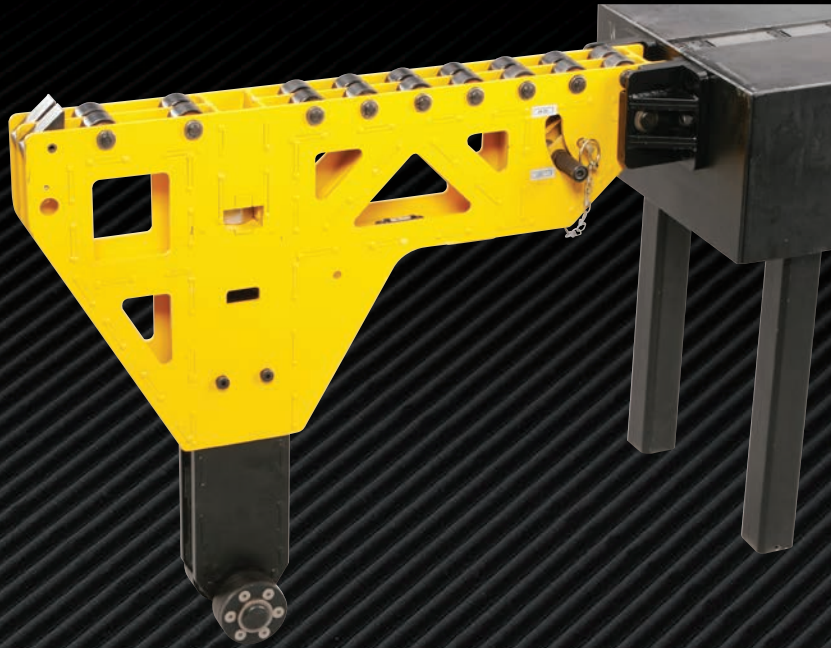


MODEL 524 & 524HD BOLSTER EXTENSIONS WITH LEG SUPPORT



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**S3201 BE.524-524HD
REV A - 8/18**

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INTRODUCTION

The Model BE-524 and BE-524HD Bolster Extensions are available in various lengths. HD stands for Heavy Duty as the Model 524HD has additional roller bearings and a larger wheel assembly for the higher load rating relative to the BE-524.

Please refer to the enclosed drawings 524 and 524HD and note the following:

- Rear Wheels
- Mounting Bracket (914)
- Gate Latch Handle
- Safety Pin
- Level/Elevation Adjustment
- Die Stop
- Level Indicator

The weight of each bolster extension is generally greater than 285 lbs. (42") and the weight of each 914 mounting bracket is approximately 35 lbs.

CAUTION:
USERS MUST DETERMINE HOW THE BOLSTER EXTENSIONS SHOULD BE STORED, MOVED AND ALIGNED SO AS TO AVOID LIFTING STRAIN, TIP OVER AND OTHER POTENTIAL INJURIES TO PERSONNEL

Load Ratings:
Model 524: 8,000 lbs. ea. / 16,000 lbs./pair
Model 524HD: 17,500 lbs. ea. / 35,000 lbs./pair

INSTALLATION

CAUTION:

Read entire procedure before proceeding with installation. Install Die Lifters in Bolster Slots First. Please refer to drawing 914.

1. Confirm installation locations for each bolster extension left/right of Bolster centerline.

Centerline of the mounting bracket may be chosen to align with the center of a slot to accommodate clamp insertions or die lifter rails in the slots.

Ensure die load (weight) will be equally distributed to both bolster arms and that the load will be stable on the extensions.

2. Confirm adequate Bolster thickness or equivalent support for attaching mounting brackets to the bolster.

A minimum of 5" bolster thickness is required for mounting the mounting brackets and supporting the bolster extension end loads. Equivalent strength support structures may be constructed to connect the bracket and appropriate mounting surface to the current bolster, as customers determine is appropriate for equivalency.

CAUTION:

PFA recommends the necessary 5" minimum thickness and all decisions to provide alternate equivalent support is at the customers own risk. All installations or modifications should be reviewed and approved by appropriate plant engineering and safety personnel for proper form fit and function in the application.

3. Calculate hole locations on the side of the bolster and mark.

Using the installation instruction drawing, use formulas on the drawing and known lift above the bolster plate (die lifter clearance) to calculate the mounting hole locations on the bolster.

CAUTION:

Be careful to understand the difference between the measurements to the roller height and to the bolster surface.

Mark the hole locations on the surface so they will be visible for the checking step. DO NOT DRILL HOLES.

4. Check Planned hole locations with actual components.
 - a. Secure a docking bracket to each bolster extension and lock it in place. Push latch handle down and insert safety pin. Secure the pin with the quick release lock.
 - b. Push the bolster extension with the docking bracket attached up to the press bolster. Make elevation and level adjustments to the wheels so that the bolster extension rollers are at the same height (level plane) as the elevated die lifter rollers. Make sure that the bolster extension is (left/right) perpendicular to the press bolster. Secure the docking bracket to the bolster for fitting purposes.

CAUTION:

When turning the level/elevation adjustment for a downward adjustment (lowering the bolster extension) over-travel about one turn, then elevate to proper height. The reason for this is that the level adjustment nuts are free to rotate a few degrees back and forth. When elevating, the nuts are forced into compression ready to carry the load. When lowering, the friction between the legs and the side plates may keep the level adjustment nuts slightly away from load bearing position. Always finish raising the height to remove play in the interface.

- c. With the bolster extension pushed firmly against the bolster, check and confirm the planned drill locations or establish drill points for the four attachment screws by using the docking bracket as a template. It is best to reconfirm any deviations and ensure the actual installed bolster extension is at the proper height. Make sure drill points are centered.
- d. Drill and tap four 3/4-10 3" deep holes (see drawing).
- e. Disconnect the mounting bracket from the bolster extension and mount the bracket to the bolster loosely using the four socket head cap screws provided. Re-attach the bolster extension and verify that the bolster extension and the die lifter rollers are on the same plane. Make any slight alignment changes by moving bracket up or down around the socket head cap screws. Then secure the screws with adequate torque.

Note: Depending on tolerance and installation variations, it may be necessary to ream the four holes in the bracket to remove paint build-up so that adequate adjustments can be made for final placement.

CAUTION:

Make sure all adjustments are made before performing the installation of the dowel/spring/roll pins.

- f. Using the mounting bracket as a template drill and ream two .500" holes 1 1/2" deep for the pins (see drawing). Then drive in the roll/spring pins to secure the bracket.

- g. Taking care to be perpendicular to the bolster re-attach and lock the bolster extension to the mounting bracket. Adjust rear end of the bolster extension as needed, until exact perpendicularity is achieved. Mark the floor so that the same bolster extension can be adjusted to the same (left/right) position each time.

CAUTION:

When the rear of the bolster extension is moved, about 20:1 leverage is exerted against the docking bracket. For example a 50 pound sideways push at the end translates to a 1000 pound strain on the mounting bracket. Therefore, the bolster extension should be exactly perpendicular before docking the bolster extension into the mounting bracket.

- h. It is recommended that users install steel plates in the concrete where the wheels are resting, when the bolster extensions is properly placed. If the bolster extensions are used on more than one press it is preferable that steel plates be installed to provide exactly the same elevation between the floor and bolster for all locations. Marking extensions left and right may be helpful in maintaining locations between presses to minimize adjustment, if the floor elevation is different between left and right positions.

CAUTION:

If the steel plates protrude above the concrete floor or are recessed then a safety hazard may be created.

OPERATING INSTRUCTIONS

1. Move Bolster Extensions into position. Move bolster extension to the press. Be careful to avoid tipping the bolster extension over, as they are heavy. (Most model 524 and 524HD series bolster extensions have a longer wheel base to provide more support for customers who frequently move the bolster extensions – this feature is now standard).

CAUTION:

If handling bolster extensions manually, a team of two or three individuals is recommended, when possible.

2. Line up the bolster extension perpendicular to the press directly at the mounting bracket and insert it into the mount. Use floor marking for placement. Push the bolster extension forward to engage the docking mechanism. Lock by turning the latch handle down and secure in place by inserting the safety pin and securing it with the quick release lock.

CAUTION:

If the bolster extension is used on more than one press and the floor to bolster elevation is not exactly the same, then adjust height prior to docking.

CAUTION:

When turning the level/elevation adjustment for a downward adjustment (lowering the bolster extension) over-travel about one turn, then elevate to proper height. The reason for this is that the level adjustment nuts are free to rotate a few degrees back and forth. When elevating, the nuts are forced into compression ready to carry the load. When lowering, the friction between the legs and the side plates may keep the level adjustment nuts slightly away from load bearing position. Always finish raising the height to remove play in the interface.

3. Perform die placement on the extensions, press insertion, press removal, and lift from the extensions in a slow and controlled manner, with all movement controlled by personnel.

CAUTION:

Place all of the die on the bolster extensions. Do not permit the die to overhang the rear of the bolster extension. Do not make die alignment adjustments while the die is resting on the bolster extensions. If adjustment is necessary, lift the die off the bolster extensions and make the necessary orientation change before the die is replaced on the bolster extensions or wait until the die is on the bolster with die lifters recessed.

CAUTION:

The die stop is designed to prevent a stationary die resting on the die lifters from rolling off the bolster extensions. It is not designed to stop a die which is rolled out of the bolster and onto the bolster extensions. Stop the rolling motion of die before it reaches the die stops.

CAUTION:

Remove dies from the bolster extensions by lifting straight up. Do not side load the bolster extension by dragging the die sideways.

4. Bolster Extension Removal. To disengage bolster extension, provide strong support to hold up the end during removal, remove locking pin, open gate latch, and pull bolster extension away from press.

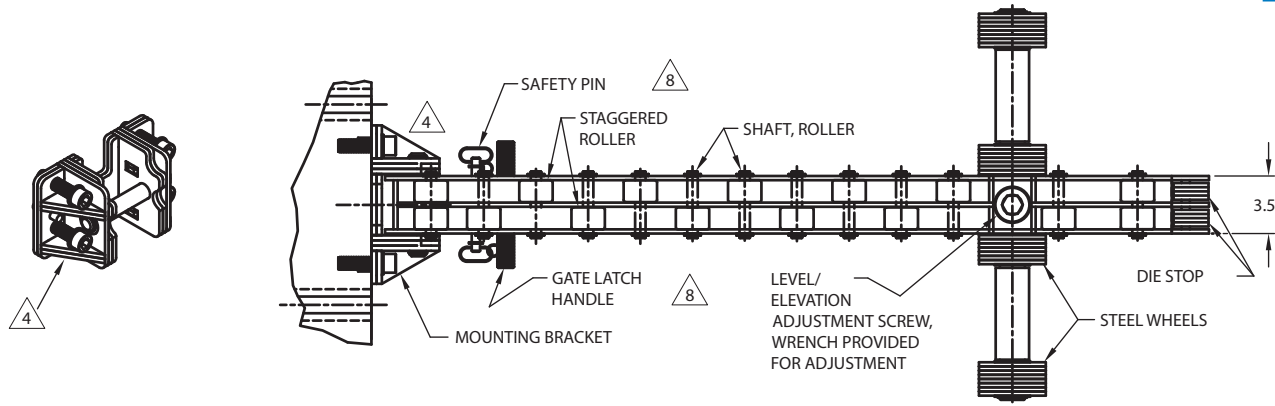
As bolster extensions are heavy, store in a secure location away from personnel and equipment.

MAINTENANCE

1. Periodically inspect the bolster extensions. Ensure:
 - a. All mounting screws are tight.
 - b. Bolster extensions are level and that the concrete supporting the legs is undamaged.
 - c. Die Stop at rear of bolster is up to prevent roll off and moves freely.
 - d. No damage or misalignment has occurred due to forklift impacts or other causes.
 - e. Bolster extensions are used at rated loads and not overloaded.
 - f. New operators are familiar with the operation of the bolster extensions.
2. Apply lubricant as required in hinge area and die stop.
3. Perform any required adjustments and training.
4. Contact PFA for Spare parts, as needed.

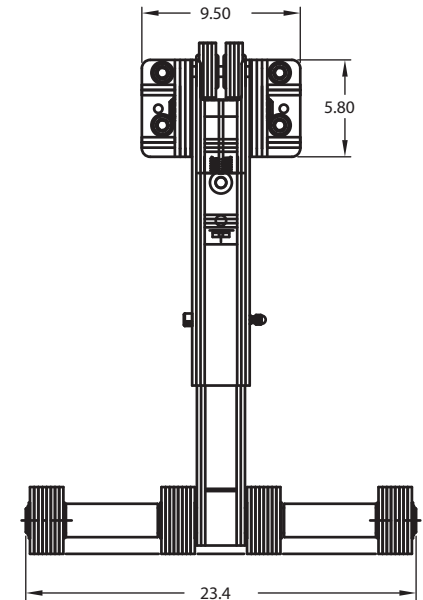
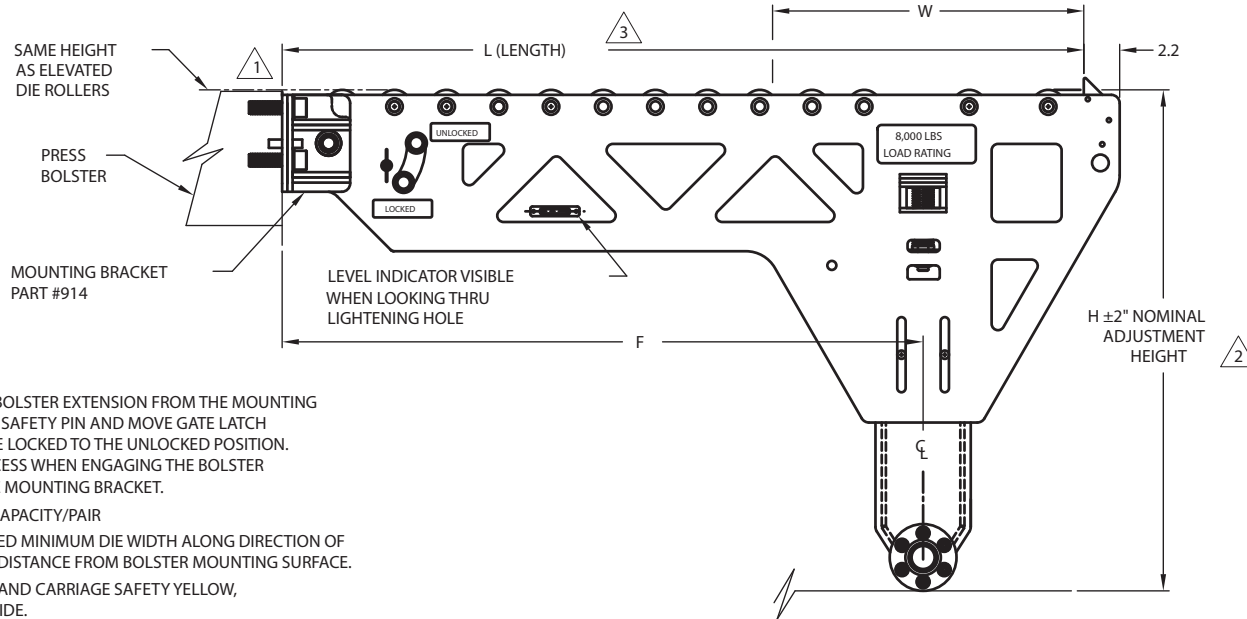
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PART #BE-524-(LENGTH)-(HEIGHT)

| L | W | F |
|------|-----|---------|
| 36" | 21" | 26.38" |
| 42" | 21" | 32.38" |
| 48" | 21" | 38.38" |
| 60" | 21" | 50.44" |
| 72" | 21" | 62.44" |
| 84" | 21" | 74.44" |
| 96" | 45" | 74.44" |
| 108" | 45" | 86.44" |
| 120" | 45" | 98.44" |
| 132" | 57" | 104.44" |



- 8. TO SEPARATE THE BOLSTER EXTENSION FROM THE MOUNTING BRACKET, REMOVE SAFETY PIN AND MOVE GATE LATCH HANDLE FROM THE LOCKED TO THE UNLOCKED POSITION. REVERSE THE PROCESS WHEN ENGAGING THE BOLSTER EXTENSION TO THE MOUNTING BRACKET.
- 7. 16,000 LBS LOAD CAPACITY/PAIR
- 6. W IS RECOMMENDED MINIMUM DIE WIDTH ALONG DIRECTION OF TRAVEL. F IS FOOT DISTANCE FROM BOLSTER MOUNTING SURFACE.
- 5. FINISH: BODY, LEG AND CARRIAGE SAFETY YELLOW, WHEELS BLACK OXIDE.
- 4. ILLUSTRATION OF PART #914 MOUNTING BRACKET, SEE DWG #914 FOR INSTALLATION DETAILS.
- 3. AVAILABLE IN THE FOLLOWING LENGTHS: 36", 42", 48", 60", 72", 84", 96", 108", 120" and 132".
- 2. HEIGHT FROM FLOOR IS CUSTOMER SPECIFIED IN 2" INCREMENTS (MIN. 30", 32", 34", 36" etc...)
- 1. LOCATE MOUNTING BRACKET SO THAT ELEVATED DIE LIFTER AND BOLSTER EXTENSION ROLLERS ARE ON THE SAME PLANE (DIE LIFTERS TYPICALLY ELEVATE .080" to .125" ABOVE THE BOLSTER SURFACE).



MODEL 524 BOLSTER EXTENSION

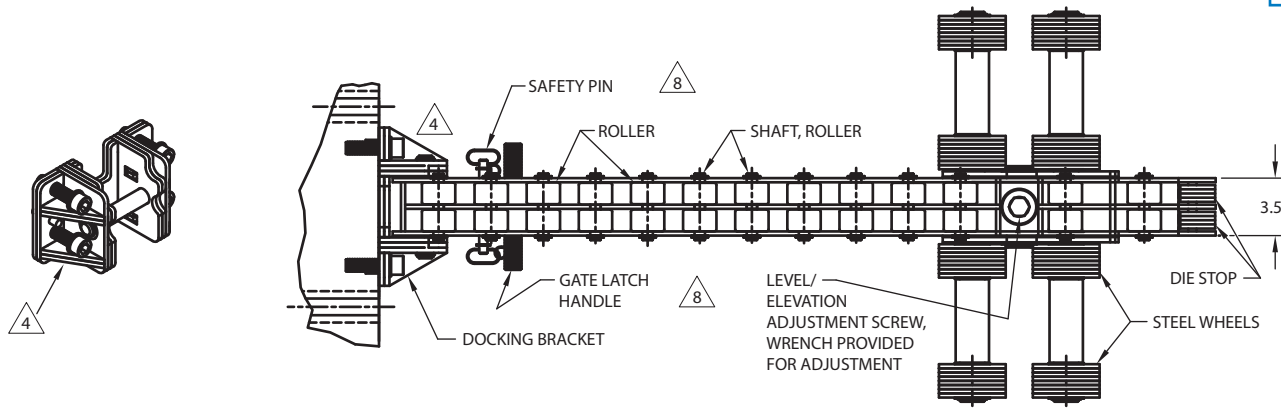
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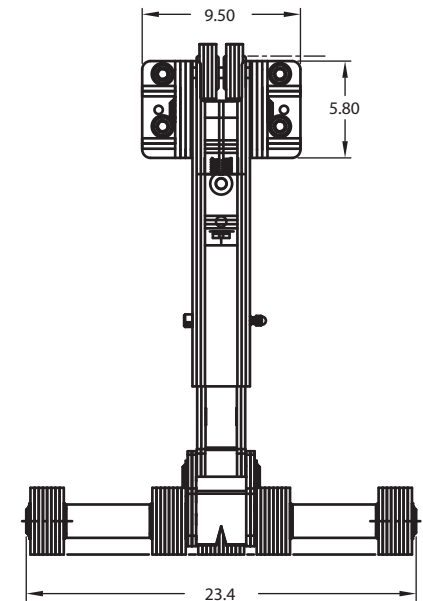
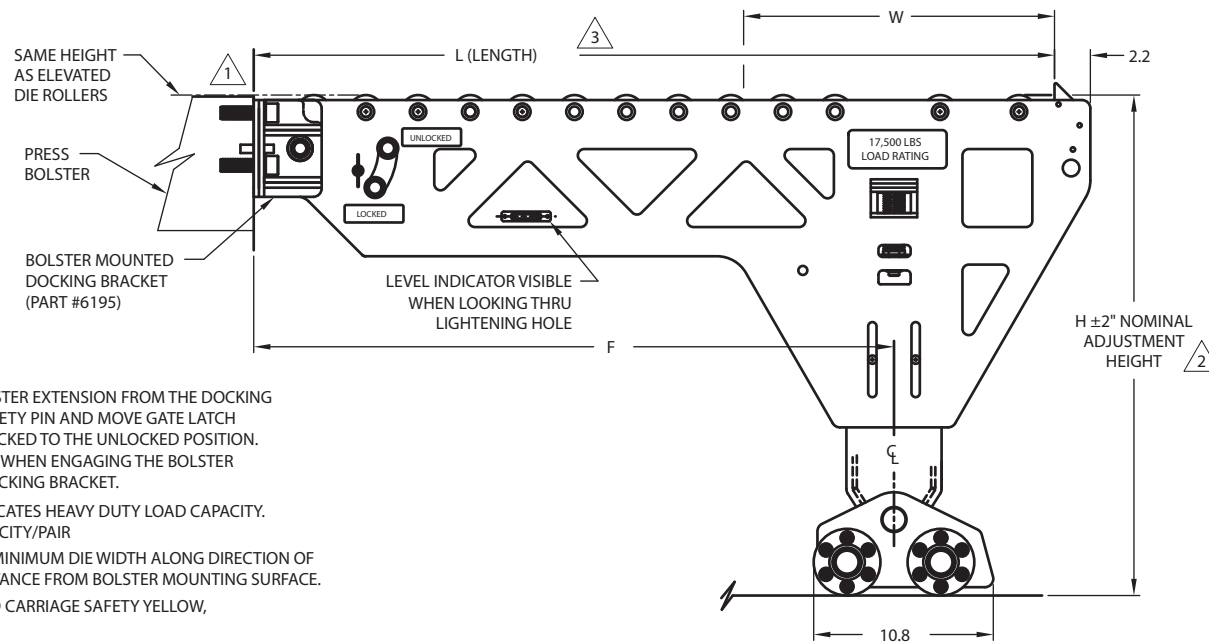
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PART #BE-524HD-(LENGTH)-(HEIGHT)

| L | W | F |
|------|-----|---------|
| 36" | 21" | 26.38" |
| 42" | 21" | 32.38" |
| 48" | 21" | 38.38" |
| 60" | 21" | 50.44" |
| 72" | 21" | 62.44" |
| 84" | 21" | 74.44" |
| 96" | 45" | 74.44" |
| 108" | 45" | 86.44" |
| 120" | 45" | 98.44" |
| 132" | 57" | 104.44" |



- 8. TO SEPARATE THE BOLSTER EXTENSION FROM THE DOCKING BRACKET, REMOVE SAFETY PIN AND MOVE GATE LATCH HANDLE FROM THE LOCKED TO THE UNLOCKED POSITION. REVERSE THE PROCESS WHEN ENGAGING THE BOLSTER EXTENSION TO THE DOCKING BRACKET.
- 7. HD DESIGNATION INDICATES HEAVY DUTY LOAD CAPACITY. 35,000 LBS LOAD CAPACITY/PAIR
- 6. W IS RECOMMENDED MINIMUM DIE WIDTH ALONG DIRECTION OF TRAVEL. F IS FOOT DISTANCE FROM BOLSTER MOUNTING SURFACE.
- 5. FINISH: BODY, LEG AND CARRIAGE SAFETY YELLOW, WHEELS BLACK OXIDE.
- 4. ILLUSTRATION OF PART #914 MOUNTING BRACKET, SEE DWG #914 FOR INSTALLATION DETAILS.
- 3. AVAILABLE IN THE FOLLOWING LENGTHS: 36", 42", 48", 60", 72", 84", 96", 108", 120" and 132".
- 2. HEIGHT FROM FLOOR IS CUSTOMER SPECIFIED IN 2" INCREMENTS (MIN. 30", 32", 34", 36" etc...)
- 1. LOCATE MOUNTING BRACKET SO THAT ELEVATED DIE LIFTER AND BOLSTER EXTENSION ROLLERS ARE ON THE SAME PLANE (DIE LIFTERS TYPICALLY ELEVATE .080" to .125" ABOVE BOLSTER SURFACE).



MODEL 524HD BOLSTER EXTENSION

524HD

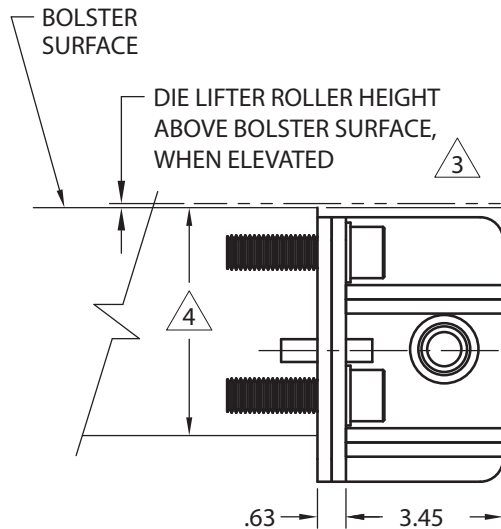
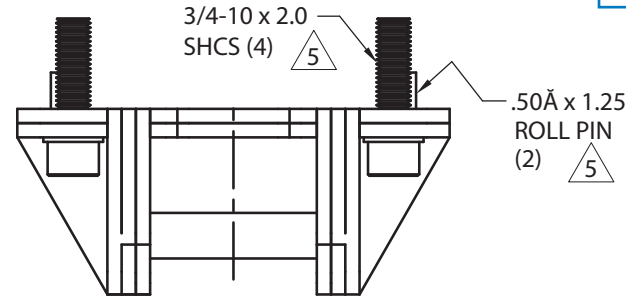
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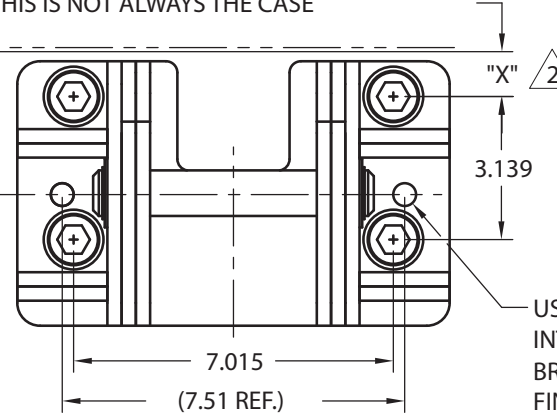
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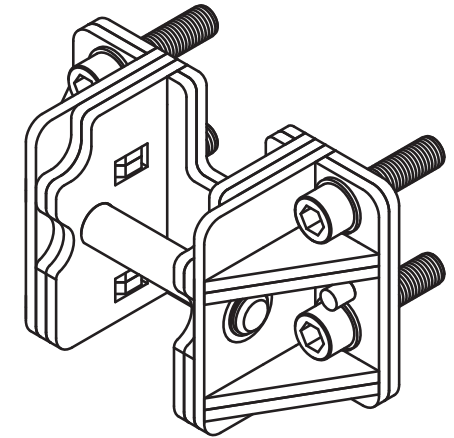
USE THIS DRAWING IN CONJUNCTION WITH THE BOLSTER EXTENSION INSTALLATION INSTRUCTIONS. BEFORE MACHINING, VERIFY MOUNTING LOCATION WITH BOLSTER EXTENSION ATTACHED AND DIE LIFTER RAILS IN THE ELEVATED POSITION.



X = 1.074" - DIE LIFTER ROLLER HEIGHT ABOVE BOLSTER SURFACE WHEN ELEVATED, TYPICAL ROLLER HEIGHT RANGE IS .080"-.125", BUT THIS IS NOT ALWAYS THE CASE



USE TO TRANSFER DRILL HOLES INTO BOLSTER, TO PIN DOCKING BRACKET TO BOLSTER AFTER FINAL ADJUSTMENTS ARE MADE.



- $\triangle 5$ SCREWS AND ROLL PINS ARE FURNISHED WITH MODEL 914 MOUNTING BRACKET.
- $\triangle 4$ MINIMUM 5" BOLSTER THICKNESS, OR EQUIVALENT SUPPORT STRUCTURE REQUIRED.
- $\triangle 3$ DIE LIFTERS ARE ILLUSTRATED IN THE ELEVATED CONDITION, ELEVATED HEIGHT IS NOT SPECIFIED AND MAY VARY WITH THE APPLICATION.
- $\triangle 2$ MOUNTING HOLE LOCATIONS ARE CALCULATED USING ELEVATED DIE LIFTER ROLLER HEIGHT.

1. THE MODEL 914 IS A MOUNTING BRACKET WHICH IS PERMANENTLY MOUNTED TO THE PRESS BOLSTER. THE BRACKET SUPPORTS SEVERAL BOLSTER EXTENSION CONFIGURATIONS MANUFACTURED BY PFA, INC.

NOTES: UNLESS OTHERWISE SPECIFIED

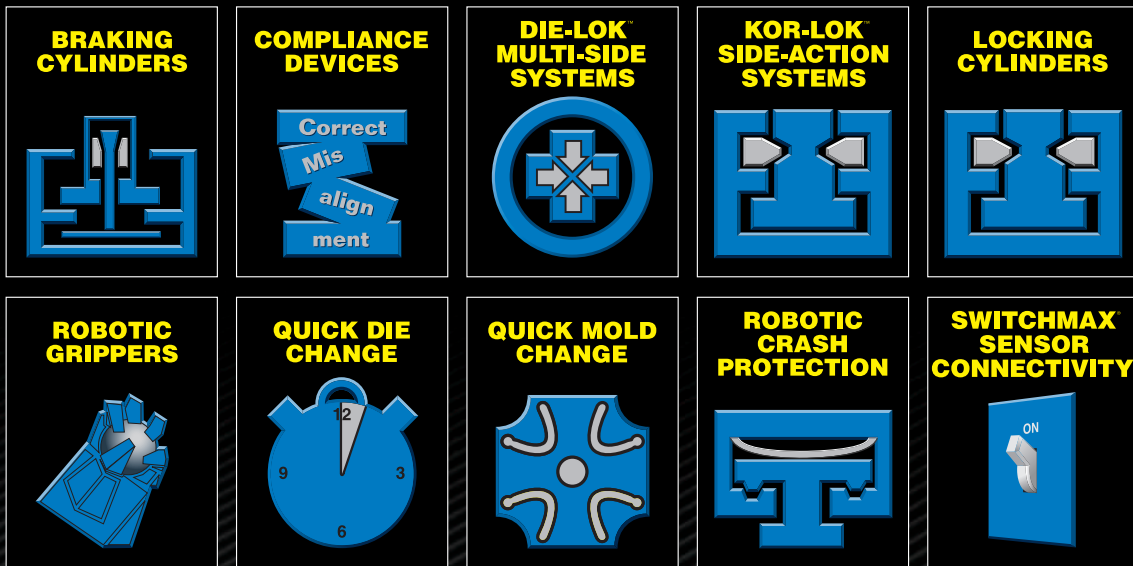


MODEL 914 MOUNTING BRACKET

914

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