printheads	1	1	1	1
PRE-ASSEMBLED	Pallet Arm	4	6	6	8
21016-2	Spring Cartridge	6	6	8	8
41-HB-M10-65	Hex Bolt M10 x 1.5 x 132mm	6	6	8	8
42-NYL-M10-10	Nylon Lock Nut M10 x 1.25	6	6	8	8
43-FLT-M10-10	Flat Washer	28	36	40	48
41-HB-M10-20	Hex Bolt M10 x 1.5 x 25mm	16	24	24	32
43-LOK-M10-10	Lock Washer	16	24	24	32
45-1260	Roll Pin	8	12	12	16
75-20-1618	Pallet 16"x18"	4	6	6	8

# PARTS FOR ASSEMBLY

The Mach Series is shipped partially disassembled to prevent damage to the unit during transportation.



All parts are labeled on page 6 and will be referred to in the following steps. Any parts and tools that are necessary for assembly will be listed on each step.

Please be sure you are using the correct tools and parts to assemble your press.

Please check all parts before assembly.

IT IS RECOMMENDED THAT YOU ASSEMBLE YOUR PRESS WITH MORE THAN ONE PERSON

# ASSEMBLY

## STEP 1: INSTALLING THE PALLET ARMS

### TOOLS NEEDED

- 11/16" Wrench
- Hammer

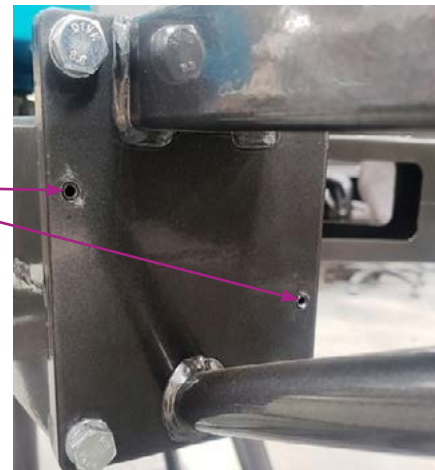
### PARTS NEEDED

- Pallet Arms
- Hex Bolts (41-HB-M10-20)
- Lock Washers (43-LOK-M10-10)
- Flat Washers (43-FLT-M10-10)
- Roll Pins (45-1260)

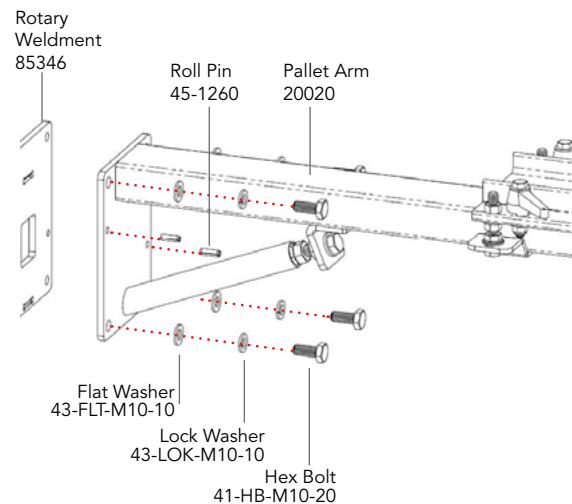
1. Match up number on pallet arm to number on lower turret.
2. Place pallet arm onto mounting plate.
3. Line up pre-drilled holes on pallet arm to pre-drilled holes on mounting plate.
4. Loosely install the four hex tap bolts, lock washers and flat washers to hold pallet arm in place (DO NOT tighten).



5. Hammer roll pins into the mounting plate.
6. Secure pallet arm by tightening the hex bolts with an 11/16" wrench.



**Repeat steps for each additional arm**





# ASSEMBLY

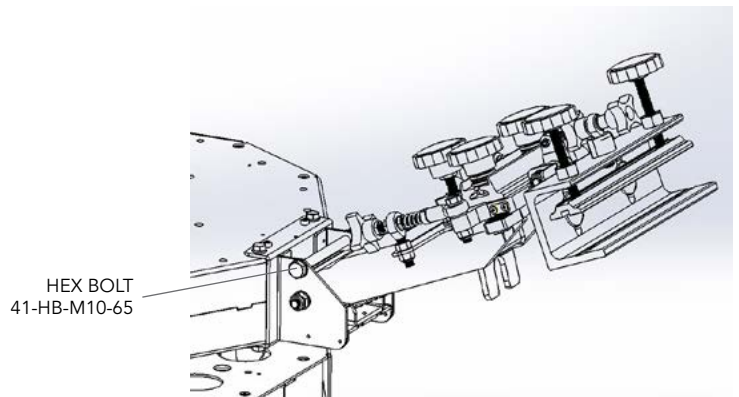
## STEP 2: PRINTHEAD SETUP

### TOOLS NEEDED

- 11/16" Wrench

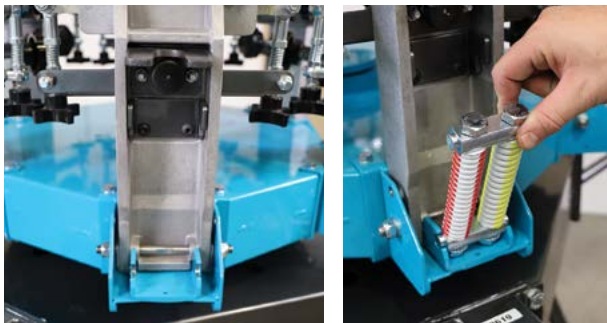
### PARTS NEEDED

- Spring Cartridges
- Hex Bolt
- Nylon lock nuts
- Flat Washers



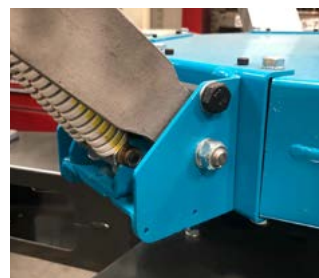
### 3A: Installing the Spring Cartridge

1. Lift up swing arm and locate the empty grooves
2. Place bottom of spring cartridge into grooves as shown, then insert the top of the springs into the top grooves
3. While spring cartridge is resting in place, push swing arm down and hold in place



### 3B: Installing the Hex Bolt

1. Install hex bolt with one washer from the side of swing arm
2. Carefully release swing arm until it rests against the hex bolt
3. Install nylon lock nut and washer on other side of bolt
4. Tighten with wrench



**Repeat all steps for each spring arm**

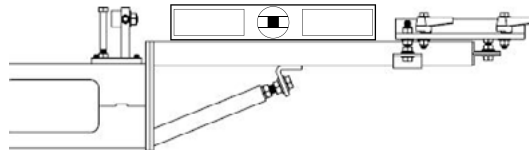
# ASSEMBLY

## STEP 3: LEVELING THE PRESS

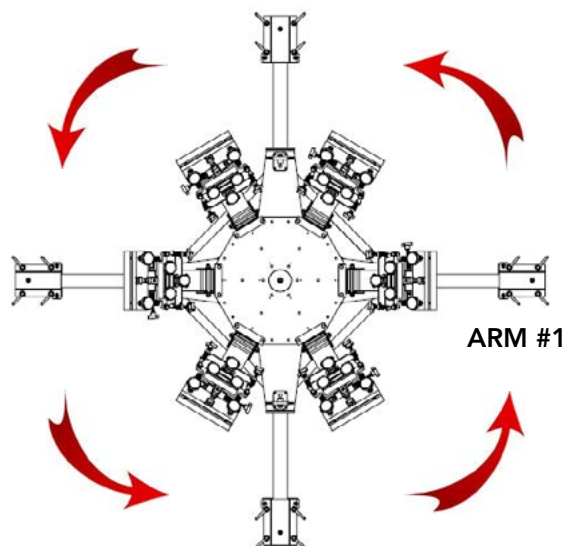
### TOOLS NEEDED

- 3/4" Wrench
- Level

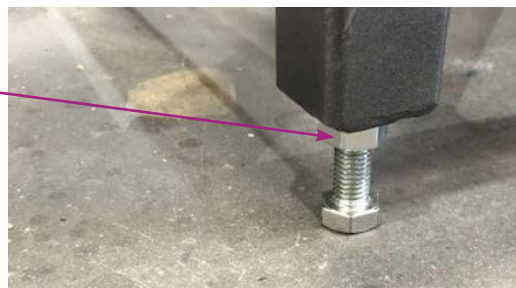
1. Place a level on one of the pallet arms



2. Rotate Arm #1 directly over each leg and adjust the leveling bolt (41-HTB-M12-30) to ensure the level bubble is in same position on all four feet.



3. Once the press is level tighten the hex nut to secure the position.



If you're having problems leveling your press, contact technical support at 800-778-8779 EXT 2.

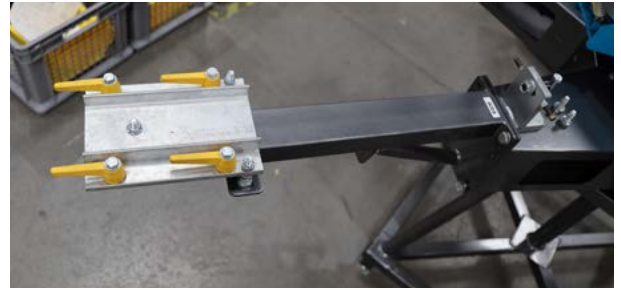
# ASSEMBLY

## STEP 4: INSTALLING THE PALLETS

### PARTS NEEDED

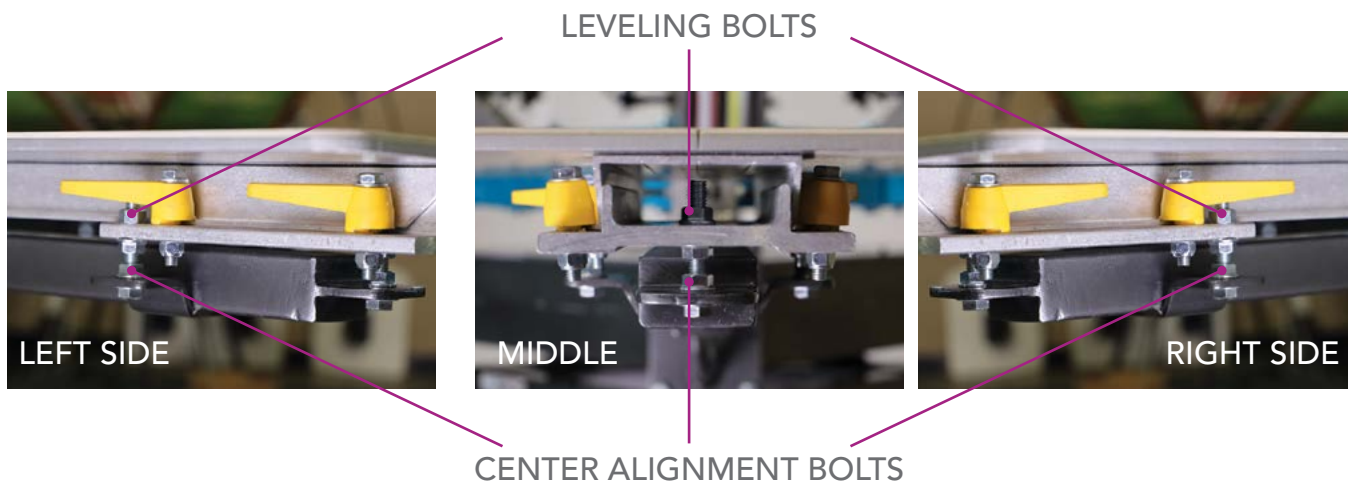
- Pallet

1. Be sure the hold down levers are all facing away from the press.
2. Slide a pallet onto a pallet arm. Make sure that the flange on the bottom of the pallet fits under the hold down levers (*pallet stopping point will vary by person depending on the size and placement of your artwork*).
3. Once you've determined your pallet location, lock in place by pushing the hold down levers to face the press.



**Repeat all steps for each additional pallet**

**Level and Center the pallets using the adjustment bolts shown below**  
(Refer to p. 22 for more details)



# DISASSEMBLING PRESS FOR SMALL ENTRYWAYS

*(It is recommended to do this with more than one person)*

## TOOLS NEEDED

- 9/16" Wrench
- Level

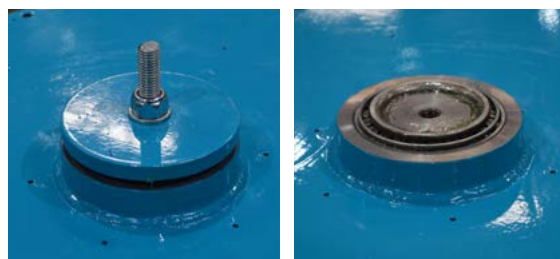
## PARTS NEEDED

- Assembled Press

In some circumstances, it may be necessary to disassemble the press to fit through a small entryway. If you are having difficulty moving your press through a small door or entryway, follow these instructions.

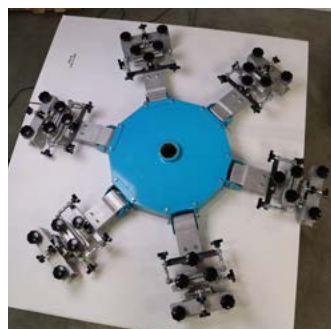
1. Take a wrench and remove the bolt that sits on top of the cap on the upper carousel wheel

2. Lift cap off to expose center shaft



3. Lift the upper turret off of the center shaft and set aside

4. Remove the lower turret off the center shaft and set aside



5. Mach should now be in 3 smaller pieces allowing it to fit through a small doorway

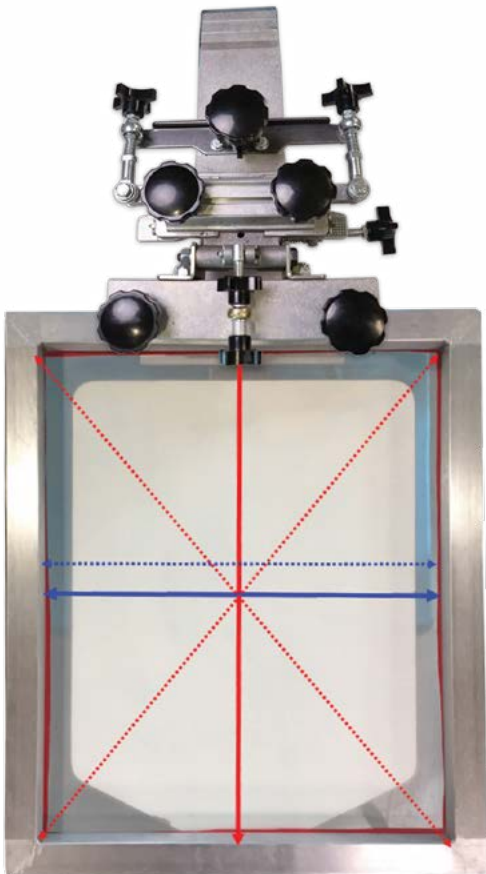
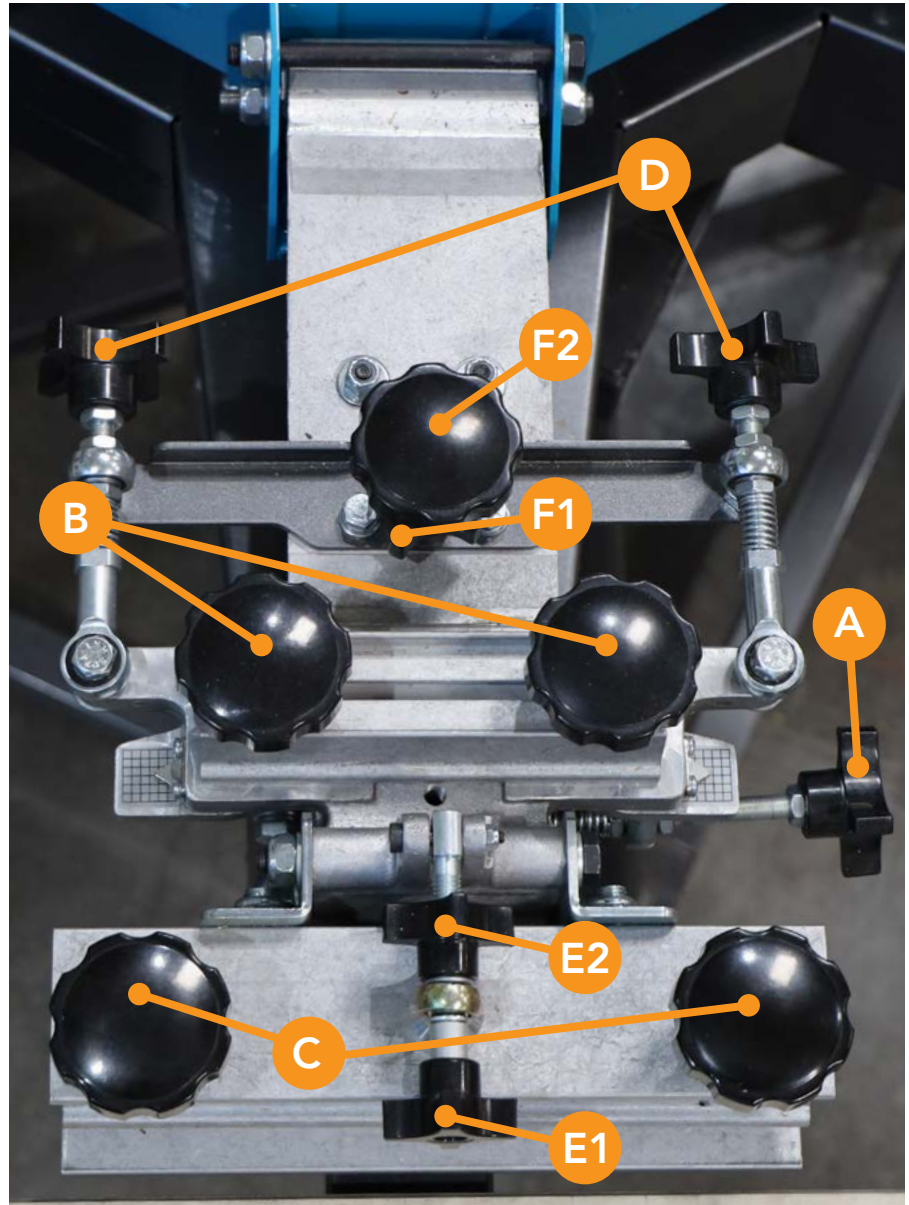
6. Once through the door, put the lower turret and the upper turret back on the center shaft

7. Place the cap on top of the upper wheel and secure the bolt in place with a wrench



# PRINT HEAD AND MICRO ADJUSTMENTS

- A** X Axis Micro Adjuster
- B** Micro Lockdown Knobs
- C** Screen Lockdown Knobs
- D** Y Axis Micro Adjusters
- E** Screen Tilt Adjustment Knobs
- F** Off Contact Knobs



**Y AXIS MICRO**  
**X AXIS MICRO**

# PRINT HEAD AND MICRO ADJUSTMENTS

## USING THE X AXIS MICRO ADJUSTER (A)

Always loosen the micro lock down knobs (B) 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 (D).

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.

## PLACING A SCREEN (C)

To place a screen in the print head, loosen the two screen lockdown knobs (C) and raise the screen lockdown clamp bar 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.*

## USING THE X AND Y MICRO ADJUSTERS (D)

Always loosen the micro lockdown knobs (B) before adjusting the micros.

To adjust the registration turn the X and Y micro adjusters (D).

To move the screen left/right or up/down use the micro adjusters (D).

To move the screen up/down without moving it to the left/right, turn both micro adjusters (D) at the same time.

After adjustments are finished tighten the micro lock down knobs (B), but don't over tighten.

## ADJUSTING THE SCREEN TILT (E)

Loosen E1, then turn E2 to your desired setting.

## ADJUSTING THE OFF CONTACT (F)

Loosen F1, then turn F2 to your desired height. Refer to p. 21 for additional off contact settings.

# MAINTENANCE

The Mach Series does not require much maintenance, but periodic lubrication and cleaning will ensure smooth operation and extended life of the components.

Do not let spray adhesive and lint accumulate. Wipe the press daily to remove spray adhesive and lint.

## LUBRICATING THE MICROS

To lubricate, use spray lithium grease.

Unscrew the (B) micro lockdown knobs that attach the micro adjusters to the micro plate.

Raise the head and spray the lithium in between the top of the head and the internal black cartridge. While doing so, work the micro knobs to work the grease and check for smooth movement of assembly.

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.

## CLEANING

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. 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.

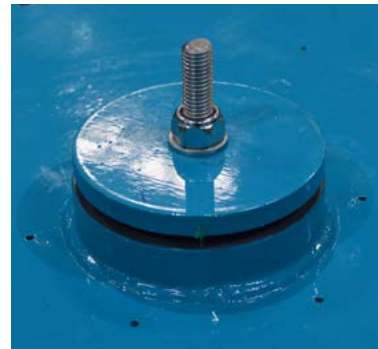


# MAINTENANCE

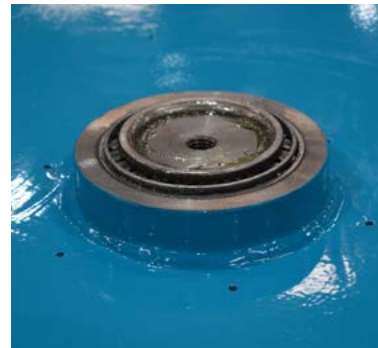
## LUBRICATING THE CAROUSEL TAPERED BEARING

It is important to lubricate the top and bottom of the carousel tapered bearing at least twice a year. Lubrication may also be necessary if the rotation bearing becomes tight or uneven.

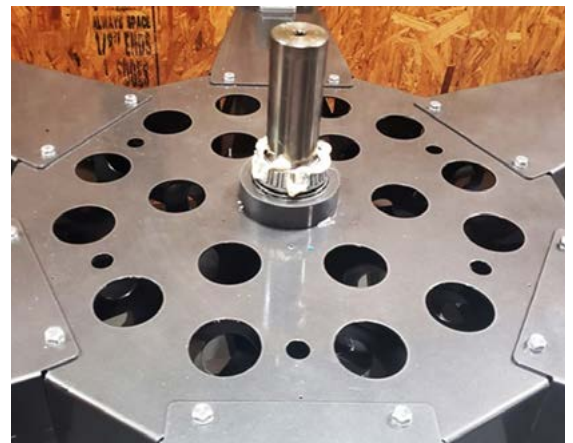
1. Use a wrench to remove the bolt from the Center Tapered Bearing. Lift the cap off to expose the center shaft.



2. Lift the upper turret off of the center shaft.



3. Take a generous amount of grease and pack it onto the top and bottom of the center shaft. Remove the tapered bearing and work the grease onto the bearing separately. Be careful not to damage the race on the bearings.
4. Once complete, return the bearings and the carousel wheel back into place. Put the cap back and tighten the bolt with a wrench.





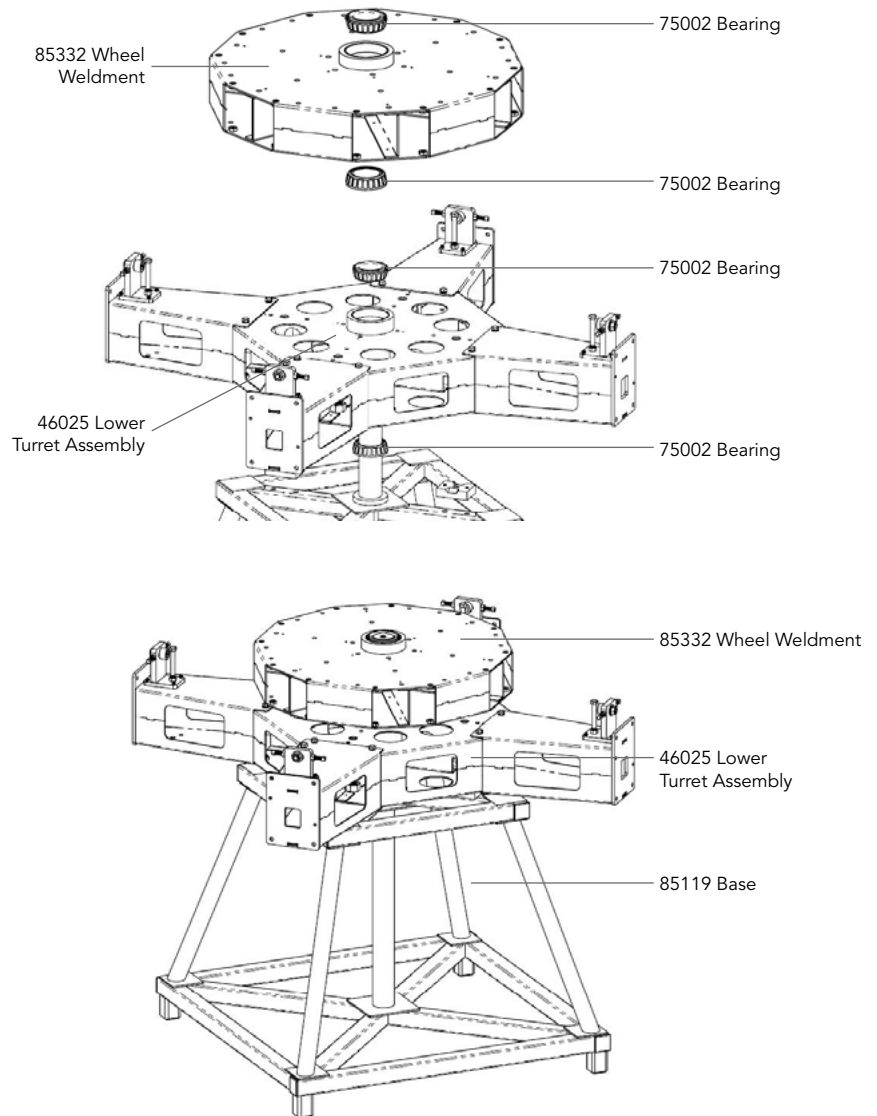
# TROUBLESHOOTING

## BASE, LOWER TURRET AND WHEEL WELDMENT ASSEMBLY

Pack bearings with Lithium Grease and install 2x bearings (75002) into the bearing receiver (top and bottom) of Lower Turret Assembly (46025) and assemble on shaft of base (85119).

Pack bearings with Lithium Grease and install 2x bearings (75002) into the bearing receiver (top and bottom) of Wheel Weldment (85332) and assemble on shaft of Lower Turret Assembly (46025).

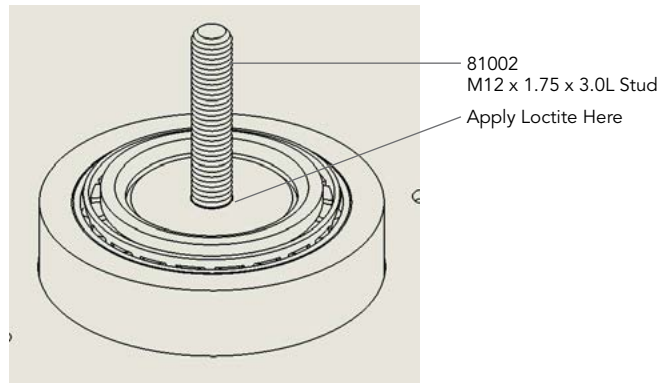
Wheel Weldment installed on Lower Turret Assembly installed on Base with bearings packed and installed.



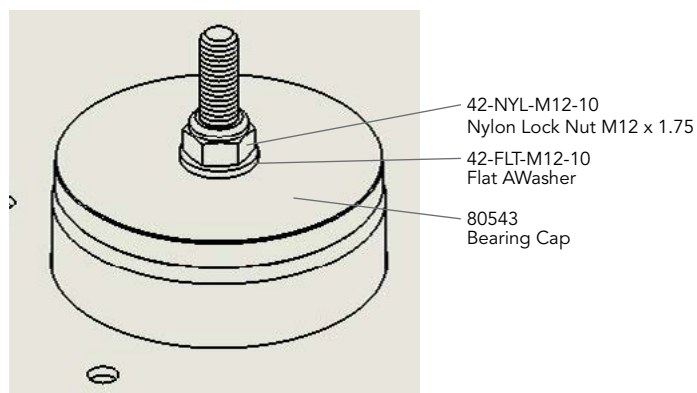
# TROUBLESHOOTING

## BEARING CAP

Install Stud (81002) by applying Loctite 262 to base of threads and screwing into the top of Base shaft.

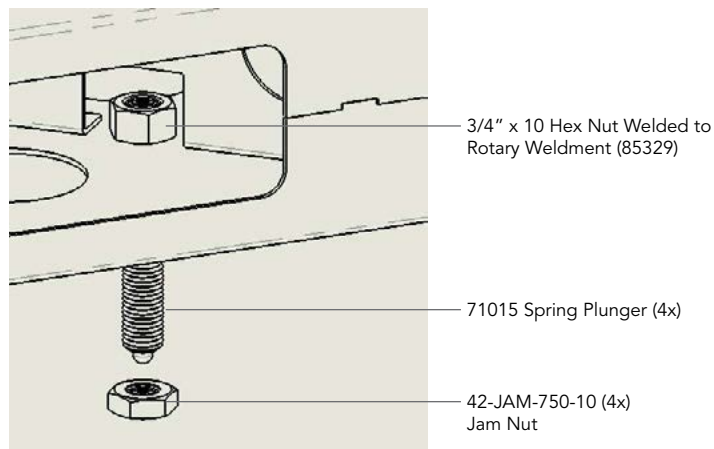


Install Bearing Cap (80543) into the top of Base shaft and secure with Flat Washer (43-FLT-M12-10) and Nylon Lock Nut (42-NYL-M12-10)



## SPRING PLUNGER ASSEMBLY

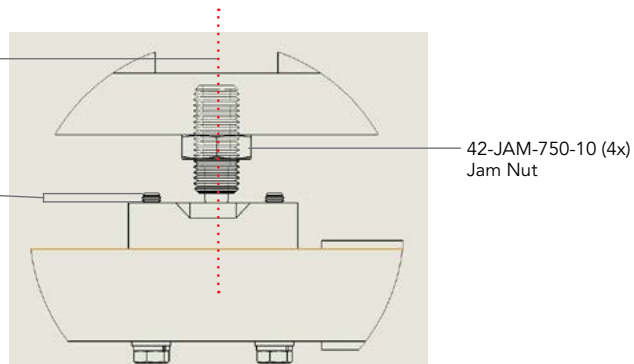
From the bottom side, install Spring Plunger (71015) into 3/4" x 10 Hex nut welded to internal surface of Rotary Weldment (85329) and secure with Jam Nut (42-JAM-750-10).



1. Align block with detent

2. Set Spring Plunger (4x) to pass over Detent Block (81315) 3/16"-1/8".

2. Lock into position with Jam Nut (42-JAM-750-10).

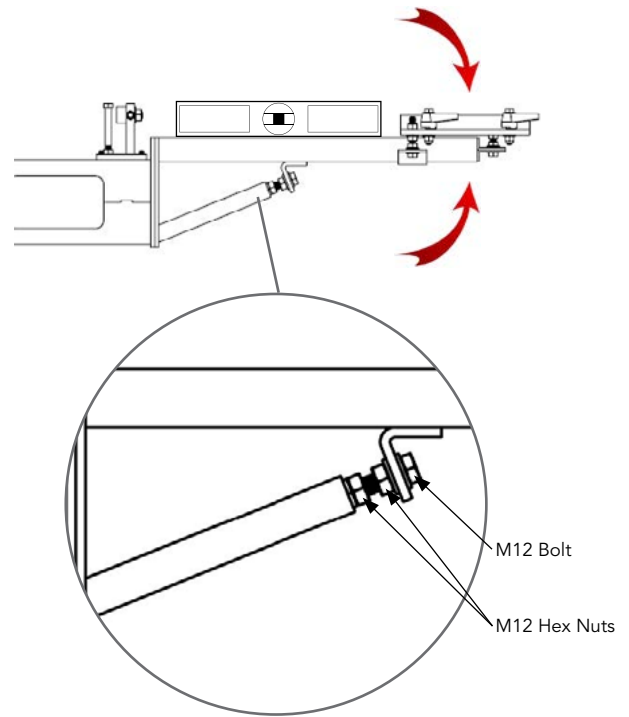


# TROUBLESHOOTING

## LEVELING PALLET ARMS

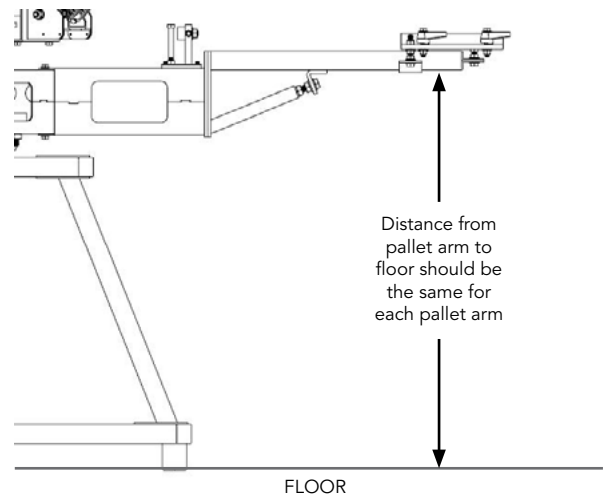
Level pallet arm by loosening the M12 hex nuts and turning the M12 bolt clockwise or counter clockwise until level, tighten both M12 hex nuts.

Adjust as required.



With the pallet arm now level, measure the distance from the bottom edge of the pallet arm, to the floor.

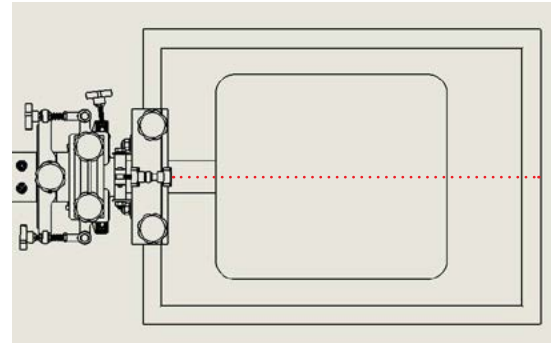
Adjust the remaining pallet arms to have the same floor to pallet arm distance by rotating the wheel and measuring the distance from the same spot of the floor.



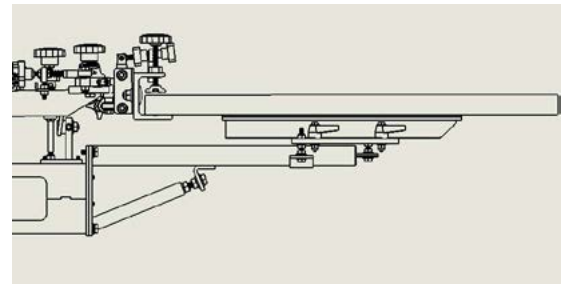
# TROUBLESHOOTING

## ADJUSTING OFF CONTACT

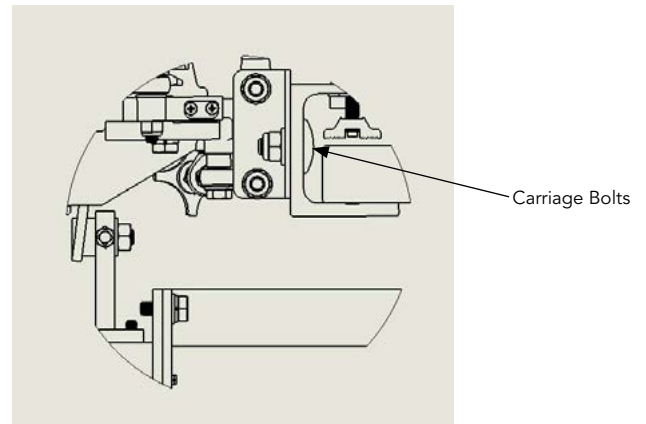
Clamp Screen into print head and center on bracket as shown.



Lower the screen secured in print head flat to Pallet.



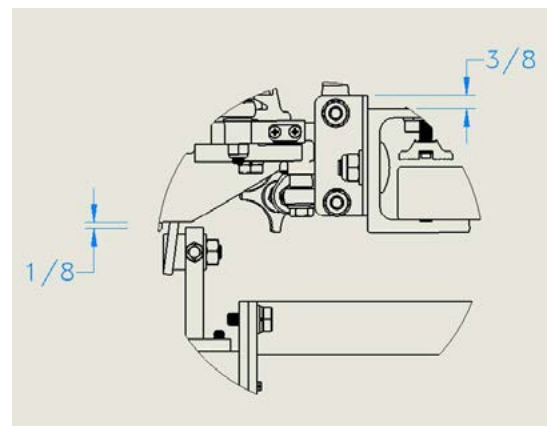
Loosen Carriage Bolts (2x) to allow back clamp to be adjusted.



Adjust off contact to get approximately an 1/8" clearance between top of Registration Bearing Plate and Print arm base, as shown.

Adjust top of Back Clamp to the top of the Angle Adjustment Mounts (Lt and Rt), to approximately 3/8" as shown.

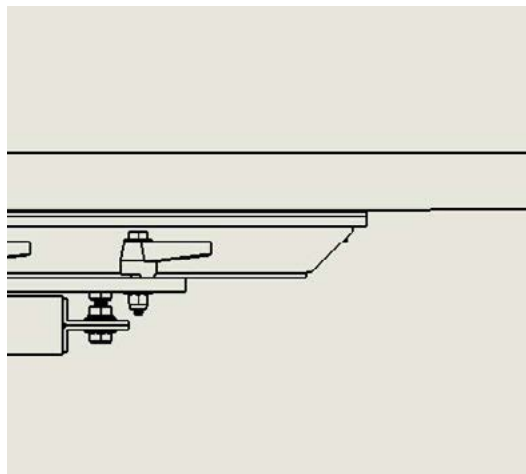
TIGHTEN CARRIAGE BOLTS (2x)



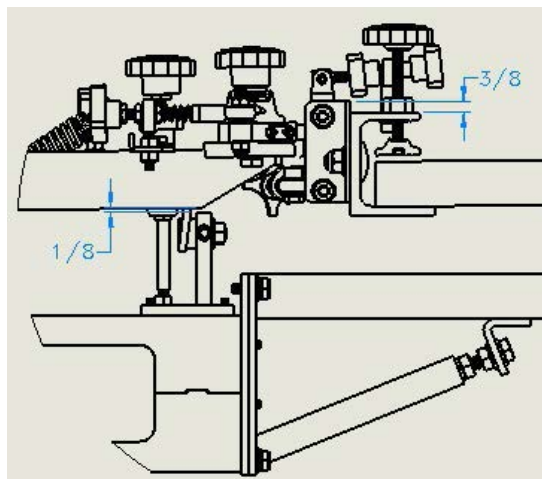
# TROUBLESHOOTING

## ADJUSTING OFF CONTACT CONT.

Adjust the off contact knob to 1/16" gap from print head to pallet arm



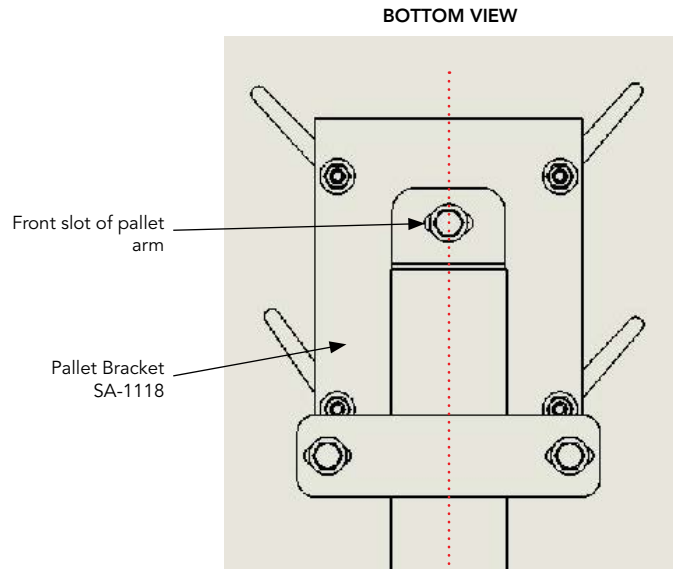
Repeat steps 23-27.  
3/8" dimension is for the first print head only.



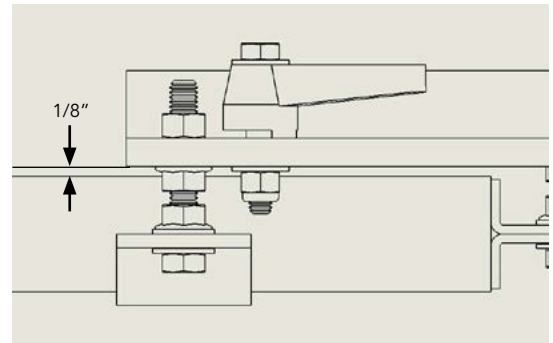
# TROUBLESHOOTING

## CENTERING PALLET BRACKET

Center Pallet Bracket (SA-1118) on front slot of pallet arm

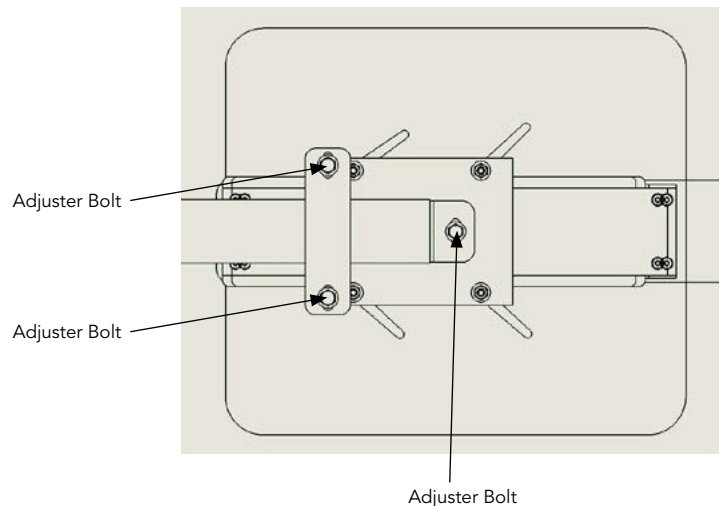


Adjust Pallet Bracket (SA-1118) to be parallel with pallet arm with approximately an 1/8" gap between both parts



## LEVELING AND CENTERING PALLET

Level pallet on pallet arm using the three adjuster bolts.



# 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 two (2) years 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, springs, hog rings, nylon bolts, pallets and casters. Workhorse does not warrant failure of parts or components resulting from misuse or lack of proper maintenance. Installation, inspection, and maintenance costs are the sole responsibility of the purchaser.*

## REGISTRATION FORM

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

**FOR WARRANTY TO TAKE PLACE YOU MUST EMAIL THIS FORM BACK TO:  
PRITZ@WORKHORSEPRODUCTS.COM**



[WWW.WORKHORSEPRODUCTS.COM](http://WWW.WORKHORSEPRODUCTS.COM)

PARTS & SUPPLIES ARE AVAILABLE ONLINE AT:  
<https://support.workhorseproducts.com/store/>

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