

MILLER HIGH-SPEED PRESS  
OPERATING INSTRUCTIONS

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## MILLER HIGH-SPEED PRESS

### 1. INTRODUCTION

A firm foundation for press is essential as entire machine is supported on the four corners of frame.

2. A most important item in the operation of any machine is careful lubrication. Press is provided with oil holes, oil tubes, cups, etc. Every part must be lubricated. Any good quality, free flowing oil may be used.

3. Bed motion and cylinder oscillation are obtained by means of two large cams actuating a heavily constructed bell crank. The bed and cylinder are approximately of equal weight, which makes possible the maximum speed of 5000 revolutions per hour. Bed motion, cam rollers and drive shaft bearings must at all times have special attention. These parts move rather rapidly and perform heavy duty, requiring more lubrication than other slow-moving and light duty parts. Such bearings should be frequently investigated, particularly during first few weeks of operation. If inclined to overheat, prompt attention should be given. If oiling does not have desired effect, dismantle and correct part affected.

### 4. FEEDER

To swing feeder into operating position, raise drop guides and push locking handle down. Swing feeder in place, lift locking handle, which locks feeder hook located directly opposite handle. Release feed carriage clutch lever, and move carriage back and forth until latch engages. See that front carrier fingers and sheet guards and rear carrier do not interfere with drop guides, separator feet, or any other parts. This can quickly be determined by moving feed carriage by hand up and down over board before engaging clutch. Reverse the foregoing procedure to swing feeder out of operating position.

### 5. DELIVERY

To place delivery in operating position, simply swing same to press and engage the lock and operating connecting bars. Reverse operation to swing delivery out of operating position.

### 6. STARTING PRESS

Assuming that feeder and delivery are in operating position and securely locked, the press should be turned over several times by hand to check for any possible interference. Speed variation is secured by the means of a friction pulley (late machines are equipped with variable speed motor and push button control.) Pulley (on friction pulley drive press), is equipped with two maplewood shoes, which make contact with inside of loose pulley. The tighter this contact is made, the faster machine will run, or vice versa. After starting motor by means of push button, compress latch on trip bar to keep press running when off impression, and turn wheel above starting lever to the right to near its limit, which will permit starting press at low speed. Lift starting lever until latch engages. Should press not move with wheel at this position, turn adjusting wheel to left until desired speed is obtained.

8. BED ADJUSTMENT

Instead of cylinder raising as on other cylinder presses, the type bed lowers when press is tripped, or on reverse stroke. The bed adjustment is made in a manner similar to the Gordon platen adjustment. Bed is supported on four hexagon steel pods. These rods are supported by eccentrics on shafts at lower end. Eccentrics are on dead center when impression is made, eliminating the possibility of spring. When setting height of bed, the inking mechanism and bed bearers are removed, and with bed on impression and cylinder positioned three or four inches over edge of bed, loosen lock nuts at upper end of bed support rods and square head set screws at lower end, and adjust hexagon impression rods so space between cylinder bearers and bed will be exactly .914 of an inch. When setting impression, have cylinder packed bearer high and on two approximately 6" x 6" x .918 wood-mounted electro solids to remove any lost motion in bed lift mechanism. Continue this operation on opposite end of bed and check two or three times, or until .914 gauge fits perfectly on all four corners between cylinder bearers and bed. Lock hexagon impression rod nuts and set screws securely, and recheck with gauge. Replace parts previously removed.

9. SETTING ROLLERS

Swing delivery away from press. Raise tape mechanism, set bar to hold tape mechanism in raised position. Run bed to feeder end of press, remove vibrator roller by releasing latch in each bearing (to release latch pull same toward you); then raise and swing roller toward you and lift same off anchor pins. Place No. 1 form roller in its sockets, adjust to form, moving brackets, in which roller sockets are placed. Remove vibrator roller, place No. 2 form roller in position, and adjust as No. 1 form roller. Form rollers must be set carefully to vibrator. Place distributor rollers, also steel riders in their sockets; carefully place retaining cotters. Adjusting screws are provided in sockets. To attach fountain duct roller, place long end in movable bearing on gear side, spring bearing towards gear side, and slip other end into feeder side bearing. Fountain duct roller adjustment is secured by moving drive bracket rollers in their slots with operating cam on bed. When duct roller is in position on plate, both rollers must ride cam.

10. CYLINDER

For access to cylinder, swing feeder out. Cylinder is equipped with customary packing clamps and reel rod. A medium packing, such as is customarily used on cylinder presses, is employed. Pack cylinder bearer high. It is important that height of packing above specified by closely adhered to. The form must be held accurately at type high. Bed bearers are slightly below type high. This, together with the thickness of stock, provides ample impression. It is advantageous at all times to carefully make ready. Set cylinder grippers in the customary manner. The cylinder is not equipped with shoofly fingers. Instead, out shooflys in the draw sheet on both sides of and near stripper fingers.

11. FORM

Lock form to run sheet to center. Move bed to feeder and, loosen chase clamps by loosening square head set screws. Never move round head screws. Tighten clamps always by means of the square head set screw. Place form in position with due regard for dead line, unlock quoins, lock chase clamps, and proceed planing form and lock quoins in accordance with general practice.

12. INKING PRESS

Customary practice may be used in inking press. Note--fountain duct roller ratchet is automatically tripped when off impression. If it is desired to ink press through ink fountain and duct roller, move index cam to a position, permitting ratchet pawl engaging. Cam may be moved to feed any number of notches from "0" to full throw.

13. OPERATION

14. To pull first impression, swing feeder in and lock hook. Leave feed carriage back with clutch disengaged, place sheet to guides, and depress impression bar. After carefully making ready, set front carriers just inside drop guides, and a lead above feed board, release clip on vacuum valve located on feeder side frame near top. After feeding first sheet to drop guides, depress impression bar, with hand on handle at top, or foot on pedal at bottom. Trip will not operate automatically. When a sheet is not fed to drop guides, press will trip and stop. Trip action is accomplished through detector finger at center over feed plate, and the mechanism with which detector finger makes contact. The entire trip mechanism can easily be traced by following from one contact point to another. When impression is thrown off, the stop on impression bar comes in contact with latch on starting lever and throws starting lever off, stopping press. Universal separator feet are employed to separate sheets from pile. When running light-weight stocks, the rubber suction cup inside the foot is raised. When running heavier stocks, the cup is lowered to suit the weight being run. Should the separator feet be inclined to pick up more than one sheet, simply raise rubber cups, or if separator feet fail to lift sheets, lower cups. Valve near top of feeder frame is used to control strength of suction on separator feet, and clip at top of valve when depressed will stop feeding.
15. After sheets are separated, same are transferred to rear carrier feet, which carry sheet to center of feed board, at which point same is transferred to front carrier feet. Feeder is provided with a choke or two-sheet detector on side register bar. Set choke to permit one sheet passing freely and stop two or more sheets. Valve near center of feeder frame controls suction on front carrier feet. The use of this valve is necessary in order that exact amount of suction may be applied to carry sheet to drop guides and to prevent same buckling when striking guides. Valve in main vacuum line controls vacuum over entire line and to suit stock being run. Ordinarily, valve in vacuum line is set so main line vacuum gauge will read approximately ten inches. By tightening spring on these valves, vacuum or blast is increased. When increasing blast, vacuum is decreased, or when increasing vacuum, blast is decreased. Therefore, adjustments must be made accordingly. The springs on these valves should not be compressed more than is necessary at any time. If compressed too much, there will be tendency to overheat and choke air pump. Air pump will heat some when running, but no harm will result. Pumps will require cleaning at intervals of approximately four months, or when not functioning properly. Press is equipped with both right and left conventional side register. Feed plate is graduated, as well as bar to which side feed pile guides are attached. This will insure against loss of time in properly positioning pile when starting run. Drop guides and side guides are equipped with lock screw adjustments, and can be adjusted while press is in motion. Cylinder reels are provided to propel sheet to delivery tape. Height of pile is controlled by means of adjusting screw located at top and rear of (feeder side) feeder frame, making contact with stock pile elevating ratchet pawl lever. Turning adjusting screw to right raises pile or vice versa.

27.

SPECIFICATIONS

|  |                    |
|--|--------------------|
| Inside chase measurements. . . . .   | .12-11/16x19-3/16" |
| Type matter locked in chase. . . . .   | .12x19"            |
| Largest sheet. . . . .   | .13x20"            |
| Smallest sheet . . . . .   | .4x7"              |
| Size of bed. . . . .   | .14-1/2x20-3/4"    |
| Distribution:  |                    |
| 2 Form rollers with geared vibrator  |                    |
| 2 Composition distributors with steel vibrators                                |                    |
| Ductor Roller  |                    |
| Full width ink plate and fountain  |                    |
| File feeder capacity . . . . .   | 26"                |
| File delivery capacity . . . . .   | 30"                |
| Floor space. . . . .   | .60x90"            |
| Working space. . . . .   | 78x144"            |
| Height. . . . .  | 53"                |
| Speed range per hour . . . . .   | .2000 to 5000      |
| Size press motor required. . . . .   | .1-1/2 HP          |
| Size pump motor required (used only with variable speed press motor) . . . . . | .1/2 HP            |
| Net weight with motor. . . . .   | 4330 lbs.          |
| Shipping weight. . . . .   | 5220 lbs.          |

28.

OPERATING AIDS

When running paper, run top of feeder stock pile approximately 3/8" lower than separator feet when at lower end of stroke.

When running cardboard, top of pile must be run somewhat higher.

Use as much air blast as necessary to fluff top sheets to separator feet.

Run rubber suction cups within separator feet as high as stock will permit, and set them uniformly.. Proper separation cannot be had without separator feet buckling sheet.

Run rear carrier feet within approximately one lead of feed table. Set angle of feet with bottom of feet parallel with sheet as lifted by separator feet.

Adjust air blast in center of feed table just below the whistling point by means of valve in line in center on lower part of feeder.

Adjust suction in front carriers to carry sheet from center of feed table to drop guides without buckling edge of sheets at guides.

Set register brushes close to drop guides, center on feed tongues and set on feed tongues just tight enough to prevent rebound. The rear brush must be adjusted with considerable less tension than far brush.

Side guide pull finger opening to take sheet is controlled by a friction disc inside register bracket making contact with the larger shaft on which the bracket operates. The tension of friction disc is controlled by means of a spring between disc and adjusting screw visible on side facing feeder. Keep the bar clean and grease bar sparingly with machine oil to prevent cutting. If pull finger fails to open simply tighten adjusting screw slightly.

To adjust tension of pull finger on sheet, push adjusting nut on pull finger spring pin toward cylinder, and turn nut toward you to increase tension on spring. Keep pull fingers and side guide clean at all times.

To swing from one side guide to another, place side guide drive rod, on gear side, on opposite end of operating lever.

Feed tongues must be set approximately within two sheets of cylinder packing. Set drop guides carefully on tongues, without springing tongues, but firmly on same.

Drop guide margin adjustment is provided, but we recommend running as closely as possible with one picas gripper bite.

Drop guide lift is controlled by means of the cam on the feeder end of cylinder shaft. The cam is secured to shaft with 2-1/2" Allen Set Screws. Careful setting is essential to good register.

Cut shooflys in packing at gripper edge close to stripper fingers to insure steady delivery.

The stock and its condition will determine the correct speed at which to run.

The speed at which stock will run steadily is the most productive.

Additional details may be had on request. When writing, cover fully on the information you require. Careful make-ready and accurate set up in every detail are distinct advantages in production.