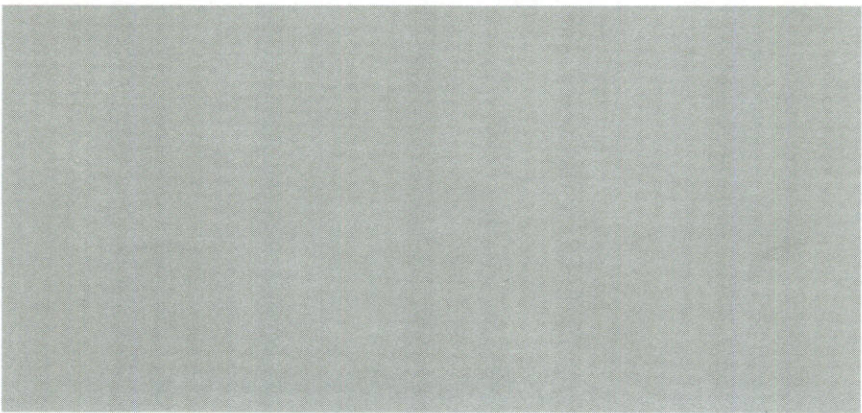
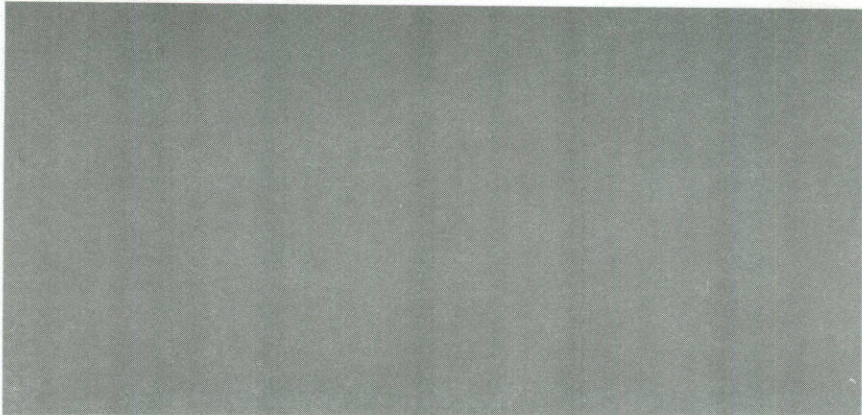


CINCINNATI

EM-375 (FEB 93)



**POWDERED
METAL
COMPACTING
PRESS
SAFETY
MANUAL**

SAFETY IS EVERYONE'S JOB

Powdered metal compacting presses manufactured today by CINCINNATI INCORPORATED comply with the construction requirements of the Occupational Safety and Health Act and the safety standards of the American National Standards Institute (ANSI). CINCINNATI INCORPORATED also offers field update packages which can be retrofitted on your older machines to assist you in OSHA compliance and your own safety programs.

CINCINNATI recommends you read and understand the safeguarding, use and care requirements of the American National Standard for Metal Powder Compacting Presses, ANSI B11.16. This is available from the American National Standards Institute, 11 West 42nd Street, New York, New York 10036.

For additional safety information we recommend:

- Securing applicable safety data sheets from the National Safety Council, 1121 Spring Lake Drive, Itasca, Illinois 60143-3201.
- Determining your responsibilities under your state and local safety code.
- Requesting assistance from the Loss Prevention Department of your Workman's Compensation carrier.

Personnel responsible for your compacting press operator training program, tooling set-up, maintenance and operation must thoroughly understand the compacting press and its operation. No one should set-up, operate or maintain this equipment until they completely understand it and know how to do their job safely.

CINCINNATI COMPACTING PRESS

SAFETY HINTS COMPACTING PRESS OPERATION

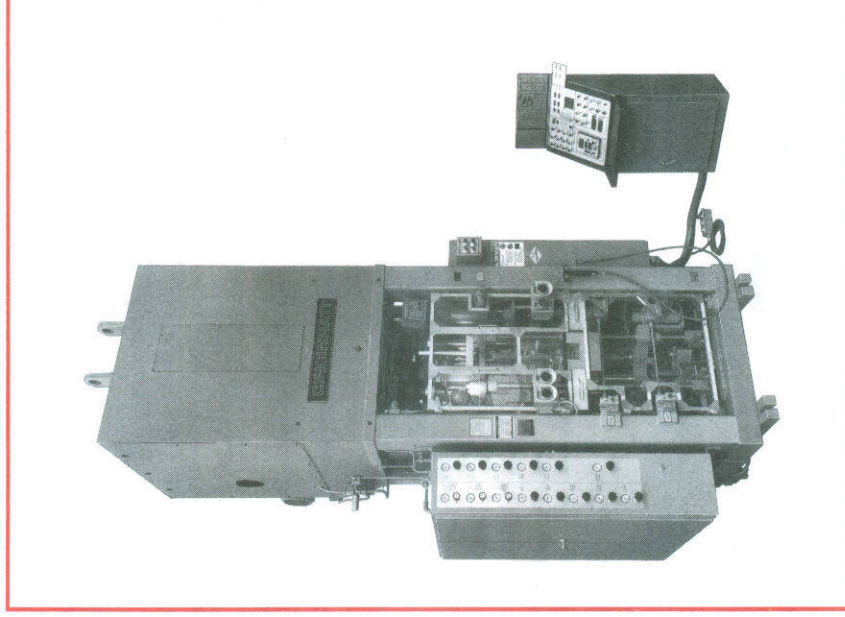
IMPORTANT

Never operate or maintain this machine without proper instructions and without first reading and understanding the Operation, Safety and Maintenance manual.

This safety bulletin is not intended as a substitute for the Operation, Safety and Maintenance manual for CINCINNATI Compacting Presses which is furnished by CINCINNATI INCORPORATED with each machine.

Your CINCINNATI Compacting Press is a versatile high production machine. You must evaluate each operation in order to determine the method of point-of-operation safeguarding which best meets that particular type of operation.

Safety is of the first importance in the operation of this machine. When in doubt **always** take the safe course.



FOR SAFE OPERATION OF YOUR CINCINNATI COMPACTING PRESS

Keep clear of work area

The purpose of a compacting press is to compress metal powder and it is obvious that this same capacity will sever arms, hands, fingers or any other part of the body that is in the work area when the ram is activated.

During operation, all parts of your body must be completely clear of the work area. It should be the responsibility of the press operator to ensure that his coworkers are clear and entirely visible in a safe location before activation of the machine.

During set-up, maintenance or other work on the machine which necessitates manipulation within the

work area, the cycle selector switch should always be in the "OFF" position. Except when checking the set-up adjustments, power should be disconnected and a lockout / tag-out procedure followed. Check adjustments with the stroke control in the "INCH" mode.

Concentrate on your job

Daydreaming, worrying about other problems or improper operation of a machine could cripple you for life. Operating a compacting press requires your complete attention. Talking, joking, or participating in or watching horseplay could result in physical injury to you, and that is not something to joke about. So watch what you are doing and concentrate on your job.

Neatness is important

Keep the floor of your work area clear of scrap, trash, oil and loose

powder that could cause you to stumble or slip. Put scrap in the proper containers and keep stock and finished work neatly arranged. Be sure slippery surfaces are cleaned up properly. Stumbling and slipping can result in painful and perhaps even fatal injuries.

Put all tools and equipment away when you are not using them. Only the powder being formed by the press should be in the die area when the machine is in operation. Even a screwdriver can be deadly if left in the die area of the compacting press.

Proper tools are important

Use proper tools when working on the compacting press. An improper tool might slip and cause lacerations. When making repairs on the machine, disconnect the power source and be sure that the ram is at the ejection position of the stroke or blocked in place. Follow

CINCINNATI COMPACTING PRESS

the lockout / tagout procedure of your company. Additionally, the platens should be blocked if there is any work performed in this area. All blocks must be removed prior to returning the machine to normal service to prevent damage.

Loose or flowing clothes may be comfortable, but if they are caught on the machine, it could result in injury to you. That I.D. bracelet you got for Christmas could cost you your hand or finger.

Look things over carefully

Before operating your CINCINNATI Compacting Press, look to see if your machine is in proper condition. Are the dies and punches worn or chipped? Are all safety guards and doors closed? Is the floor clear of rubbish? Are the machine's covers and guards securely in place? Is the machine securely anchored to the floor? Are all nuts, bolts and screws

tight? Is everything in proper operating condition? If not, report any unsafe conditions or any need for repair to your supervisor and make sure the problem is corrected before beginning operations.

Tool set-up adjustments

The CINCINNATI Compacting Press you are operating has a maximum capacity shown on the capacity plate. Improper adjustment, such as too much powder fill, upper punch set too low, or press stop set too high, can cause a machine to develop forces much greater than the tools or the machine itself can withstand. Such misadjustments can cause catastrophic failure in the tooling or press members.

A misadjustment can cause a punch or die to rupture and result in serious personal injury or death.

TO REDUCE THE POSSIBILITY OF SERIOUS INJURY FOLLOW THESE RULES:

1. Know how to safely operate and adjust your CINCINNATI Compacting Press. Review the Operation, Safety and Maintenance manual provided by CINCINNATI INCORPORATED.
2. Keep your hands clear of the punch and feeder area when operating the Compacting Press. Be sure your fingers are not between the punch or feeder and the lower tooling. Your hands and fingers could be maimed or even amputated by improper placement.
3. Be sure tooling is in good condition and that the proper press adjustments have been made before operating the Compacting Press.

4. Make certain all guarding and safety devices are properly mounted and adjusted before operating the compacting press.
5. Test all the required operator controls and modes of operation before each shift, each job and after each break.
6. Use a bench brush or vacuum cleaner to clean off the die platen to keep it clear of loose powder and debris.
7. Maintain proper lighting levels and eliminate light glare to prevent eye strain and eye fatigue.
8. Protect your eyes from flying pieces of metal by always wearing your safety glasses.
9. Always wear safety shoes. A heavy or pointed piece of stock or tooling could fall and cause serious injury to your foot.
10. Keep the die area free of loose tools and materials.
11. Keep the rear of the feeder clear of loose powder and debris. Powder buildup can cause improper feeder operation and leakage. This area should receive a good cleaning at least once a day.
12. For emergency stops on your CINCINNATI Compacting Press, simply hit the red MASTER STOP button. The ram will stop immediately when in AUTO or SINGLE STROKE. When in INCH simply release a palm-button to stop the ram.
13. When leaving the machine, run it to ejection position and shut the power OFF, even if you will only be away for a few minutes. When in this position and activated, the machine will not close.
14. Check the alignment of the upper punch and lower tooling before operating the machine, after the tools have been changed or the machine has been idle overnight. Improper alignment could cause punch and die chipping. These flying chips can cause lacerations and eye injuries
15. When using the RAM DOWN adjustment, remember that you are increasing the load on the tooling. A good rule of thumb: When you bring the ram down .010 inch, you should decrease the part thickness by at least .002 inch. If not, you have reached the limit of compressibility for powder and further adjustment could damage the tooling.
16. Every selector switch on your control panel controls a different machine function. Be sure you

CINCINNATI COMPACTING PRESS

know how the machine will react to each control. The controls should be checked before operating the machine.

18. Report any cuts, bruises or other injuries to your supervisor or the Medical Department immediately. They are the best judge of how serious or minor your injury may be.

Changing punches and dies

Installing, setting and removing tooling is hazardous and should be done with proper supervision by experienced set-up personnel. Improper handling techniques can cause muscle strains, hernias or serious disabling injuries.

The "INCH" mode of operation should be active for tooling set-up.

During tooling installation or removal, it is most important that the top punch

holddown be in the "OFF" position. Whenever punches and dies are removed from or installed in the machine, always set the die platens in their ejection position. At this point, the ram is on its return stroke and will only move up if the machine is accidentally started.

Before making any adjustments with the air wrench, be sure that the lock for this adjustment is not engaged.

Never cycle the machine during a tool change without first removing for hand tools, adapters, clamp rings or other objects at interference points.

For proper installation and removal of punches and dies, refer to the Compacting Press Operation, Safety and Maintenance manual.

SAFETY SIGNS

As a reminder for press operators and maintenance personnel of certain potential hazards that may exist — unless specified procedures are followed — a number of warning signs are attached to CINCINNATI Compacting Presses. Warning signs are not intended to be a substitute for reading and understanding the Operation, Safety and Maintenance sections of the machine manual.

Warning signs are placed at strategic points on the press for most effective use. It is intended they become a permanent part of the equipment and, therefore, must not be removed, covered, hidden or defaced.

The following illustrations are of the warning signs most commonly used on Compacting Presses.

SAFETY GUIDELINES

MECHANICAL COMPACTING PRESS

- READ AND UNDERSTAND THE OPERATION CONTROL AND SAFETY MANUAL
- KNOW HOW TO USE THE OPERATOR CONTROLS AND MODES OF OPERATION

SET UP

- POSITION STROKE CONTROL IN "INCH" MODE
- TURN OFF MAIN DRIVE MOTOR WHENEVER WORKING WITHIN PRESS FRAME
- FOLLOW STEP BY STEP TOOLING INSTALLATION PROCEDURE PROVIDED IN THE OPERATOR'S MANUAL
- USE LIFTING DEVICES FOR REMOVAL AND INSTALLATION OF HEAVY TOOLING MEMBERS
- TEST SAFEGUARDING FOR PROPER FUNCTIONING
- INSTRUCT OPERATOR IN PROPER OPERATING PROCEDURE

OPERATION

- USE POINT OF OPERATION SAFEGUARDING
- KNOW THE SET-UP AND PROPER METHOD OF OPERATION
- TEST ALL THE REQUIRED OPERATOR CONTROLS AND MODES OF OPERATION BEFORE EACH SHIFT, EACH JOB RUN AND AFTER EACH BREAK
- KEEP HANDS OUT OF DIE AREA (POINT OF OPERATION)
- DO NOT POSITION ANY PART OF YOUR BODY WHERE IT MAY BE STRUCK OR TRAPPED DURING PART FORMING, EJECTION OR FEEDING OF DIE CAVITY
- USE HAND TOOLS FOR REMOVAL OF PIECE PARTS THAT REQUIRE "HAND PICKING"
- MAKE CERTAIN THERE ARE NO OBSTRUCTIONS BETWEEN PLATENS AND TOOLING IS PROPERLY SET BEFORE OPERATING
- TURN OFF OR LOCKOUT OPERATOR CONTROLS WHEN NOT OPERATING PRESS
- WHEN YOU LEAVE THIS PRESS:
 - POSITION MACHINE AT THE EJECTION POSITION
 - TURN OFF OR LOCKOUT OPERATOR CONTROLS
 - TURN POWER OFF

DO NOT REMOVE THIS SIGN FROM THIS COMPACTING PRESS

331944

! DANGER

TO REDUCE THE POSSIBILITY OF INJURY

DO NOT PLACE YOUR HANDS
IN THE DIE AREA



DO NOT POSITION ANY PART OF YOUR

BODY WHERE IT MAY BE

STRUCK OR TRAPPED DURING
PART FORMING, EJECTION
OR FEEDING OF DIE CAVITY



ALWAYS READ AND UNDERSTAND THE

OPERATION, MAINTENANCE

AND SAFETY MANUAL

BEFORE INSTALLING

TOOLING, OPERATING OR

SERVICING THE COMPACTING PRESS



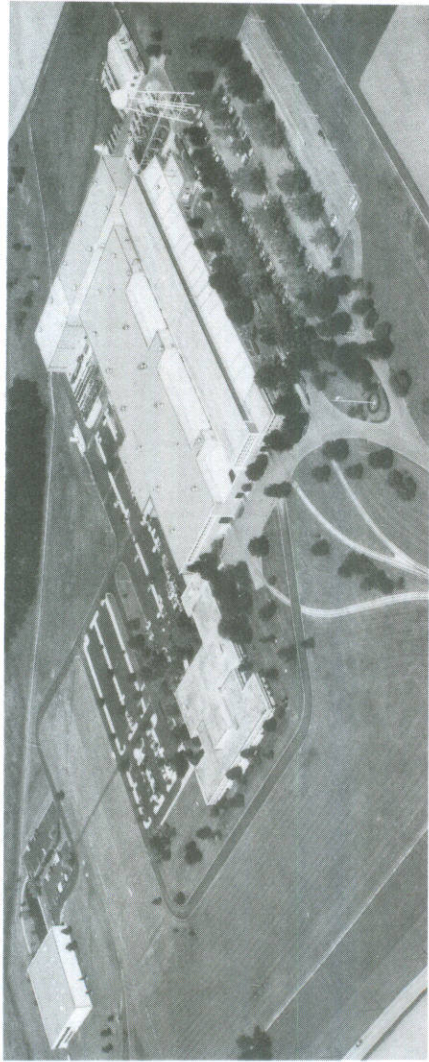
DO NOT REMOVE THIS SIGN FROM THIS COMPACTING PRESS

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CINCINNATI COMPACTING PRESS

SAFETY MAINTENANCE CHECK

- SAFEGUARDING at point-of-operation in proper adjustment – operating properly
- PINCH POINT guarding is properly installed
- OPERATOR CONTROLS working O.K.
- OPERATING MODES are functioning properly
- RAM starting and stopping properly
- WARNING PLATES clean – easily read
- ELECTRICAL WIRING in good condition
- CAUTION PAINTING in good condition
- AUXILIARY EQUIPMENT checked and working properly
- HAND TOOLS and personal protective equipment in good order and is readily available
- SAFETY MANUAL and the OPERATOR MANUAL attached to machine
- SCHEDULED NORMAL MAINTENANCE work completed



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CINCINNATI, OHIO 45211

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