

**AIMJORACO**<sup>TM</sup>

*"The Pneumatic Toggle Press Innovators". Since 1947.*



# AUTOMATED INDUSTRIAL MACHINE, INC

TOGGLE-AIRE<sup>®</sup> DIVISION

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Installation, Operation and Maintenance  
Direct-Aire Series Bench Presses

# IMPORTANT

It is the responsibility of the employer/purchaser to provide his or her employees with proper point of operation guards, and to insure that this equipment is used in accordance with the manufacturer's recommendations as well as any OSHA, federal, or state regulations that are applicable to such equipment. Because it is impossible to anticipate the conditions under which our equipment will be operated, additional safety devices and methods may be required to insure operator safety. Besides conforming to all federal, state, and local codes, the buyer should consider the safety of the entire operation involving any press, and see that any additional guarding, training, and maintenance deemed necessary is developed and enforced to protect the well being of the operator.

THINK SAFETY . . .  
. . . WORK SAFELY

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# DIRECT-AIRE SERIES PRESSES

## OVERVIEW, INSTALLATION, AND OPERATION

### SECTION 1: OVERVIEW

#### 1.1 DESCRIPTION

The DIRECT-AIRE® pneumatic press series features a straight pneumatic cylinder for applications requiring full force over the entire stroke such as assembling bushings, posts, inserts, fasteners, and related products. Suitable for a wide range of manual and semi-automatic assembly operations, this press is offered with a standard 4.5" stroke, providing from 650 to 2,300 lbs.

#### 1.2 FEATURES

Features include the following:

- 4.5" Standard Stroke
- 6" Through Space for Flexible Working Area
- 8" Open Height

#### 1.3 OPTIONS

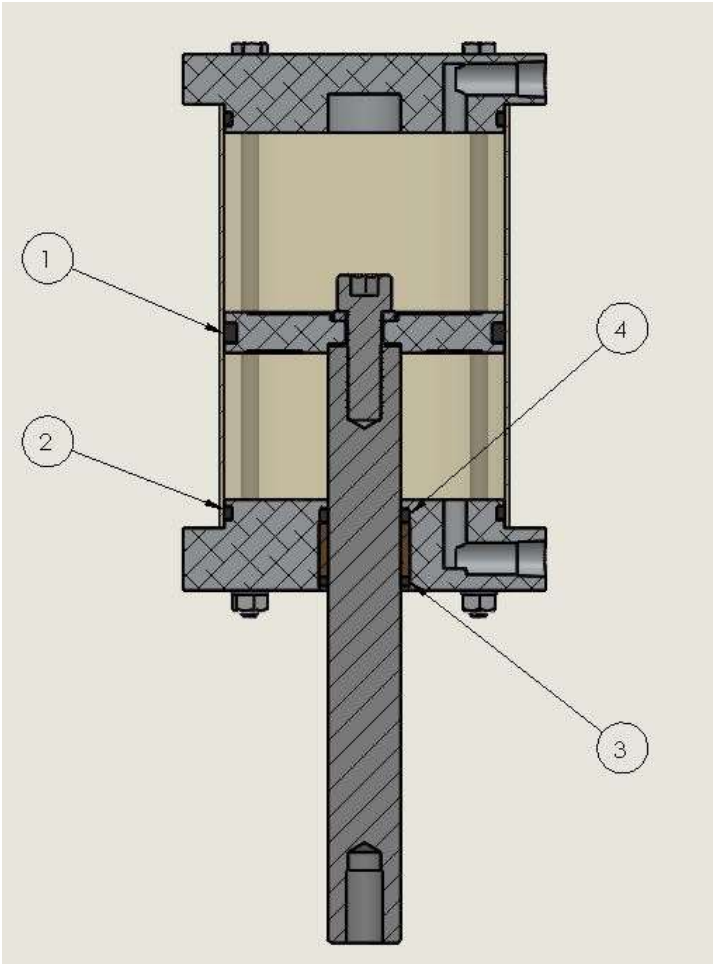
Options include the following:

- Filter, Regulator, Lubricator (FRL)
- Non-Rotating Ram
- Adjustable Ram Speed Control
- Adjustable Stroke
- PLC Ready
- Optical "No-Touch" Anti-Tie Down Actuation

# DIRECT-AIRE SERIES PRESSES

## OVERVIEW, INSTALLATION, AND OPERATION

### 1.4 Cylinder Components



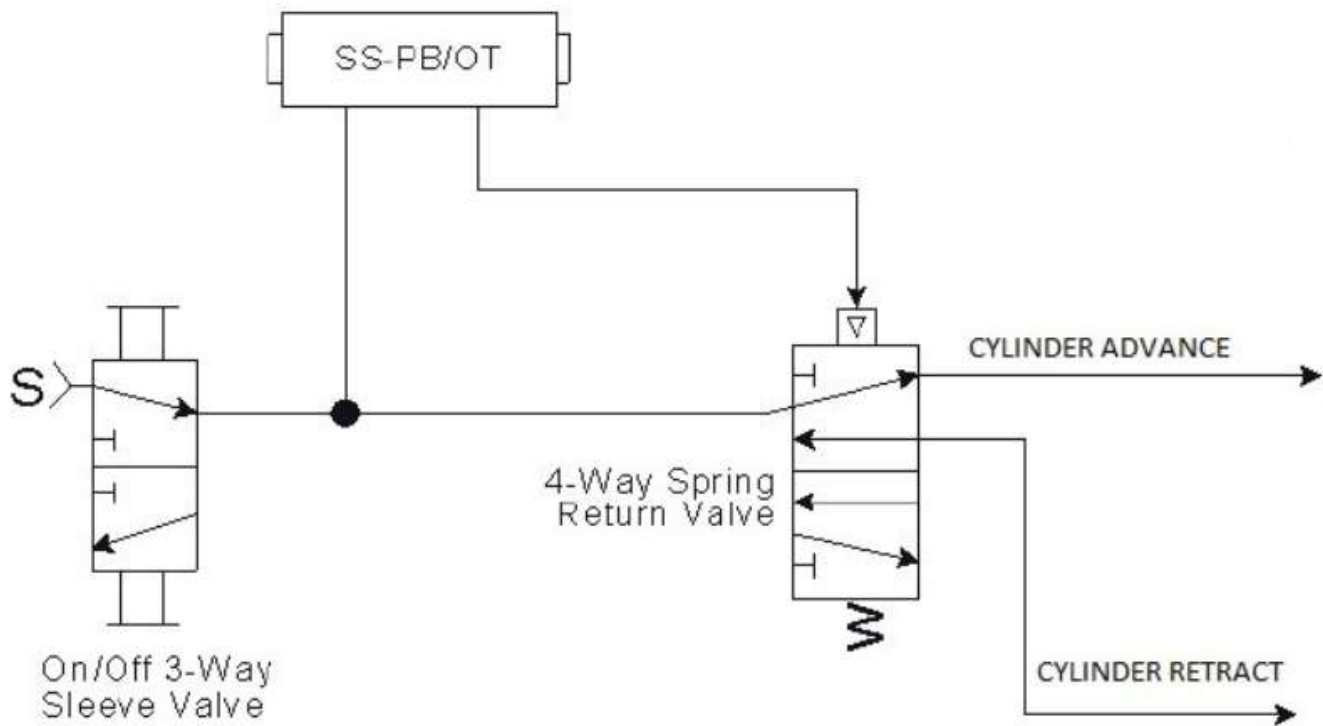
Model NO.	Replacement Seal Kits
DA-300	SK300
DA-300AHS	SK300AHS
DA-400	SK400
DA-400AHS	SK400AHS
DA-400T	SK400T
DA-400TAHS	SK400TAHS

# DIRECT-AIRE SERIES PRESSES

## OVERVIEW, INSTALLATION, AND OPERATION

### SECTION II: VALVING

#### PNEUMATIC CIRCUIT: NON CSR



# DIRECT-AIRE SERIES PRESSES

## OVERVIEW, INSTALLATION, AND OPERATION

### SECTION III: INSTALLATION

#### 3.1 UNBOXING

#### Section III: Installation

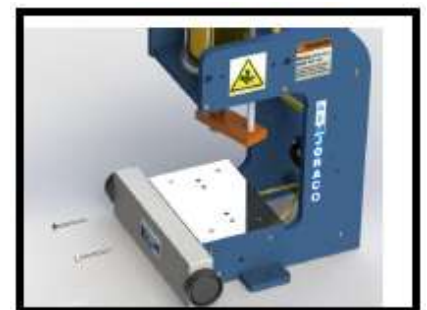
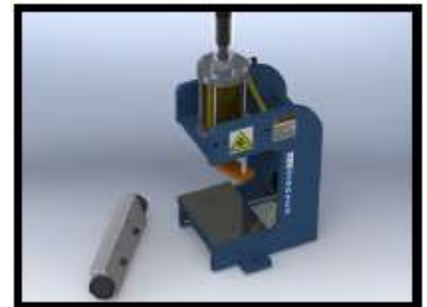
##### 3.1 Un-boxing

Carefully remove the press from the crate, taking note of separately packed items such as the "Quick Exhaust Unit"(Optional), FRL Unit (Optional) and "Synchro-Sig" Actuator.

**Synchro-Sig may come mounted on some models**

##### 3.2 Synchro-Sig Installation

- A. Locate the 1/4" yellow tubing found under the press platen. Connect the tubing to the appropriate fittings on the actuator. See markings on the tubing. **DO NOT OVERTIGHTEN** normally, 1/2 turn past finger tight is sufficient for an airtight connection. (Figure 1.1)
- B. Using the 1/4-20 hex head bolts supplied, mount the "Synchro-Sig" to the press as shown. Be sure to mount the aluminum lever guard between the actuator and the press at the same time. (Figure 1.2)



**NOTE:** To insure operator safety some applications may require that you locate the "Synchro-Sig" actuator further away from your tooling.

**- PICTURES ARE FOR REFERENCE ONLY -**  
SOME SECTIONS OF THIS MANUAL MAY NOT APPLY  
TO YOUR PRESS UNIT.

# DIRECT-AIRE SERIES PRESSES

## OVERVIEW, INSTALLATION, AND OPERATION

### SECTION III: INSTALLING

#### 3.3 Mounting Press

- A. Select a bench of suitable size and strength.
- B. Bolt the press to the bench using the holes located in the press frame below the platen area. Never operate the press unless it is securely mounted on a bench or stand.

**CAUTION:** WHENEVER CONNECTING YOUR AIR SUPPLY TO THE PRESS BE CER-TAIN TO FOLLOW SAFE OPERATING PROCEDURES AND KEEP ALL PARTS OF YOUR BODY AWAY FROM THE MOVING PARTS OF THE PRESS!



#### 3.4 Connect Air Supply

- A. The air supply must be clean and conditioned. Preferably, a Filter, Regulator, Lubricator Unit, (Joraco Part No. FRL-HP) should be located within 6 feet of the press. For optimum results all air lines, fittings, and hoses used to supply the press should be the equivalent of **1/2" minimum**.
- B. The minimum air pressure for operation is 50 PSI; the maximum is 100 PSI. The optimum operating range is 60-100 PSI. If your application consistently required substantially more than 100 PSI it may indicate the need for a stronger.
- C. Connect air supply to the press at the inlet port.



**NOTE:** If lower air pressure is required consult factory about EZ-Dial option.

**NOTE:** A three way Shut Off Valve like the one supplied must always be used to insure complete bleeding of the press circuits when air supply is off.





# DIRECT-AIRE SERIES PRESSES

## OVERVIEW, INSTALLATION, AND OPERATION

### SECTION III: INSTALLING

#### 3.5 Turn On Air Supply

- A. Remove the yellow lock out device found on the On-Off Valve. To turn the air on simply move the gold colored sleeve downward until it stops. Slide the sleeve upward to the stop to shut the supply off. With the supply on, check for air leaks and be sure all connections you have made are secure and air tight. If air leaks from inside the "Synchro-Sig" actuator the connections are incorrect. Correctly reconnect the tubing, taking note of the tubing labels.

**CAUTION: ENSURE HANDS ARE CLEAR OF ANY TOOLING BEFORE TURNING OFF AIR SUPPLY. THE WEIGHT OF A HEAVY TOOL MAY CAUSE IT TO DROP UNEXPECTEDLY. IF HEAVY TOOLING IS BEING USED BE SURE TO PLACE A STOP UNDER TOOLING BEFORE TURNING OFF AIR SUPPLY.**

**NOTE:** When the press is not in use or being serviced or maintained, always SHUT OFF the air supply and replace the lockout device. Secure with a padlock, etc. to prevent unauthorized use of the press.

**CAUTION: BEFORE PROCEEDING, MAKE SURE THE TABLE AND WORK AREA IS CLEAR OF ALL TOOLS, FOREIGN OBJECTS, AND BODY PARTS.**

#### 3.6 Test The Installation

- A. Test the "Synchro-Sig" Two Hand Actuator by simultaneously depressing the levers on the Model SS-PB or by simultaneously placing a finger in each sensing "button" on the Model SS-OT. The press should cycle once, return to the top of the stroke, and await another signal from the actuator. If the levers or "buttons" are continuously held down the press should remain in the down position until one or both levers or buttons are released.



# DIRECT-AIRE SERIES PRESSES

## OVERVIEW, INSTALLATION, AND OPERATION

### SECTION IV: SET UP AND OPERATION

#### 4.1 Mount Your Tooling

**NOTE:** Prior to installing any tooling in the press, proper point of operation guarding, specifically designed for your tooling, must be built and mounted on or around your tooling.

**CAUTION:** NEVER OPERATE, SERVICE OR ADJUST THIS MACHINE WITHOUT PROPER INSTRUCTION.

**NEVER SERVICE THIS MACHINE WITHOUT FIRST SHUTTING OFF AIR SUPPLY.**

**NEVER OPERATE THIS MACHINE WITH SAFETY GUARDS REMOVED.**

- A. Using the tapped holes in the press platen, mount the lower portion of your tooling to the press. The platen is machinable and can be drilled and tapped as necessary. The standard bore in the press ram is .8125" with a depth of 1.5". Precisely fit your shank to the bore of the ram and lock the shank in with the 5/16-18 hardened lock screw located on the face of the ram. The end of the ram should bear against the upper portion of your tooling.

**NOTE:** If your tool incorporates guide pins etc., be sure the tooling easily moves along the full length of travel with no binding or misalignment. Correct any problems found in the tool before placing tooling into production.



# DIRECT-AIRE SERIES PRESSES

## OVERVIEW, INSTALLATION, AND OPERATION

### SECTION V: TROUBLESHOOTING

#### 6.1 Ram Will Not Extend

<b>Cause</b>	<b>Solution</b>
Air is not on	Turn on air supply
Insufficient air supply	Increase air supply pressure
Defective valve	Contact AIM Joraco to replace
Tooling is binding	Inspect / repair tooling

#### 6.2 Ram Will Not Retract (stuck in down position)

<b>Cause</b>	<b>Solution</b>
Insufficient air supply	Increase air supply pressure
Defective valve	Contact AIM Joraco to replace
Tooling is binding	Inspect / repair tooling

#### 6.5 Press Not Generating Pressure

<b>Cause</b>	<b>Solution</b>
Insufficient air supply	Increase air supply pressure
Cylinder low on oil	Refer to section 5.1
Cylinder out of working range	Adjust tooling
Damaged / worn seals	Send cylinder to AIM Joraco

#### 6.6 Ram Does Not Fully Retract

<b>Cause</b>	<b>Solution</b>
Insufficient air supply	Increase air supply pressure
Tooling is binding	Inspect / repair tooling
Air trapped in oil reservoir	Refer to section 5.1

# DIRECT-AIRE SERIES PRESSES

## OVERVIEW, INSTALLATION, AND OPERATION

### SECTION VI: ENGINEERING DATA

#### 6.1 Standard Specifications

SPECIFICATIONS	300	400	400T	600	800	1000
Force	650LBS	1200LBS	2300LBS	2800LBS	5000LBS	7800LBS
Strokes/Min	240	180	100	80	50	15
Open Height (Standard)	8.0"	CUSTOM SIZE AVAILABLE	CUSTOM SIZE AVAILABLE	CUSTOM SIZE AVAILABLE	CUSTOM SIZE AVAILABLE	CUSTOM SIZE AVAILABLE
Stroke	4.5"	CUSTOM SIZE AVAILABLE	CUSTOM SIZE AVAILABLE	CUSTOM SIZE AVAILABLE	CUSTOM SIZE AVAILABLE	CUSTOM SIZE AVAILABLE
Throat Depth	4.5"	CUSTOM SIZE AVAILABLE	CUSTOM SIZE AVAILABLE	CUSTOM SIZE AVAILABLE	CUSTOM SIZE AVAILABLE	CUSTOM SIZE AVAILABLE
Air Consumption Per Stroke @80PSI	.2 ft <sup>3</sup>	.39 ft <sup>3</sup>	.64 ft <sup>3</sup>	.92 ft <sup>3</sup>	1.66 ft <sup>3</sup>	2.59 ft <sup>3</sup>

#### 6.2 Cycle Times

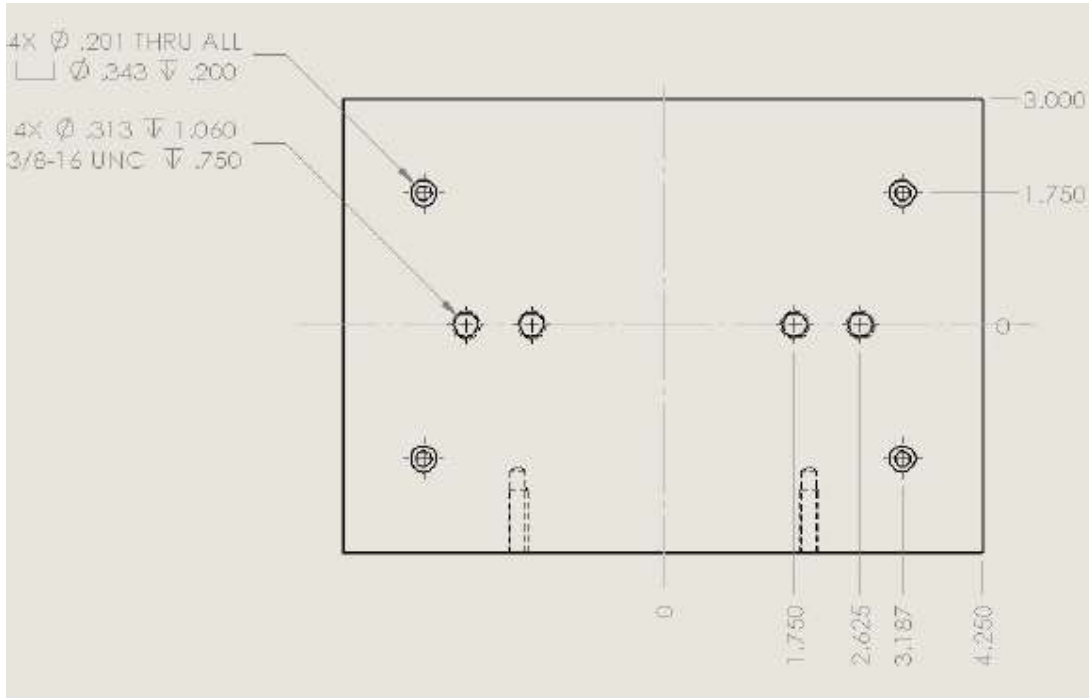
Cycle times vary depending on the volume of air being delivered by the customer, the length of the stroke, and the weight of the tooling.

# DIRECT-AIRE SERIES PRESSES OVERVIEW, INSTALLATION, AND OPERATION

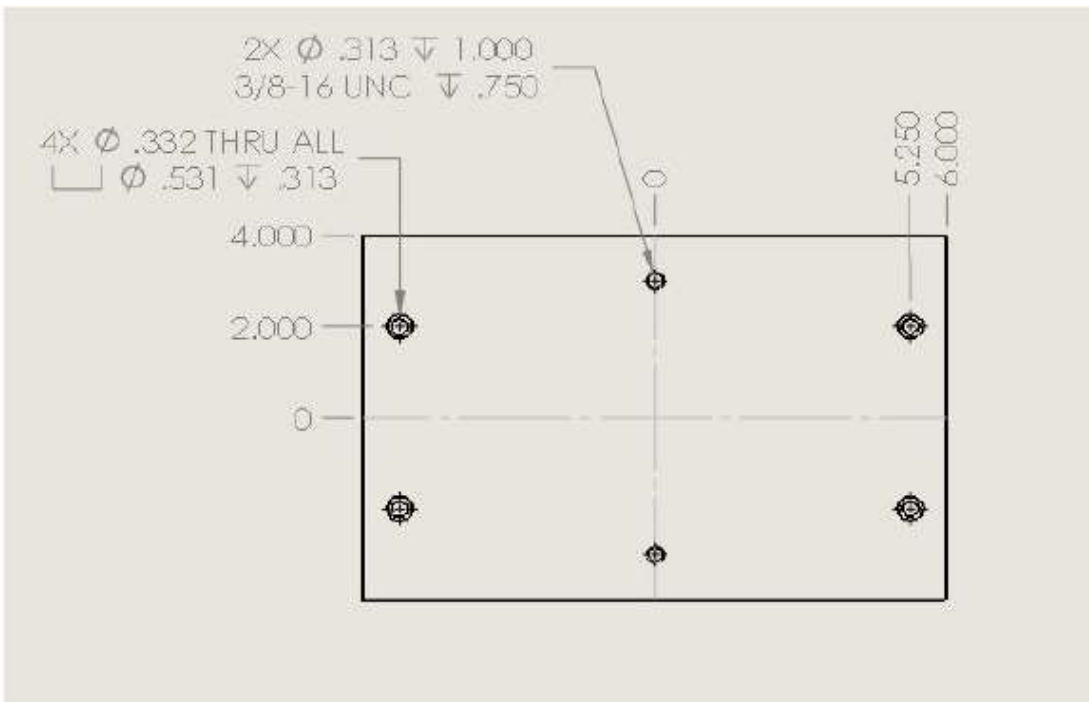
## SECTION VI: ENGINEERING DATA

### 6.3 Bolster Plate Mounting

#### C-Frame Hole Locations



#### H-Frame Hole Locations



**NOTE:** CUSTOM MOUNTING HOLES AVAILABLE UPON REQUEST

# DIRECT-AIRE SERIES PRESSES OVERVIEW, INSTALLATION, AND OPERATION

## SECTION VI: ENGINEERING DATA

### Factory Support

Our staff is available to assist you with any questions you may have regarding your AIM Joraco press.

**Call: 1-888-889-4287**  
**Email: [sales@joraco.com](mailto:sales@joraco.com)**

### WARRANTY

AIM Joraco, Incorporated (hereafter referred to as the manufacturer) warrants that all TOGGLE-AIRE®, DIRECT-AIRE®, and HYDRO-AIRE products will be free from defects in material and workmanship for a period of 180 days (6 months) from the date of shipment to the original purchaser. Any claim made against this LIMITED WARRANTY must be made by contacting the customer service department of the manufacturer. At its option AIM Joraco, Inc. will repair or replace any product it deems defective under the terms of this warranty. If factory service is required, transportation costs to and from the factory are to be paid by the purchaser. This warranty does not apply to equipment which has been subject to abuse, misapplication, negligence, improper maintenance, alteration, or failure to follow AIM Joraco, Inc. instructions.

AIM JORACO INCORPORATED'S SOLE OBLIGATION UNDER THIS WARRANTY IS STATED ABOVE. THIS WARRANTY IS IN LIEU OF ALL OTHERS, EXPRESSED OR IMPLIED AND UNDER NO CIRCUMSTANCES WILL AIM JORACO, INCORPORATED BE LIABLE FOR ANY CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF TOGGLE-AIRE® PRODUCTS.

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