

**OWNER'S
MANUAL**

**FOREMOST
BANTAM**

**Pneumatic
Press Brake**

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SAFETY INSTRUCTIONS

NOTICE: THERE IS A TWO HAND SAFETY PACKAGE AVAILABLE FOR BANTAM PRESS BRAKES. THE PURPOSE OF THIS SAFETY PACKAGE IS TO KEEP THE OPERATORS HANDS AND FINGERS OUT OF THE CLOSING DIE AREA.

The safety package consists of a front support work table mounted to the bed of the press brake, and a two hand anti tie-down push-button control mounted to the underside of the work table.

To activate the ram, the operator must simultaneously press and hold both push-buttons, and then depress the foot pedal. Releasing the foot pedal will cause the ram to retract.

If either push-button is released, the ram will retract and will not come down until both push-buttons are released and simultaneously pressed again.

A three position keyed switch (HAND/OFF/FOOT) allows the press brake to be operated in hand and foot mode, foot pedal only mode (for set-up purposes only), or to be turned off. The key is removable in all three positions.

IF THIS SAFETY PACKAGE IS NOT USED, OTHER MEASURES MUST BE TAKEN TO ENSURE SAFETY.

NEVER place your hands, fingers, or any other part of your body in this machine.

NEVER use this machine for coining, forging, or bottom bending.

NEVER impact the top die into the bottom die. Doing so could shear the heads off of the bolts that hold the side plates to the front angle assembly.

NEVER operate at higher than 90 PSI air pressure.

NEVER operate without using the stroke length adjustment.

NEVER operate this machine unless the BANTAM safety package, two hand trip, two hand control, or a presence sensing device is installed at the proper safety distance. Consult your supervisor should you have any questions regarding the proper safety distance.

NEVER use this machine for punching if the required tonnage is greater than 8 tons for the 12 ton models, or 16 tons for the 24 ton models.

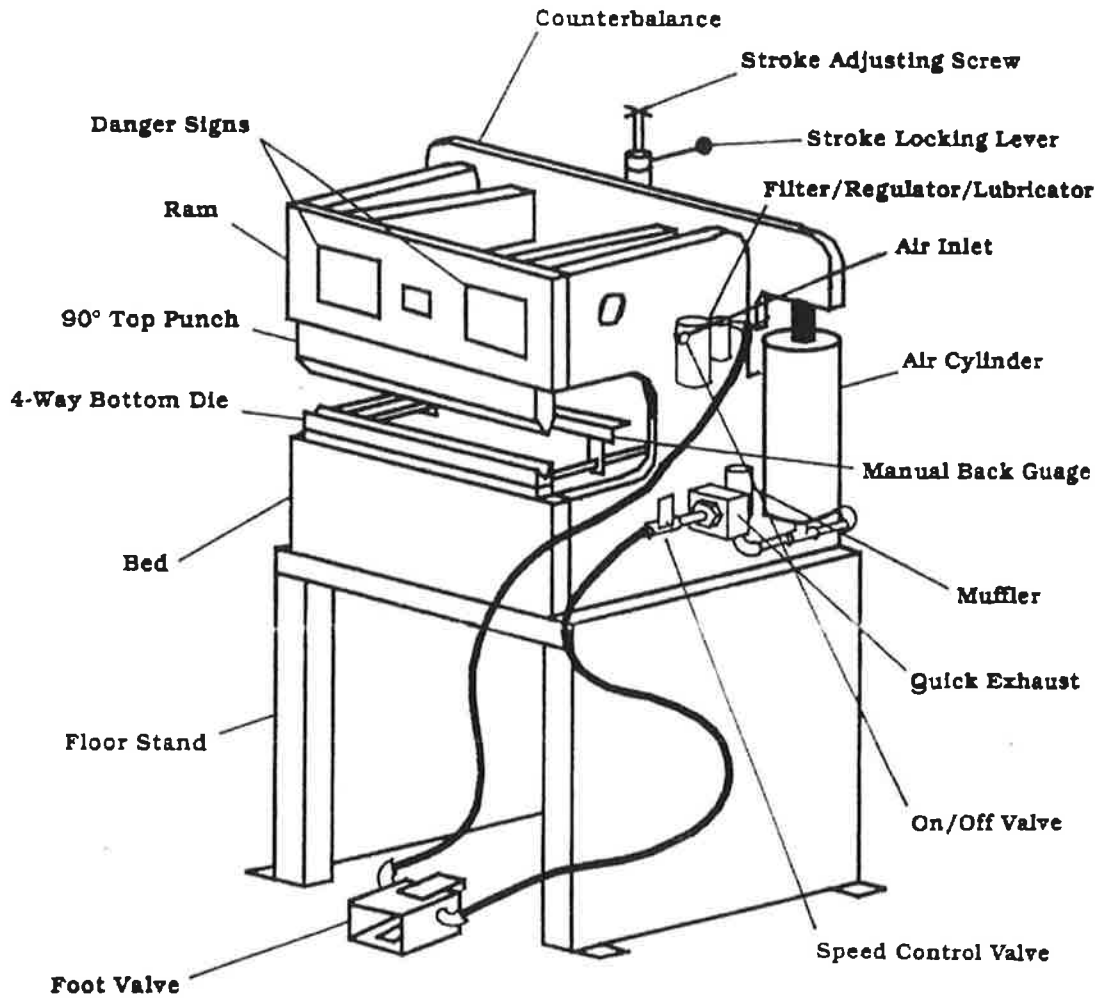
NEVER operate this machine without first tightening all the bolts.

NEVER operate this machine without first being fully trained and instructed, and without first reading the instruction manual.

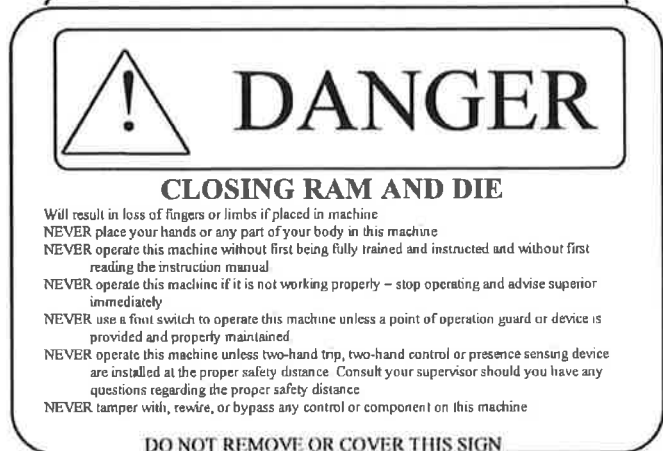
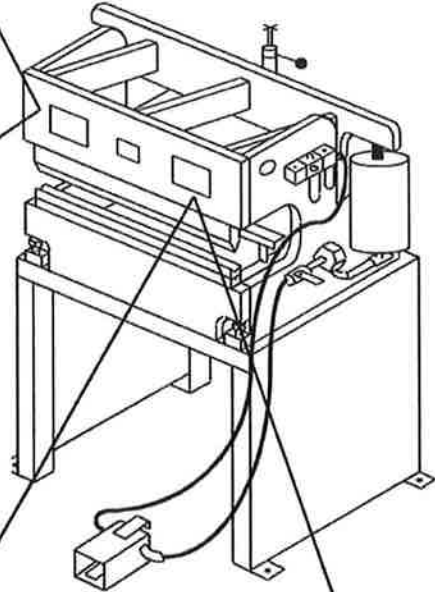
NEVER tamper with, rewire, or bypass any control or component on this machine.

NEVER make any adjustments or tool changes with the air supply on.

GENERAL ASSEMBLY



DANGER SIGNS



INSTALLATION

AFTER THE MACHINE IS ASSEMBLED, BOLT IT SECURELY TO THE FLOOR!

An optional floor stand is available for every BANTAM model. If a different floor stand is used it must be able to support the weight of the machine.

To remove the machine from the skid, use the cut-out holes in the side frames as lifting points. It is important to lift straight up and evenly from these two points. If one strap is used, be sure a spreader bar is inserted so as not to side load the frame. Failure to lift straight up will twist the frame requiring re-alignment.

When the machine is placed on the floor, stand, or table shim it to provide a level mounting surface. Securely fasten the machine to the floor stand through the bolt holes in the base. When moving the machine, always lift from the lifting points. Using a fork truck from underneath can cause damage to the table, and is dangerous because this assembly is top heavy.

Connect the air supply to the air inlet. To ensure free flow, use a 3/4" ID line with no restrictions. Using the regulator, set the air pressure to 85 PSI, the level at which BANTAM press brakes generate 12 tons of bending pressure. NEVER operate at higher than 90 PSI. Before operating, tighten all bolts.

INSTALLING THE BANTAM SAFETY PACKAGE

Perform this installation with the main line air supply disconnected from the air inlet.

Mount the table to the bed of the press brake using two 1/2" bolts. Make sure that the top of the table is even with the top of the lower die. If retrofitting the safety package to an existing machine, it may be necessary to drill and tap holes in the press brake bed.

Remove the air hose from the outlet of the filter/regulator/lubricator assembly, and attach to the outlet port of the two hand push-button control. A jumper hose is supplied with the safety package. Connect the jumper hose from the inlet port of the two hand push-button control to the outlet of the filter/regulator/lubricator assembly.

Re-connect the main line air supply to the air inlet.

OPERATING INSTRUCTIONS

BED ADJUSTMENT: The bed rests on adjustment screws and is held against the side frames with bolts and end clamps. The full adjustment of 2" requires two sets of bolt holes for the end clamps. The center adjustment screw is used to reduce bed deflection which affects the quality of a wide bend. After each bed adjustment, re-tighten the bolts and end clamps.

TOOLING: FOREMOST BANTAM press brakes come equipped with a 90° top punch and a 4-way bottom die. The machine, however, accepts standard press brake tooling with a 1/2" tongue. Before bending, align the top punch with the bottom die using the end clamps, set screws, and bed adjusting screws.

STROKE LENGTH ADJUSTMENT: The top position of the ram is constant, but the ram stroke down can be adjusted from 0" to the maximum stroke length of the machine. Release the stroke locking lever and turn the stroke adjusting screw clockwise to increase the stroke length. Lock the stroke adjusting screw with the locking lever. To reduce air consumption and increase productivity, use the minimum stroke necessary to bend the part. Set the stroke to air bend only. NEVER use this machine to forge or bottom bend as this force could shear the bolts holding the front angle assembly. For punching applications, set the stroke to stop the ram travel as soon as the punch breaks through to reduce shock.

BACK GAUGE: Both the manual and the micrometer back gauges are easily positioned using the thumbscrews. Center the part on the bed to avoid uneven loads on the ram.

ON/OFF VALVE: The in-line, on/off ball valve located on the right side of the machine is closed when its handle is at a 90° angle to its axis. This valve is the main shut-off valve in the system, and can also be used to throttle the speed of the ram.

LOCK-OUT/TAG-OUT VALVE: This valve, located between the ON/OFF valve and the air regulator, is used to shut down the machine for service. A keyed padlock is provided to prohibit the use of the machine until service is completed. With this valve in the on position, and the ON/OFF valve open, main line air flows through to the foot valve.

FILTER/REGULATOR/LUBRICATOR: Set the regulator to 85 PSI air pressure, and adjust the lubricator to one drop every 10-20 cycles; less if an oil mist exhausts from the muffler.

OPERATING CONTROLS: Ram movement is controlled by the foot valve. As the pedal is depressed, the 3-way air valve is shifted supplying air to the air cylinders. The further it is depressed, the faster the ram will travel. The ram may be advanced quickly, slowly, stopped, or retracted at any point in the stroke. Ram speed may also be slowed by partially closing the ON/OFF valve. The counterbalanced uses gravity to retract the ram. When the foot pedal is released, or if the air pressure fails, air is exhausted from the air cylinders, through the quick exhaust valve, and the ram will automatically return to its top position. If the BANTAM safety package is installed, both push-buttons must be simultaneously pressed and held before air is allowed to reach the foot valve. The foot valve still controls the ram motion when using the two hand push-button control option. Turning the key switch to the HAND mode allows the press brake to be operated by the foot pedal alone. HAND mode should be used for set-up purposes only.

MAINTENANCE

SIDE FRAME ALIGNMENT: Proper bed and side frame alignment is carefully checked during assembly of each FOREMOST BANTAM press brake. Precision machined side frames provide square surfaces, and normal operation cannot cause misalignment. Rough transportation and handling or improper leveling, however, can cause misalignment or twisting of the side frames. This condition is typified by erratic ram motion, poor bending quality, and premature gib and shaft bushing wear. The ID of the shaft bushings will wear unevenly, usually becoming oblong. Re-align the side frames using the following procedure:

- 1) Loosen the bolts fastening the machine to the floor stand or table.
- 2) Loosen the bed clamp angles that hold the bed against the side frames.
- 3) Loosen all bolts attaching the side frames to the front angle assembly and the rear angle assembly.
- 4) Loosen the gib lock screws and the gib lock nuts
- 5) **IMPORTANT!** This step is re-aligning the side frames. Using the gib adjusting screws tighten the ram against each of the side frames.
- 6) Re-tighten all bolts loosened in step 3
- 7) The bottom of each side frame is ground square with respect to the mounting area for the rear gibs, therefore, the mounting surface for the machine must also be level to prevent twisting when tightened down. Place shims between the bottom of the machine and the top of the floor stand or table to provide a level surface.
- 8) Re-tighten all bolts loosened in steps 1 and 2.
- 9) Loosen and adjust the ram gibs.
- 10) Periodically tighten all bolts to maintain alignment.

GIB ADJUSTMENT: The gibs should be tightened so there is no play in the ram. If the gibs are too tight, however, the ram will not retract after air is exhausted from the machine. To adjust the gibs, loosen the bolts holding the gib bracket to the side frames and then turn the bolts on the rear of the bracket to bring the gibs in or out. Be sure to tighten the gib brackets after alignment. Check gibs periodically for wear and readjust if necessary.

LUBRICATION:

LUBRICATOR OIL: Use a high quality SAE #10 pneumatic oil (S.U.V. 150-200 @100°). Set the lubricator to one drop every 10-20 cycles; less if an oil mist exhausts from the muffler.

MACHINE OILING: To maintain free movement and a rust free surface, apply a light oil to the back gauge arms, exterior of the cylinder tubes, pivot pins, and cylinder pivot pins.

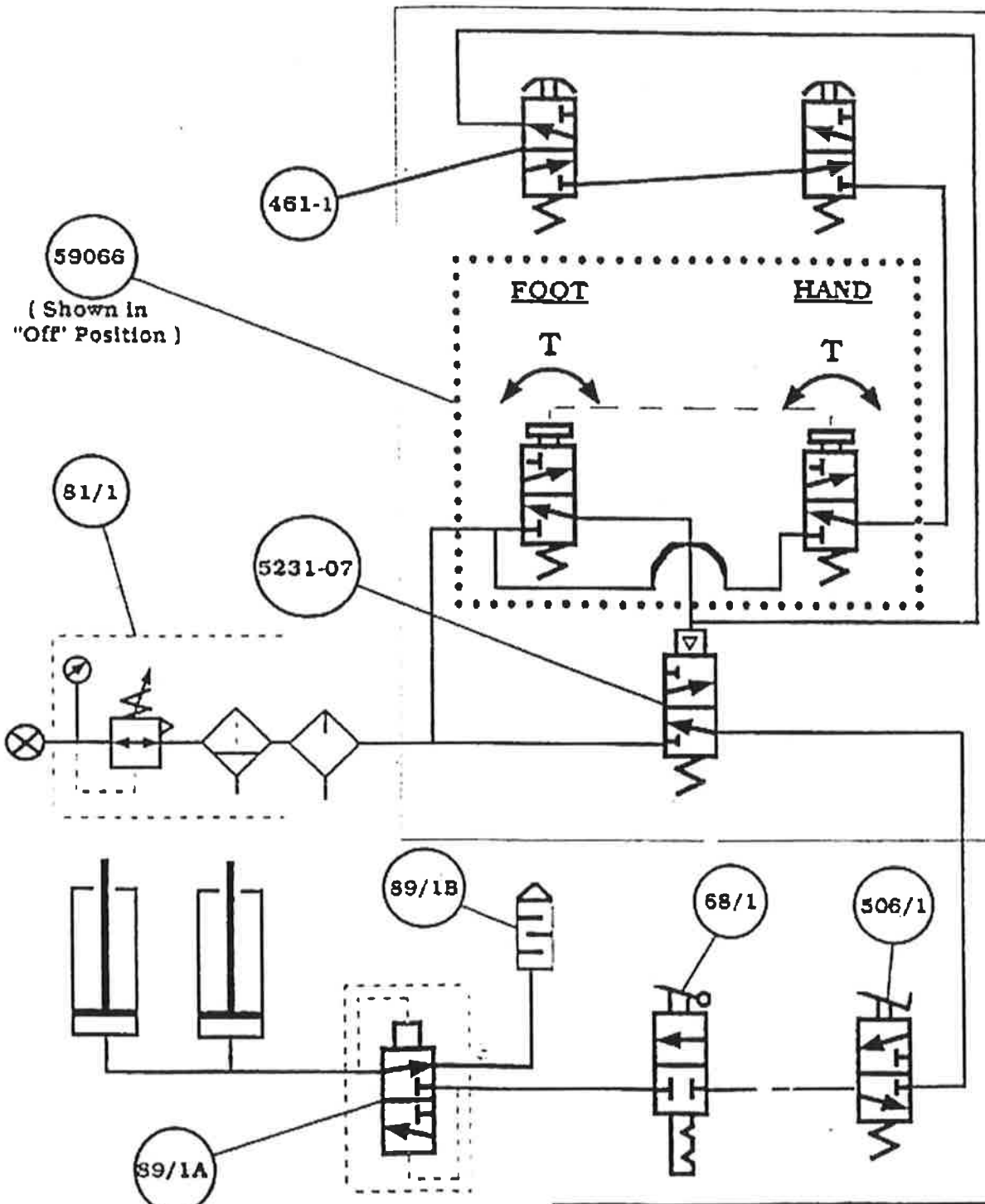
MACHINE GREASING: Weekly, or according to use, grease the stroke adjustment tube, stroke adjustment trunnion, front gibs, pivot links, and the shaft bushings.

Tighten all screws and bolts whenever lubricating or performing general maintenance.

TROUBLESHOOTING

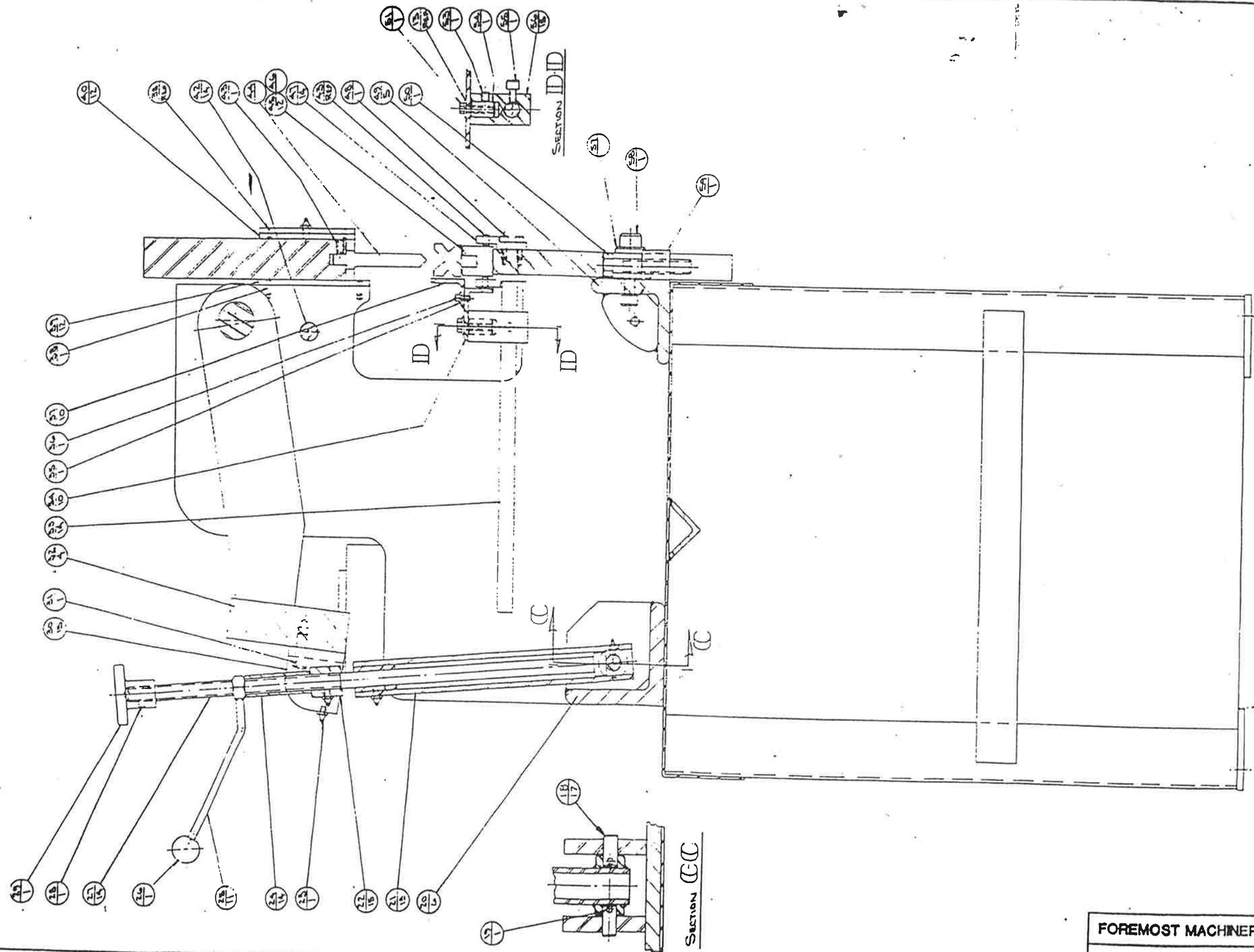
SYMPTOM: Slow or erratic ram downstroke.	
CAUSE	REMEDY
Inadequate air supply volume or pressure.	Check for crushed air lines, set regulator to 85 PSI and check valves for leaks.
Mechanical binding in the air cylinders or ram linkage, or improper gib adjustment.	Free all bound parts. align side frames and adjust gibs using the procedure outlined earlier in this manual. Replace all worn bushings and pins.
SYMPTOM: Slow or erratic ram upstroke.	
CAUSE	REMEDY
Air is exhausting through the foot valve, not the quick exhaust valve.	Clean the quick exhaust valve, remove any debris, replace the quick exhaust diaphragm.
Mechanical binding in the air cylinders or ram linkage, or improper gib adjustment.	Free all bound parts. align side frames and adjust gibs using the procedure outlined earlier in this manual. Replace all worn bushings and pins.
SYMPTOM: The ram will not retract.	
CAUSE	REMEDY
Air is not exhausting through the foot valve, so the quick exhaust valve will not exhaust.	Clean the exhaust port in the foot valve. Repair or replace the foot valve. Clean the air system of any contaminants which could prohibit free air flow.
SYMPTOM: Poor bending quality.	
CAUSE	REMEDY
Misaligned or worn dies. Improper bed and gib adjustment.	Replace worn tooling. Align the tooling using the end clamps, set screws, and bed adjusting screws.
Using the wrong punch or die, or attempting bends which require more than 12 tons.	Consult the Bending Force Chart in this manual for proper punch and die selection. Placing shims under the bottom die can improve bend quality.

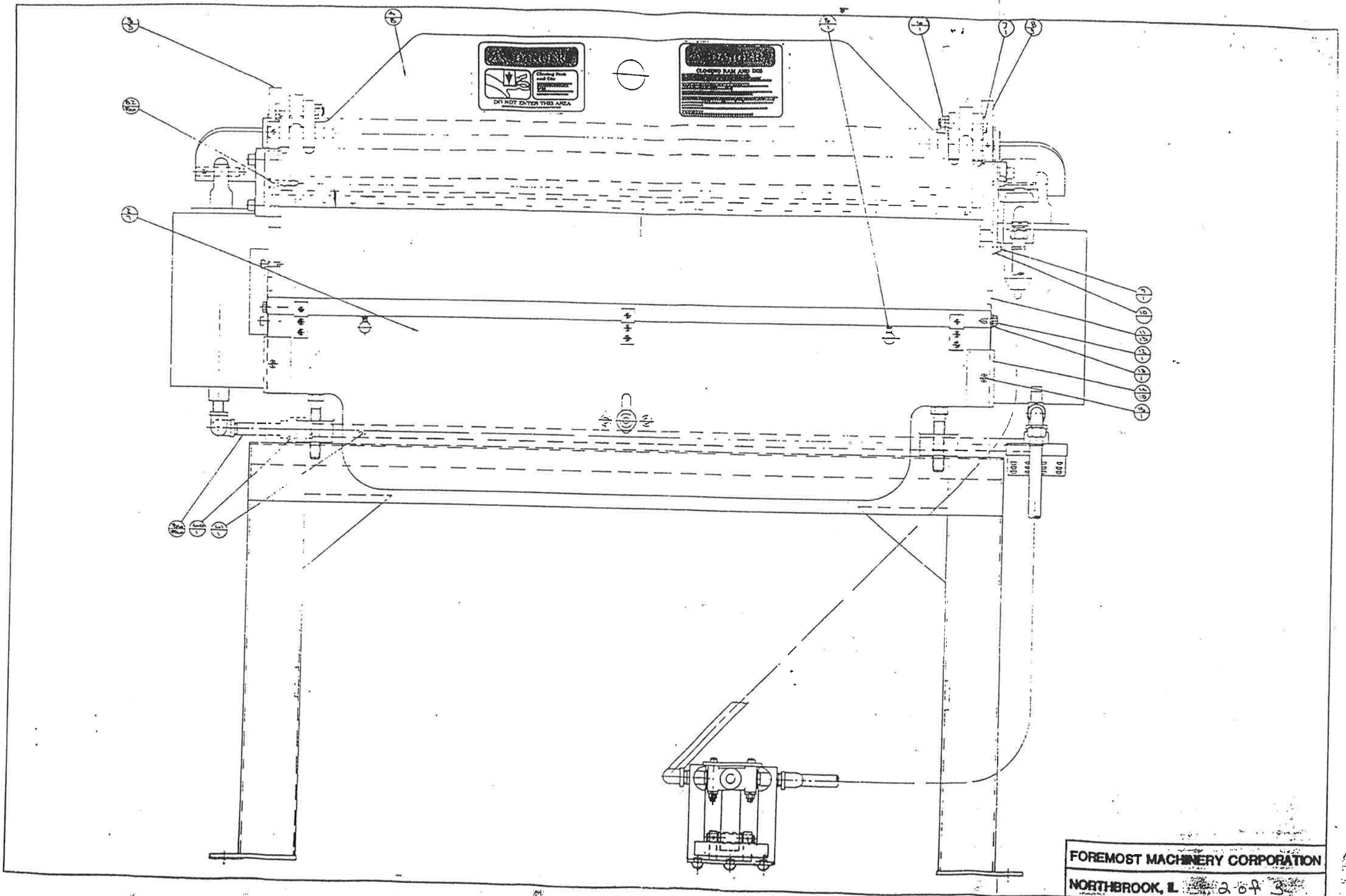
☐ - Bantam Safety Package Only



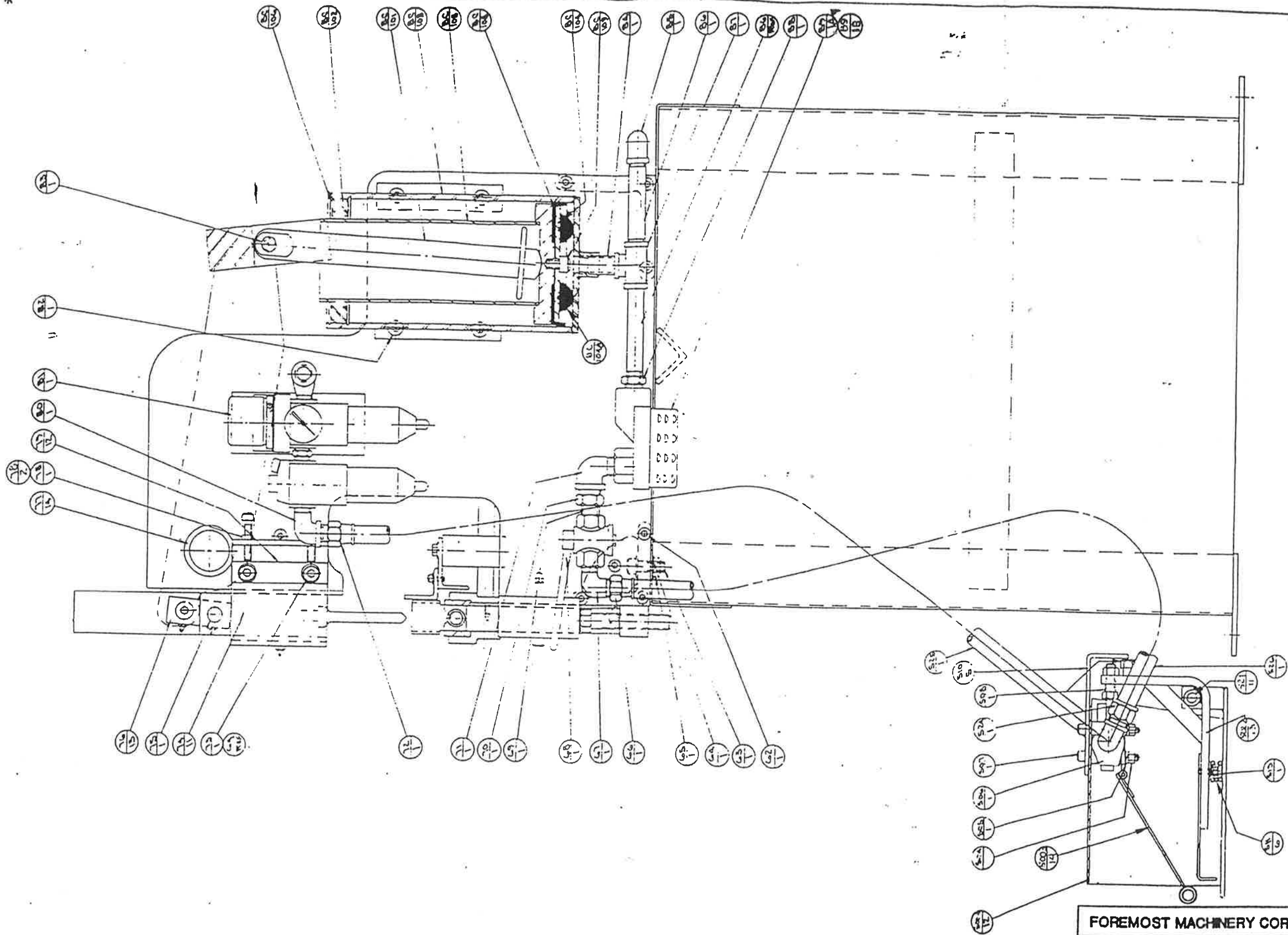
PNEUMATIC DIAGRAM

FOREMOST MACHINERY CORPORATION
NORTHBROOK, IL





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FOREMOST BANTAM PRESS BRAKE TONNAGE CHART

PRESSURE REQUIREMENTS IN TONS PER LINEAR FOOT TO MAKE 90 DEGREE AIR BENDS

		WIDTH OF FEMALE DIE OPENING																					
GA.	INCH	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1-1/8"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	5"	6"	7"	8"		
20	.036"	1.5	1.1	0.9	0.6	0.5																	
		2.9	2.2	1.7	1.2	1.0																	
		4.4	3.4	2.6	1.8	1.5																	
18	.048"		2.0	1.5	1.1	0.8	0.7																
			4.0	2.9	2.2	1.6	1.3																
			6.0	4.4	3.3	2.4	2.0																
16	.060"			2.8	1.8	1.4	1.1	0.9															
				5.6	3.6	2.7	2.2	1.7															
				8.4	5.4	4.1	3.3	2.6															
14	.075"				3.0	2.3	1.7	1.5	1.3	1.1													
					6.0	4.5	3.4	3.0	2.5	2.1													
					9.0	6.2	5.1	4.5	3.8	3.2													
13	.090"					3.4	2.7	2.2	1.9	1.7	1.5												
						6.8	5.4	4.3	3.7	3.3	2.9												
						10.2	7.7	6.5	5.6	5.0	4.4												
12	.105"					5.1	3.7	3.2	2.7	2.2	2.0	1.6											
						10.1	7.4	6.3	5.4	4.4	4.0	3.2											
						15.2	11.1	9.5	8.1	6.6	6.0	4.8											
11	.120"						5.3	4.4	3.6	3.1	2.7	2.2	1.6										
							10.5	8.8	7.2	6.2	5.4	4.3	3.2										
							15.8	13.2	10.9	9.3	8.1	6.5	4.8										
10	.135"							5.7	4.8	4.2	3.5	2.8	2.1										
								11.3	9.6	8.4	7.0	5.6	4.1										
								17.0	14.4	12.3	10.5	8.4	6.2										
9	.150"								6.6	6.0	5.6	4.6	3.4	2.6	1.8								
										13.1	11.9	10.0	8.7	6.2	3.5								
										19.7	17.9	15.3	13.3	10.1	7.8	5.3							
7	.188"									8.2	7.0	6.6	5.8	3.8	2.9	2.3							
											16.4	14.0	11.2	7.6	5.8	4.5							
											24.6	21.0	17.3	11.4	8.7	6.8							
1/4"	.250"										14.4	11.0	7.7	5.8	4.6	3.8	3.1						
												28.8	22.0	15.3	11.5	9.1	7.5	6.2					
												43.2	33.0	23.9	17.3	13.7	11.3	9.3					
5/16"	.312"											19.0	13.0	9.8	8.0	6.3	5.3	3.8					
													38.0	26.0	19.2	16.0	12.5	10.6	7.6				
													57.0	39.0	28.3	24.0	18.8	15.9	11.4				
3/8"	.375"												20.5	15.0	12.0	9.7	8.0	6.2	4.7				
														41.0	29.9	24.0	19.4	16.0	12.3	9.3			
														61.5	44.9	35.0	29.1	24.0	18.5	14.0			
7/16"	.487"													22.8	17.5	14.0	12.0	8.5	7.3	5.6			
															45.2	35.0	28.0	24.0	17.0	14.6	11.1		
															67.8	52.5	41.0	36.0	25.5	21.9	16.7		
1/2"	.500"														24.0	19.5	16.8	12.0	9.5	7.8	6.4		
																47.9	39.0	33.1	24.0	19.0	15.6	12.7	
																71.9	58.5	47.0	38.0	28.5	23.4	18.1	
APPROX. INSIDE RADIUS		1/32"	3/64"	1/16"	5/64"	3/32"	1/8"	9/64"	5/32"	11/64"	3/16"	15/64"	5/16"	25/64"	15/32"	35/64"	5/8"	25/32"	15/16"	1-3/32"	1-1/4"		
MINIMUM INSIDE FLANGE		3/16"	7/32"	1/4"	5/16"	7/16"	1/2"	9/16"	5/8"	11/16"	3/4"	15/16"	1-3/16"	1-7/16"	1-3/4"	2"	2-1/4"	2-3/4"	3-3/8"	4"	4-1/2"		

= soft aluminum & brass (30,000 psi)
 = mild steel & aluminum alloys (60,000 psi)
 = stainless steel (90,000 psi)
 (figure is in tons per linear foot)

Shaded areas are for dies with female openings approximately 8 times the material thickness, and with the radius on the top punch equal to the material thickness. These conditions are considered ideal for 90 degree air bending.

FOREMOST BANTAM

FOREMOST BANTAM PRESS BRAKE WARRANTY CERTIFICATE

As part of the purchase of a new Foremost Bantam Press brake, a parts warranty will be included. The warranty begins at the point of initial shipment and will not automatically be passed along to second owners. The warranty applies to equipment, which has been installed, protected, maintained and used in accordance with the specifications and instructions of the manufacturer, for its intended purposes, without modification, misuse or abuse by the PURCHASER.

Mechanical parts and components are warranted for a period of 12 months from the date of shipment.
Pneumatic parts and components are warranted for a period of 90 days from the date of shipment.

PARTS WARRANTY: In the event of a problem, the purchaser contacts Foremost's American Master Distributor whose service technicians will provide over the phone trouble shooting measures to resolve the situation. The purchaser is responsible for executing all required troubleshooting steps to determine the problem. If it is determined that any part has failed due to a defect in material or workmanship within the Warranty Period (defined above), a replacement part will be provided free of charge except for the freight costs which are the purchaser's responsibility. The purchaser is responsible for installing any replacement parts and/or all labor charges associated with installation of replacement parts. The purchaser may be required to send damaged parts prepaid to Foremost's American Master Distributor for inspection. Replacement parts are warranted only for the balance of the original Warranty Period.