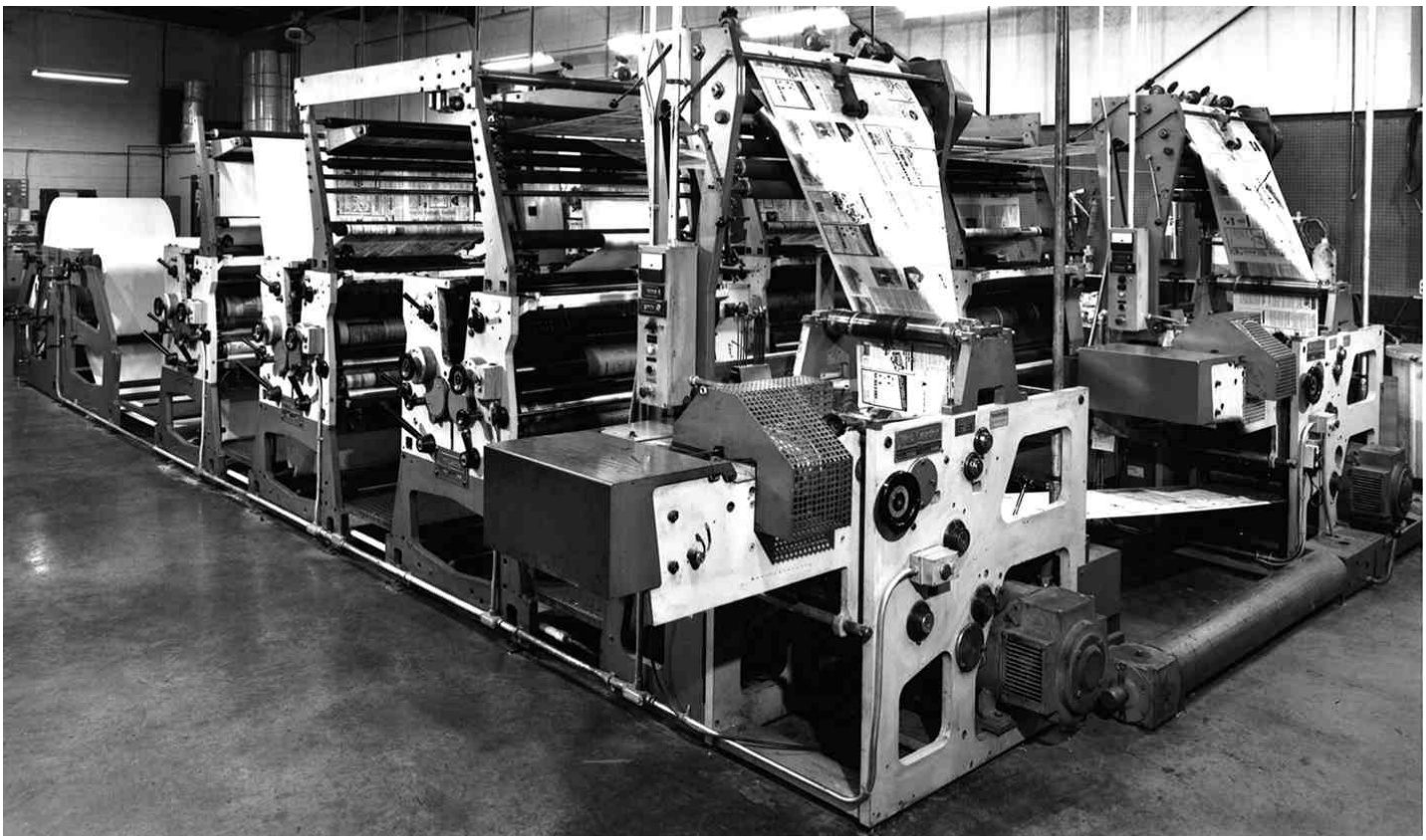
WEB LEADER
PRESSMAN'S MANUAL



WebPress
Revolutionary™

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Note:
Improvements in design and manufacture are incorporated as soon as experience demonstrates their value. All illustrations and procedures may not apply to all presses.

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SECTION 1

SAFETY

IT IS ESSENTIAL THAT THIS SECTION BE READ, UNDERSTOOD AND REVIEWED BY EVERY PERSON WHO WILL BE IN THE PRESSROOM WHILE THE PRESS IS OPERATING

SAFETY INSTRUCTIONS

Stand clear when warning bell sounds.
Do not operate or assist unless you are trained and authorized.
All guards must be kept in proper position.
All safety devices must be operational.
Put controls on "SAFE" to clean, lubricate, or adjust.
Cut main power before doing any electrical maintenance.

SAFETY

GENERAL

Operation of printing or rotating equipment of any nature can present hazards to the operator and to others in the area of the operating equipment.

Hazards can be decreased by proper training, proper operating practices, staying alert at all times and paying strict attention to what is happening on the equipment and to what others in the area are doing.

Specific safety reminders for operating the equipment are given below and throughout the contents of this manual. These reminders supplement any oral or written instructions which the equipment operator may have received prior to operating or servicing the equipment.

We strongly suggest that these reminders be part of your daily routine during operation of the equipment and that they be reviewed periodically, especially with new personnel.

It is not only the management of the firm but also you yourself who holds the responsibility to maintain a regular program of safety checks and instructions.

The safety program should be especially concerned with equipment operating practices and specifically designed to minimize hazards of injury to personnel and of damage to the equipment.

SAFETY DEVICES

1. Use the **RED STOP / SAFE** push button to stop the press as quickly as possible in the event of direct or potential hazard to personnel, broken equipment on the press, web break, or other unusual or threatening circumstance. When the **RED STOP / SAFE** push button is pushed in, the press is in **"SAFE"** condition and cannot be started until the **RED STOP / SAFE** push button is pulled out.

2. **ALWAYS put the press on SAFE when making adjustments or doing maintenance work. Always disconnect the main power switch before doing any electrical maintenance work.**

   The **RED STOP / SAFE** push button should always be pushed **IN** at the folder push button station and the push button station closest to the area where the work is being done, even though a **SAFE** may already be **IN** at another area. **ALWAYS disengage** the unit clutch when working around rollers, cylinders, gears, and other mechanisms which can be rotated.

3. Do **NOT** bypass built-in safety devices and interlocks. All safety devices, whether mechanical or electrical should be functioning at all times. Check these devices periodically.

4. Do **NOT** open guards and covers when machinery is operating. Do **NOT** operate machinery if guards or covers have been removed or are open.

PRESS

1. Do **NOT** touch any moving part of the press. Make sure press is stopped and on **SAFE** and the appropriate clutch is **disengaged** before touching any operating part.
2. Do **NOT** oil or grease machinery when in operation.
3. Stand clear of the press when you hear the **RUN** bell; be sure others are also clear of the machinery.
4. In a twin-press room be sure to stand clear of either press when warning bell or buzzer sounds.
5. Clean up paper dust, spilled ink, oil or grease, and other wastes which may accumulate on or around the press.
6. Do **NOT** leave tools, cloths, oil cans, grease guns or other materials in the aisles, on press frames, housings, or platforms.
7. Keep steps and platforms free of tools, dust, ink, and grease to assure safe footing. Do **NOT** place papers or roll headers on platforms.

ROLLSTAND

1. Do **NOT** use hoist unless trained in safe operation.
2. Do **NOT** operate if all guards are not in place and functional.
3. Do **NOT** lift roll unless it is centered and balanced beneath the yoke.
4. When lifting one roll over another, be sure to lift high enough to completely clear the lower roll.
5. Keep hands clear of rollshaft when maneuvering into place on the rollstand.
6. Insure shaft is properly seated on its supporting rollers at both ends before fully lowering hoist. If either end of the rollshaft hangs up and then drops, personal injury and machine damage can occur.

UNIT

1. Remove all tools immediately after they have been used, and before starting the press.
2. Do **NOT** operate if all guards are not in place and functional.
3. Avoid standing in the aisles between units while the press is running.
4. Do **NOT** attempt to clean blankets or to clean cylinders while the press is moving.
5. Do **NOT** attempt to wipe inking rollers or drums while press is moving. Use sponges rather than rags to avoid the chance of damage or catching a finger. Roller nips can pinch severely even when the unit is rotated manually.
6. Do **NOT** attempt to oil or grease levers, cams, gears, shafts, bearings, or mechanisms while the press is moving.

FOLDER

1. Remove all tools and loose parts after maintenance procedures have been completed.
2. Do **NOT** operate if all guards are not in place and functional.
3. Do **NOT** attempt to lubricate while the press is operating.
4. Do **NOT** attempt to web the folder while the press is operating.
5. Knives and pins are sharp and can cause injury; keep your hands well clear of them.

   CAUTION:

   ALWAYS be aware of where your hands are in relation to operating parts of the press.

   STAY ALERT AT ALL TIMES.

PERSONNEL

1. Dress for the occasion and the job you do.
2. Do **NOT** wear long, loose, torn, or ill-fitting clothing.
3. Dress in short-sleeved shirts and tight-fitting clothing.
4. Wear properly fitting safety shoes with oil-proof, skid-proof soles. Shoes made for service station workers are appropriate.
5. Wear safety glasses when using tools, grinders, etc.
6. Remove all jewelry from clothes, neck, ears, wrists, and fingers prior to working on the press, and see that your co-workers do also.
7. Know where each fire exit is and where the fire fighting equipment is located. **Take time to read the instructions for operation; IT COULD SAVE YOUR LIFE.**
8. At all times conduct yourself in a proper manner around moving equipment. Treat it with respect and avoid needless injury.

SECTION 2

TROUBLESHOOTING

TROUBLESHOOTING

The following headings describe most of the common printing problems that are likely to be encountered.

Below each heading are probable causes of the problem. By locating the correct heading and checking each probable cause, a pressman will be able to handle most printing problems.

PRINTING UNIT

PROBLEM:	PROBABLE CAUSE:
BLINDING: Parts of image not printing.	1. Weak or worn image on plate. 2. Ink dried on plate. 3. Dampener solution too acid. 4. Plate or blanket over-packed. 5. Form roller settings too heavy.
CATCH-UP: Radial band of ink in non-print areas.	1. Not enough dampener solution. 2. Dirty or dry dampener rollers. 3. Areas of dampener form rollers not touching the plate or ink form set too tightly on one end.
FILL-UP: Type or halftone screens plugging with ink.	1. Too much ink. 2. Greasy or dirty ink. 3. Form roller setting too heavy. 4. Plate and blanket over-packed. 5. Not enough dampener solution. 6. Worn plate (check plate surface for scratches, burnishing).

PROBLEM:	PROBABLE CAUSE:
GRAININESS: Grainy, gray or weak printing.	1. Not enough ink. 2. Not enough impression. 3. Glazed blankets. 4. Weak or worn image on plate. 5. Weak ink. 6. Form roller setting too light.
PICKING AND HICKIES: White spots in solid areas and black spots in white areas on printed page.	1. Ink too stiff or tacky, pulling particles of paper from web. 2. Excess lint on paper stock. 3. Foreign particles in ink. 4. Dirty inking or dampener rollers. 5. Dirty blankets. 6. Tacky blanket surface (replace with new blanket).
SCUMMING: Areas of non-printed surface taking ink.	1. Dampener setting too low or insufficient solution in fountain. 2. Dirty dampener rollers. 3. Incorrect pH dampener solution. 4. Too much ink. 5. Form rollers incorrectly set, causing bouncing and skidding. 6. Incorrectly developed plate.

PROBLEM:	PROBABLE CAUSE:
SLURRING: Bands of blurred image appearing across the web.	1. Improper dampener solution. 2. Ink dried on plate, or ink too stiff. 3. Blanket under- or over-packed. 4. Form rollers incorrectly set. 5. Roller sockets or bearings worn. 6. Loose blanket. 7. Web guiding roller not turning freely. 8. Insufficient tension on unit-to-unit color lead.
STREAKING: Streaks appearing across the web.	1. Ink form or dampener form rollers set too lightly. 2. Hardened or glazed form rollers, use Varn "Revital" or equivalent to renew surface. 3. Poor balance between ink and dampener solution.
STRIPPING: Uneven printed image, rollers refusing to take ink.	1. Inking rollers glazed. 2. Dampener solution too strong and emulsifying ink. 3. Improper ink formulation. 4. Incorrect roller settings.
TINTING: Light tint or wash appearing over the entire sheet.	1. Too much dampener solution. 2. Greasy ink. 3. Thin ink. 4. Incorrect pH dampener solution. 5. Improperly coated or developed plates.

PROBLEM:	PROBABLE CAUSE:
WEB TRAVEL	
LOOSE WEB: Web runs loosely between unit and folder.	1. Not enough tension on the roll. 2. Ink too tacky. 3. Blankets over-packed. 4. Lint build-up on blankets. 5. Nipping rollers set too loose. 6. Trolleys set incorrectly.
WEB BREAKS	1. Too much dampener solution during roll-up. 2. Web tension incorrectly set. 3. Faults in paper.
FOLDER	
POOR TABLOID SLIT	1. Dull or nicked knife. 2. Knife incorrectly assembled. 3. Bearing worn out. 4. Slitter dropped without paper running. 5. Slitter set too tight (common when running light product after heavy product).

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PROBLEM:	PROBABLE CAUSE:
ENLARGED OR TORN PIN HOLES	1. Missing, dull, bent or broken pins. 2. Knife set too close to pins. 3. Insufficient nip roll pressure. 4. Excessive gain strips on pin cylinder. 5. Excessive tension on single web.
POOR CUTOFF	1. Worn cutting rubber. 2. Dull or broken cutting knives. 3. Weak or broken cushion springs. 4. Insufficient nip roll pressure. 5. Excessive or insufficient gain strips on pin cylinder.
UNEVEN FIRST FOLD	1. Roll sidelay incorrectly centered. 2. Insufficient tension causing web wander.
UNEVEN QUARTER-FOLD	1. Quarter-fold incorrectly centered. 2. Stop bar incorrectly adjusted.
WEB TEARING AT R. T. F. TROLLEYS	1. Trolleys too tight. 2. Tension on roll too high.

PROBLEM:	PROBABLE CAUSE:
WEB TEARING AT BACK OF FORMER OR AT NIPPING ROLLERS	1. Nipping rollers too tight. 2. Rollers point of former incorrectly set. 3. Excessive tension on roll. 4. One or more blankets improperly packed creating underfeed.
SIGNATURE DROPPED BY JAW	1. Insufficient jaw tension. 2. Broken or bent tucker blade. 3. Broken jaw blades. 4. Improper jaw cam timing. 5. Improper tucker-to-jaw timing.
WEB WRINKLING AT FIRST FOLD	1. Preforms incorrectly set. 2. Insufficient tension on roll.
WEB BAGGY ON PIN CYLINDER DRUM	1. Insufficient gain strips on pin cylinder. 2. Insufficient nip roll pressure. 3. Insufficient tension on roll.
REGISTER FLUCTUATION ON QUARTER-FOLD, JAMMING	1. Loose tapes, tapes set incorrectly or spliced backward. 2. Quarter-fold chopper incorrectly timed. 3. Quarter-fold chopper blade set at angle to top plates. 4. Nip roll tension incorrect. 5. Inconsistent delivery from jaw cylinder. 6. Incorrect tension on quarter-fold main drive belt.

PROBLEM:	PROBABLE CAUSE:
POOR QUARTER-FOLD DELIVERY	1. Quarter-fold creels incorrectly timed. 2. Delivery table height incorrectly set. 3. Quarter-fold creel stops incorrectly set. 4. Insufficient tension on quarter-fold creel belt. 5. Quarter-fold chopper incorrectly timed. 6. Insufficient tension on quarter-fold main drive belt. 7. Insufficient tension on tapes.
POOR HALF-FOLD DELIVERY	1. Delivery table height incorrectly set. 2. Insufficient tension on tapes. 3. Inconsistent delivery from jaw cylinder. 4. Insufficient tension on half-fold creel belt. 5. Half-fold creel incorrectly timed.

SECTION 3 CONTROLS

PRESS DRIVE CONTROLS

GENERAL INFORMATION

A ready mode exists when the power unit is ready to receive a command to operate. This means that all drive status devices are in the **SAFE** or normal position, and that all the **RED STOP / SAFE** push button switches are ready for operation.

The operator control that starts the press moving is the **INCH** push button. Once the command is received, an alarm bell rings for four seconds as a warning that the press is about to move. The alarm is then silenced, the drive is enabled, and the press begins to move. Press operations will continue in the selected mode as long as the operator permits.

When the **RED STOP / SAFE** push button is depressed, the drive is shut off, the motor stops, and the alarm cycle is automatically reset. Once the **RED STOP / SAFE** push button is pulled out, the system is again in the ready mode.

DESCRIPTION OF FUNCTIONS

The controls mentioned in the following descriptions are located at an operator's control box. This box is mounted at an operator's station on the folder. In addition to the standard controls noted above, auxiliary push-button stations incorporating stop, inch or slow down fuctions may be located elsewhere on the press.

PUSH BUTTONS

STOP—Depressing the **RED STOP / SAFE** push button shuts off the drive, begins dynamic braking and stops the press—regardless of operating speed. The stop has priority over all other control functions.

A safety alarm signal automatically resets during the dynamic braking period. The four second alarm is sounded before the press can be run.

INCH—With the control system in the ready mode, depressing the **INCH** push button sounds the four second alarm before the press moves. After the alarm has sounded, the press will operate at inch speed while the **INCH** push button remains depressed. Once the **INCH** push button is released, the press will come to a halt. Succeeding inching may be done immediately without having the alarm sound. However, if an inch is not repeated within four seconds, another four second alarm cycle will occur before the press operates.

Inching can occur only when the drive has not been placed in the run mode. If while inching the **RUN** push button is depressed, the run mode will have priority and take over.

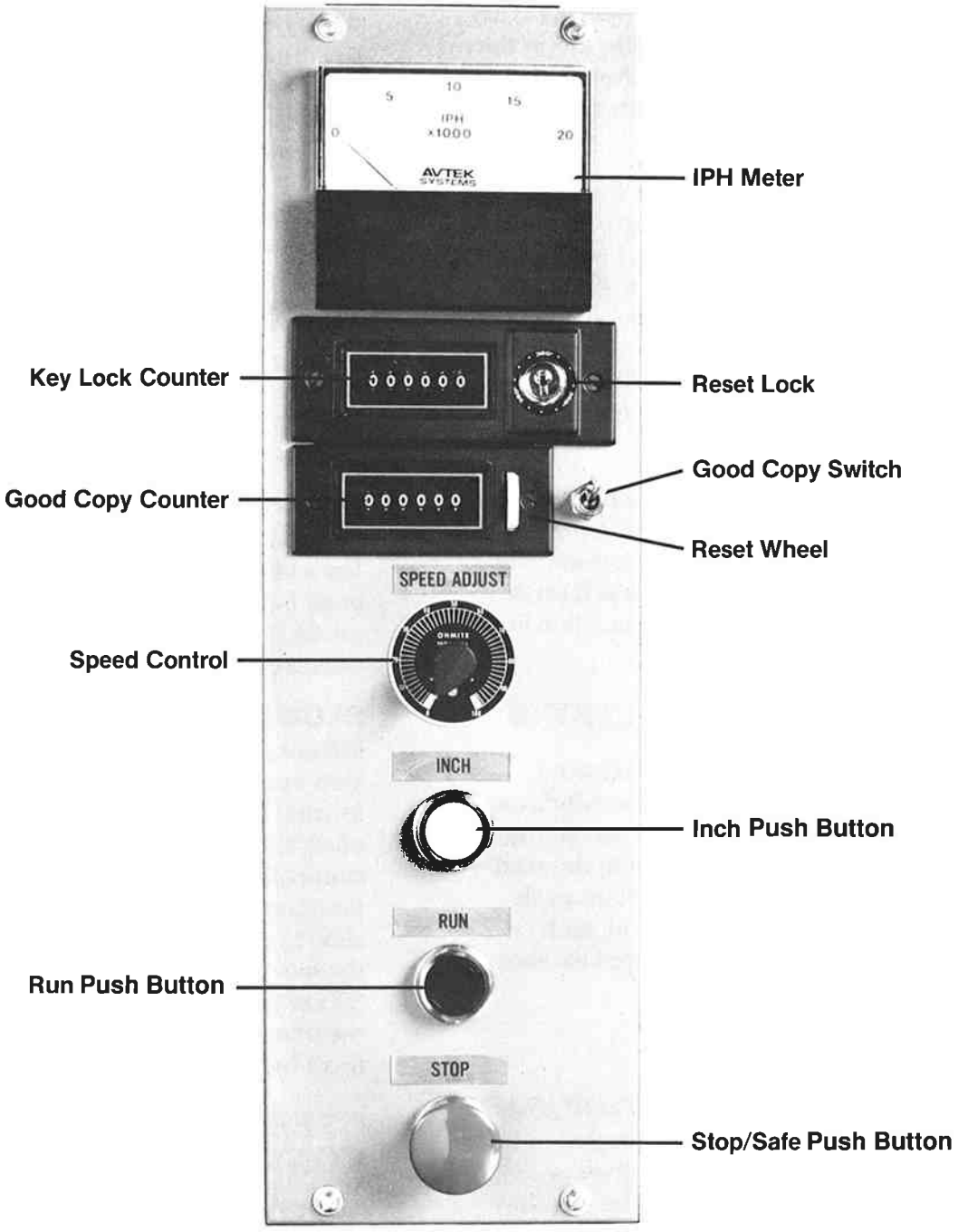
RUN—With the press in the inch mode, momentarily depressing the **RUN** push button while simultaneously pressing the **INCH** push button establishes a continuous run mode. The press will accelerate to the speed selected at the speed adjust potentiometer.

SLOWDOWN—(Optional)—The slowdown feature permits the press to be brought to a slow speed by a remote operator station located at the rollstand. The **SLOWDOWN** push button causes the drive control to electronically disconnect the speed adjust potentiometer from the power unit. The press will slow to a pre-adjusted value and then continue to operate at this speed until the **RED STOP / SAFE** push button is released. To resume normal operation, the power unit must be stopped and restarted.

OPERATOR ADJUSTABLE CONTROLS

SPEED ADJUST POTENTIOMETER—This operator-accessible speed adjustment is used for varying press speed in the run mode. It is located on the operator control box. **Clockwise** rotation of the adjustments result in **increasing** press speed, up to a maximum of 20,000 impressions per hour.

CONTROL PANEL



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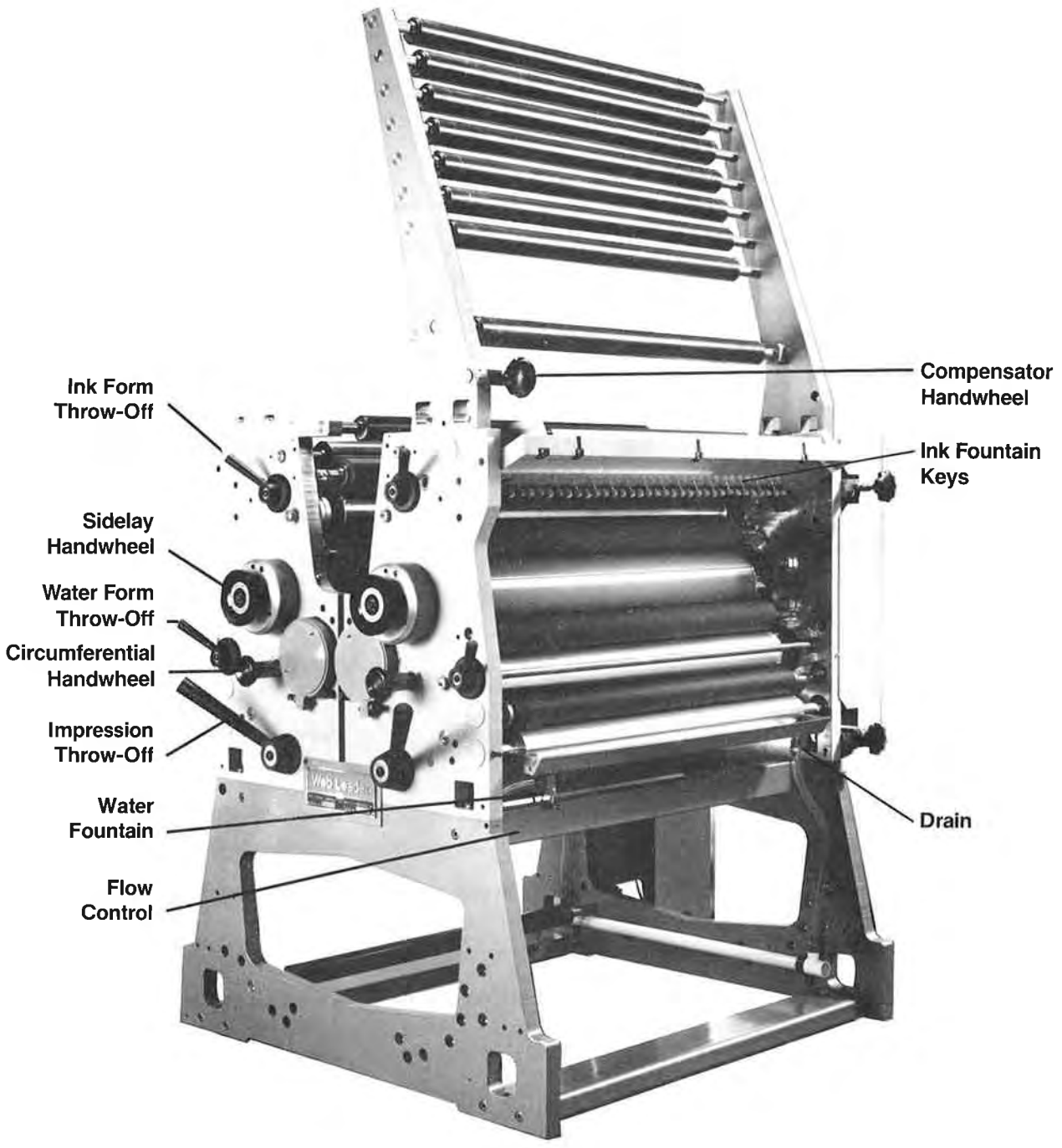
PRESS OPERATOR'S STATION

Use the **RED STOP / SAFE** push button to stop the press as quickly as possible in the event of direct or potential hazard to personnel, broken equipment on the press, web break, or other unusual or threatening circumstance. In non-emergency situations, decelerate the press to threading speed with the speed control knob or, if so equipped, the **SLOWDOWN** push button, before depressing the **RED STOP / SAFE** push button.

Controls for the entire press are located at an operator's station at the folder. The function of each control is listed below.

CONTROL	COLOR	LOCATION	FUNCTION
Stop/Safe Push Button	Red	Drive console, folder, unit, rollstand	Push in to stop press; Pull out to run press
Inch Push Button	Gray	Drive console, folder, Quadra-Color	Starts and runs press at creep speed when held in
Run Push Button	Black	Drive console	Starts press when pushed in conjunction with Inch push button
Speed Control	Black	Drive console	Controls press speed: **clockwise to increase; counterclockwise to decrease**
Good Copy Counter		Drive console	Switch: on/off
Key Lock Counter		Drive console	Runs continuously with folder
Brush/Fountain Motor On/Off	Black/Red	Drive console	Push to start/stop dampener system
Dampener Speed Control	Black	Drive console	Controls dampener feed to all units: **clockwise to increase; counterclockwise to decrease**
Slowdown Push Button (Optional)	Yellow	Rollstand	Automatically slows press to creep speed when pushed

UNIT OPERATING SIDE



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UNIT OPERATING SIDE CONTROLS

COMPENSATOR HANDWHEEL

Registers page cutoff when running directly from unit to the folder. Turning the handwheel **clockwise increases** the top margin of the page.

When running from one unit to another, the handwheel provides additional circumferential color register.

INK FOUNTAIN KEYS

Move the fountain blade to control the ink flow. Turning the keys **clockwise reduces** the ink flow.

NOTE:
Never turn tight to roller or the blade will score the roller.

INK FORM THROW-OFF

The handle is turned down to put the ink form rollers in contact with the plate **(ON)** and up to lift it from the plate **(OFF)**.

WATER FORM THROW-OFF

The handle is turned down to put the water form roller in contact with the plate **(ON)** and up to lift it from the plate **(OFF)**.

IMPRESSION THROW-OFF

The handle is turned down to put the blanket and plate cylinders in contact (**ON** impression) and up to move them apart (**OFF** impression).

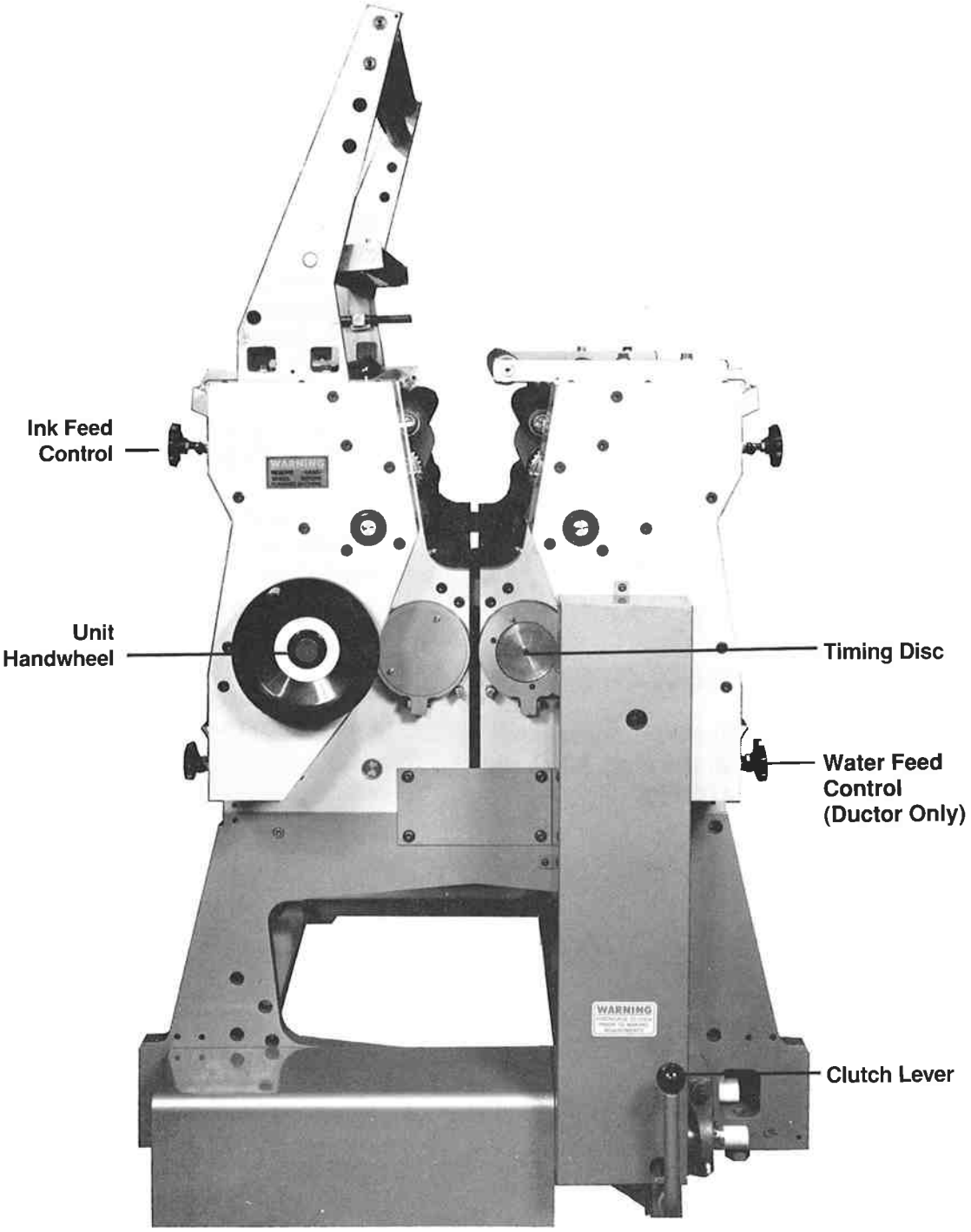
RUNNING SIDELAY REGISTER HANDWHEEL

There is one handwheel for each plate cylinder. Turning the handwheel moves the image on the web transversely up to 1/8" in either direction from the center. **Clockwise** rotation moves image **toward** operating side. Total maximum rotation is approximately 4 turns.

RUNNING CIRCUMFERENTIAL REGISTER HANDWHEEL

One handwheel is provided for each plate cylinder, located directly below the sidelay handwheel. Turning the handwheel moves the image on the web up to 1/10" in either direction from center to or from the pins (approximately 6¾ turns). **Clockwise** rotation of the handwheel will move the image **away** from the folder pins.

UNIT DRIVE SIDE



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UNIT DRIVE SIDE CONTROLS

WATER FEED CONTROL

DUCTOR SYSTEM

One hand knob is provided on the drive side of each roller for **ON / OFF** and fine adjustment of dampening solution.

Press side thumb button in slide housing and pull out hand knob to engage supply. Fine adjustment to feed can be further obtained by turning the hand knob. **Clockwise** rotation **decreases** feed. Push in hand knob to disengage supply.

MOTORIZED SYSTEM

The water pan roll is driven electrically. Its speed is controlled by an adjustment knob in the unit console and, if provided, by a master control at the folder. A switch at the unit console shuts off the fountain pan drive and stops dampener feed.

BRUSH

Fountain pan roller speed is controlled electrically from the folder console, which also incorporates a shutoff for the entire press. Individual pan roller speeds are adjusted mechanically by means of a handwheel on the operating side of the unit. Each unit also has switches to turn off brush motors and fountain roll motors when the unit is not in use.

INK FEED CONTROL

One hand knob is provided on the drive side of each roller for **ON / OFF** and fine adjustment of ink feed across the entire fountain.

Press side thumb button in slide housing and pull out hand knob to engage supply. Fine adjustment to feed can be further obtained by turning the hand knob. **Clockwise** rotation **decreases** ink feed. Push in hand knob to disengage supply.

UNIT TIMING

A timing disc is fastened at the end of the blanket cylinder on the gear side of the unit. On the face of the eccentric surrounding the disc is a timing mark. The unit clutch can be engaged only when the timing mark is coincident with one of the numbered lines on the disc.

DRIVE CLUTCH

Push in and move lever to left to engage drive shaft to unit.

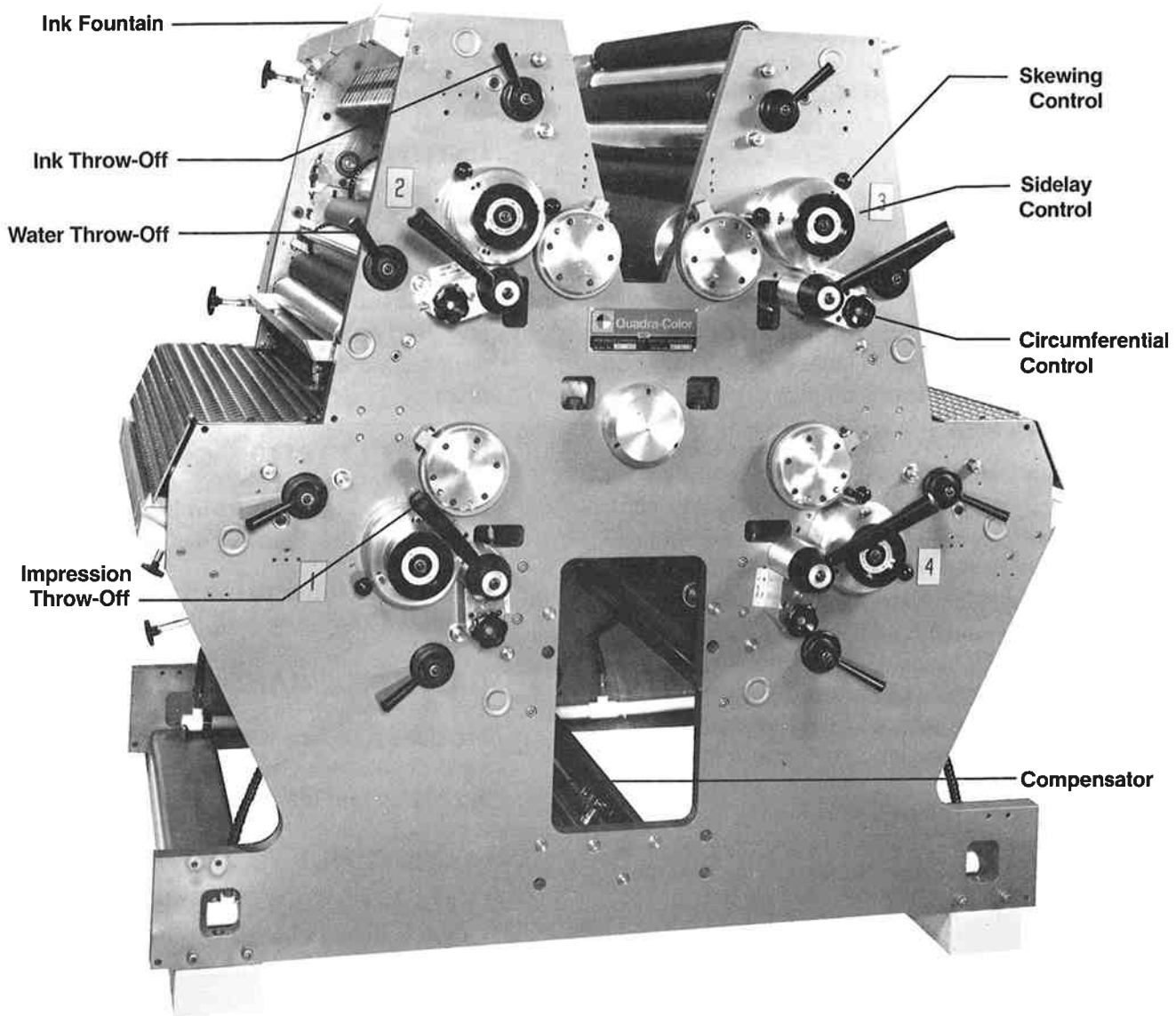
Push in and move to the right to engage a Quadra-Color unit.

DRIVE-SIDE HANDWHEEL

Provides a means for manual rotation of unit for independent changing, gumming or cleaning plates and blankets, etc.

CAUTION:

Do not install or operate handwheel with drive clutch engaged.



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QUADRA-COLOR CONTROLS

OPERATING-SIDE CONTROLS

IMPRESSION THROW-OFF

One lever is provided below each cylinder. Moving the lever down will throw on both blanket and plate cylinder impression.

WATER AND INK FORM THROW-OFF

Moving the handles down engages the form rollers with the plate cylinders.

RUNNING CIRCUMFERENTIAL REGISTER HANDWHEEL

One handwheel is provided for each plate cylinder, located on a boss adjacent to the side-lay handwheel. Turning the handwheel moves the image on the web up to 1/10″ to or from the pins (approximately ¾ turn).

Clockwise rotation of the handwheel will move the image **away** from the folder pins.

NOTE:
The page two quad in a back-to-back set rotates counterclockwise, hence the circumferential control operates in the opposite sense from the page one unit.

RUNNING SIDELAY REGISTER HANDWHEEL

One handwheel is provided for each plate cylinder, located on the large boss at the end of the plate cylinder. Turning the handwheel moves the image sideways up to ⅛″ in either direction from center.

Clockwise rotation moves the image **toward** the operating side.

SKEWING

One hub is provided for each plate cylinder, located behind the sidelay handwheel. Adjustment for skewing the plate cylinder is obtained by loosening 3 hex head screws on the hub face and rotating the hub by the hand knobs provided. Retighten the 3 hex head screws on completing the adjustment.

Clockwise rotation of the hub will move the image at the operating side **toward** the lead edge and folder pins.

NOTE:
A skewing adjustment will change the form roller and plate-to-blanket settings on the operating side. Maximum adjustment equals .024″ or .012″ each side of center.

DRIVE-SIDE CONTROLS

DRIVE CLUTCH

Push in and move to left to engage drive shaft to Quadra-Color unit.

DRIVE-SIDE HANDWHEEL

CAUTION:

Do not install or operate handwheel with drive clutch engaged.

UNIT TIMING

A timing disc is fastened at the end of the lower right-hand blanket cylinder on the gear side of the unit. On the face of the eccentric surrounding the disc is a timing mark. The unit clutch can be engaged only when the timing mark is coincident with one of the numbered lines on the disc.

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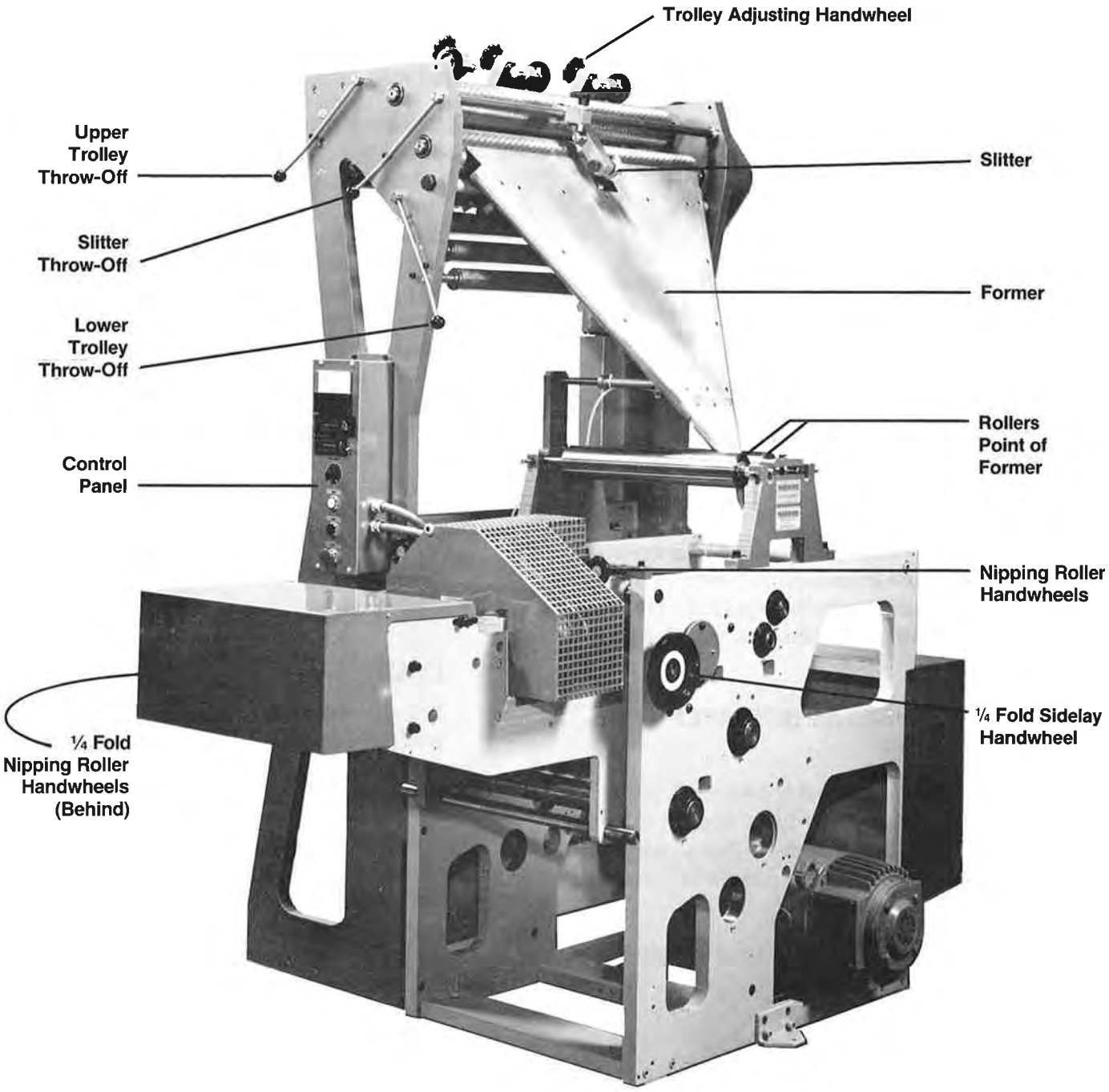

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FOLDER CONTROLS

ROLLER TOP OF FORMER (R. T. F.) TROLLEY THROW-OFF

Engages the trolleys on the R. T. F. **ON** or **OFF** contact with the webs. Two R. T. F.'s are provided, each having independent trolleys and throw-off handles. To engage trolley, move handle to left beyond detent.

R. T. F. TROLLEY ADJUSTING HANDWHEEL

Adjusts trolley pressure against the webs on the R. T. F. Turning the handwheel **clockwise decreases** the pressure. Pressure is set to a firm pull on sheets equal to the number of webs run.

SLITTER KNIFE THROW-OFF

Engages/disengages the slitter knife. Move handle up above stop for **ON** position (only when web is moving).

SLITTER KNIFE

The slitter knife is mounted at the top of the former board and, on most models, may be engaged independently of the trolley wheels. It is provided with a sidelay adjusting screw in addition to a pressure adjusting handwheel. **Clockwise** rotation of the pressure setting handwheel **decreases** slitter pressure. The slitter should be engaged only when the folder is webbed and the press is running.

CAUTION:

Be careful when working near the slitter blade, it is sharp and can cause injury.

PRE-FORM OR ROLLERS POINT OF FORMER (R. P. F.)

Are adjustable by unlocking the jam nuts on the roller shafts. The front spacing of rollers is gauged by setting the gap between each roller and the former nose to the thickness of the number of webs being run plus one web thickness. If 4 webs are run, the gap should give a snug pull on 5 thicknesses of paper. The rear spacing of the rollers is set to provide even tension on the rear edges of the webs. This setting is particularly important when running tabloid products and when running twinned presses.

NIPPING ROLLER HANDWHEELS

Adjusts the gap between the nipping rollers for product thickness. The handwheel toward the nose of the folder controls the folded edge of the web, while the handwheel on the rear of the folder controls the open edge of the web. Turning the handwheel **clockwise decreases** the gap.

NIPPING ROLLER SETTING

The nip rollers are equipped with two sets of knurled steel treads, which are set to run in the margins. Initial pressure settings of the treads should result in a slight indentation of the knurl pattern in the product.

Care should be taken to avoid running with excessive nip pressure which can result in cracking of the web over the former nose. This setting is particularly important when running twinned presses.

NIPPING ROLLER SPACING

CAUTION:

Put the press on SAFE and disengage folder clutch.

To adjust the nipping rollers for product width, loosen the 3/8" -16 setscrews in the rear hubs and spacers, slide on support shaft to desired width and lock the setscrews.

QUARTER-FOLD SIDELAY HANDWHEEL

The entire quarter-fold table assembly is moved toward or away from the nose of the former to allow centering of the quarter-fold seam in products with different web widths. The correct adjustment should be approximated during makeready, then trimmed during the first slow running period to place the fold line exactly where required.

NOTE:
Adjustment should be made only when folder is running.

QUARTER-FOLD NIPPING ROLLER HANDWHEELS

Located at rear of quarter-fold table. They are used to adjust the gap between the quarter-fold nipping rollers for product thickness by moving the far side roller. Left-hand handwheel controls the inner end of the roller, and the right-hand the outer end of the roller. Turning the handwheels **clockwise tightens** the nipping rollers.

1. Set the quarter-fold nip roller pressure by adjusting the hand knobs on the rear side of the quarter-fold table for an even pull on strips of paper (numbering one sheet less than the final product) inserted at each end of the nip rollers.
2. Final settings can be made on the run.

NOTE:
a) Signatures tending to hang up indicates pressure too light.

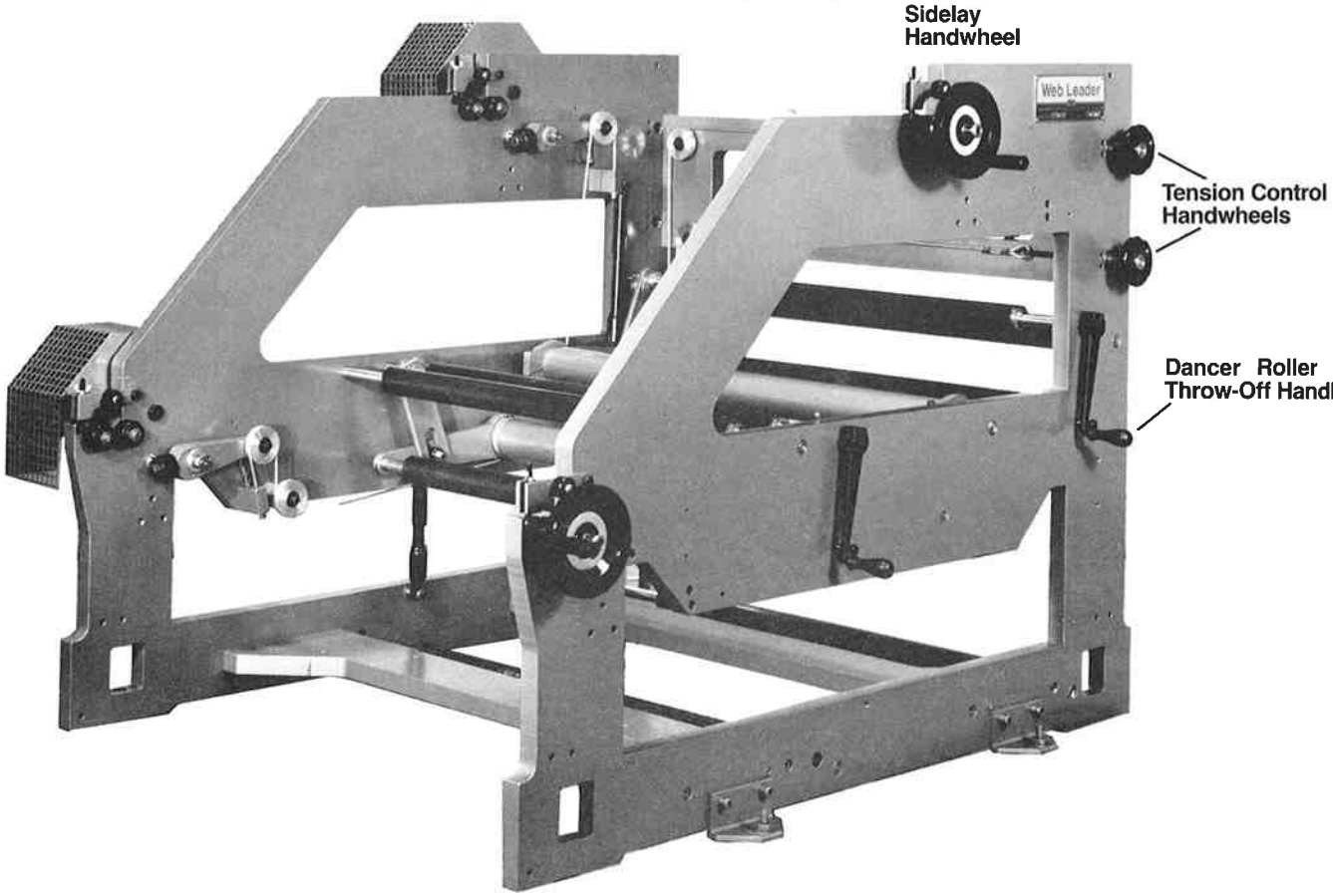
b) Excessive creasing or set-off indicates pressure too heavy.

Take care to adjust pressure evenly on each end of the nip rollers to avoid cocking or jamming the products.

WATER INJECTOR

If the folder is fitted with a water injector system for quarter-fold seam softening, the spray can be applied to the sheet by operation of the on/off toggle switch, located on the rear folder frame beneath the former. The amount of spray is determined by adjustment of the spray knob located near the on/off switch. Turning **clockwise decreases** the amount of water coverage.

ROLLSTAND CONTROLS



GENERAL INFORMATION

Proper web tension is essential to maintenance of color and cutoff register, proper tracking of webs through the press, and uniform folding. For any given tension setting, the amount of brake being applied is dictated by the position of the dancer roller. When the dancer is all the way down, the maximum amount of brake is being applied. When the dancer is in its uppermost position, minimum brake is being applied.

The tension control handwheel found on the operator side controls the amount of resistance the web must overcome to raise the dancer and diminish the amount of brake being applied.

ROLLSTAND SIDELAY HANDWHEEL

Controls the sidelay position of paper roll and press web approximately ± ½". **Clockwise** rotation of the handwheel moves the roll toward the drive side.

DANCER ROLLER THROW-OFF HANDLE

Lifting the handle releases the brake for paper roll changes and press web-up. Moving the handle to the down position engages the dancer roller and brake for tension control during a run.

TENSION CONTROL HANDWHEEL

Regulates the amount of tension applied to the web through the dancer roller and disc brake assembly. **Clockwise** rotation **increases** web tension.

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SECTION 4

MAKEREADY

DISENGAGING A UNIT

1. Stop the press with unit timing marks aligned by observing that the folder jaw cylinder is in the vertical position; release lever.

   Put the press on **SAFE**.

2. Push in shift lever of drive clutch and move to the right until it latches into the "out" position.

ENGAGING A UNIT

1. If timing marks are misaligned, use drive-side handwheel to rotate unit until timing marks are aligned.

2. Push in shift lever of drive clutch and move to the left as far as it will go; release lever. Be sure clutch dogs are fully engaged and lever is latched. It may be necessary to rotate handwheel slightly to secure engagement.

3. **REMOVE HANDWHEEL !**

SILENCING PRINTING COUPLES ON WEB LEADER PERFECTING UNITS

When neither printing couple (neither side of a unit) is to print during a particular run, the entire unit should be silenced by disengaging the unit drive disconnect clutch.

When one printing couple (one side of the unit) is to print during a particular run and the other printing couple is to be silenced (not printing), good pressmanship requires that the following steps be taken:

1. The ink form rollers should be thrown **OFF**.

2. The ink fountain should be shut off using the ink feed control shutoff.

3. A lubricant must be applied to the rollers in the non-printing inking arrangement for long runs. Use a material which is compatible with your ink.

4. The water form roller should be thrown **OFF**.

Best printing results will be obtained by using a clean dummy plate on the non-printing plate cylinder rather than running without a plate on that cylinder.

RUNNING NARROW WEB

Apply lubricant such as Anchor® roller lube to the ends of the rollers where ink is not normally transferred to the plate. This helps to eliminate ink accumulation and resultant pick-out of the roller ends when consistently running webs narrower than the capacity of the press equipment. Your ink supplier can provide a proper lubricant that is compatible with oils used in his ink and will not affect printing quality.

LOADING THE ROLLSTAND

1. Insert the shaft into the paper core.

   CAUTION:

   ALWAYS insert shaft from correct side of roll to insure proper direction of unwind for the rollstand position being loaded.

2. Insert the expanding chuck in the operating side paper core. Lock the chuck setscrew. Rotate in direction opposite to unwind rotation using wrench to insure gripping of core.

CAUTION:

Do NOT lift roll unless it is centered and balanced beneath the yoke.

When lifting one roll over another, be sure to lift high enough to completely clear the lower roll.

Keep hands clear of rollshaft when maneuvering into place on the rollstand.

Insure shaft is properly seated on its supporting rollers at both ends before fully lowering hoist. If either end of the rollshaft hangs up and then drops, personal injury and machine damage can occur.

3. Using the hoist, lift the paper roll into position on the rollstand so that the shaft gear engages the brake gear.

4. Measure distance from edge of roll to inside of frames to insure that the width being used is correctly centered.

5. If the roll is incorrectly positioned, turn the sidelay handwheel until the roll is centrally located. If the change needed is beyond the range of the sidelay adjustment, the chucks were not correctly located and must be shifted on the shaft.

WEBBING

1. Put the press on **SAFE** and lift the rollstand throw-off handle to disengage the brake.

2. Throw the blanket cylinders **OFF** impression.

3. Start with the roll position furthest from the folder (if all webs will be used) and unit nearest to the folder. Tear a taper in the head end of the web and lead it into the unit (which is best achieved by attaching adhesive tape to the paper and cylinder until it is through the nips) and around the compensator. Tape to a roller, then repeat for the other units.

4. Lead all the webs individually around the gathering rollers and then over the former and engage the roller top of former trolleys. **Do not engage slitter.**

5. Tighten the tension control handwheels so that there is a slight drag on the web.

6. Slowly throw **ON** the rollstand handle to activate the dancer and the brake.

7. Throw all webbed units **ON** impression.

8. Inch the press with the folder engaged, and lead the webs down the former, between the rollers point of former and down to the nipping rollers. If the webs do not feed neatly between the nipping rollers, let some slack run, then **STOP THE PRESS** and insert the webs between the nipping rollers, pulling taut from below.

CAUTION:

Keep your fingers away from the rollers.

9. Continue inching the press until the webs are pulled down between the nipping rollers and two to three feet below, and one of the tucking blades is in the accessible portion of the folding cylinder.

10. Stop the press and put on **SAFE**.

11. Tuck webs into the space adjacent to the tucking blade so that rotation of the folding cylinder will carry the webs through the nip between folding and cutting cylinders. Tear off excess.

12. Inch the press until the folded product is delivered.

13. Stop the press on the mark (jaw vertical) and put on **SAFE**.

FOLD CHANGEOVER PROCEDURE

1. To disengage the chopper, stop the press with chopper arm in down position.

2. Put the press on **SAFE**.

3. A 3/8" socket head clamp screw holds the quarter-fold operating cam on its shaft.

4. To remove this cam, insert a 3/8" allen wrench through access hole in front of folder frame.

5. Loosen screw and remove cam from its shaft. **Be careful not to lose key from cam.**

6. Lift and secure quarter-fold chopper arm and remove quarter-fold stop bar.

ROLL SPLICING

1. Throw **OFF** the rollstand handle to disengage the brake.

2. Remove the core of the expired roll from the rollstand and mount the new roll, tearing a straight edge on the paper after removing any damaged wraps.

3. Bring the trailing end of the web still in the press back over the top of the new roll, tearing a straight edge in it long enough to overlap the leading edge of the new roll. Apply splicing tape or glue to the trailing edge.

   NOTE:
   Do not overlap splicing tape. More than one thickness will damage the blankets when the splice passes between the cylinders.

4. Tape or glue the end of the new web onto the old web.

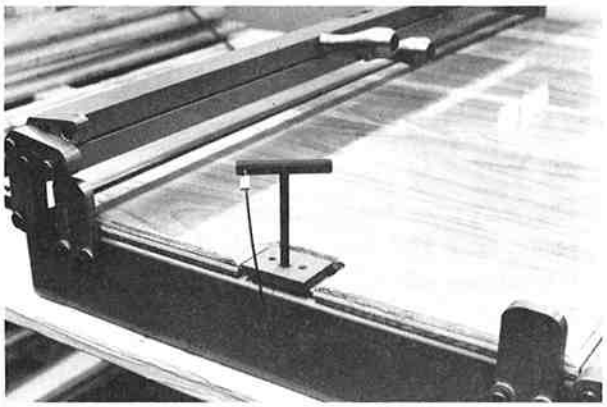
5. Throw **ON** impression.

6. Slowly engage the rollstand handle to activate the brake.

7. Run the press at slow speed until the splice passes through the unit.

BENDING PLATES

1. Line up scribe lines on image side of plate with scribe lines on bender—with edge of plate against side guide. If plate bender is installed with register pins, locate plate over holes and insert pins.
2. Bend and punch lead and trail edges by moving bending bars down as far as they will go, then returning to vertical.

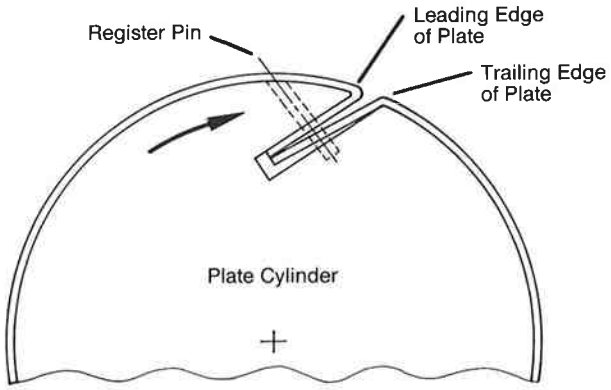


DAMPENER FEED

1. Mix solution according to supplier's instructions and check for proper pH.
2. Check fountains to be sure overflow fittings are clear, then start pump.
3. The dampener feed for each fountain is adjusted by the valve on the supply side, positioned on the underside of the fountain pan.
4. Open the valve to allow a slight excess of solution to overflow the drain back to the circulators, making sure loose bits of paper and lint do not clog the outlet.
5. Water stops are provided to keep water from entering the ink train when half webs or narrow-width webs are to be run. The water stops mount on the lip of the water pan and are secured with thumbscrews for brush dampening option. For other systems they are mounted on the water pan cross bar and contact the pan roller at the rear.

INSTALLING A PLATE

1. Put press on **SAFE**; declutch unit.
2. Rotate handwheel **counterclockwise** until lockup slot is near the top of the plating area, about 3″ below the first ink form roller.
3. Insert the leading edge of the plate into the slot, starting with a corner. Urge the edge of the plate into the slot, being sure the register notch goes astride the register pin in the center of the cylinder. Check that the plate is hooked on the nose properly.



4. Rotate the handwheel **counterclockwise** while maintaining hand tension on the plate until lockup slot is again accessible.
5. Throw the ink form **ON**.
6. Insert one corner of the trailing edge of the plate into the cylinder slot and carefully slide into slot with thumb pressure across the cylinder face to the opposite side, seating register notch on the cylinder pin.
7. Throw ink form **OFF** and urge plate down until snug. Repeat for other plate cylinder.
8. Rotate handwheel to line up timing marks on unit and engage clutch.

CAUTION:

Remove handwheel immediately after engaging clutch.

DIRECT PRINTING

TERMINOLOGY

When printing "direct lithography," one unit can be used to print two colors across the entire width of one side of a web.

The web passes between the blanket cylinders in the normal manner, then wraps one of the blanket cylinders to pass between it and the adjacent plate cylinder.

Only one of the blanket cylinders prints on the web; the other non-printing blanket cylinder acts as a support for the web as it is printed directly by the plate.

BURNING A REVERSE IMAGE

Because the web is printed directly from the plate, it is necessary that the image on the direct printing plate be reversed to produce a right-reading print.

To produce a reversed image of coarse line work, an ordinary negative may be flopped without a significant amount of image fuzziness (which can result when the emulsion side of the negative is not adjacent to the plate).

For fine line work and halftones, two methods of reversing the image are recommended.

METHOD I

Reverse the film in the camera before exposure, so that the emulsion faces away from the copy board.

METHOD II

Use a duplicating film to produce a negative from a negative or a positive from a positive in one step. Exposure and development of this film is not critical; it maintains a high degree of fidelity.

REGISTERING DIRECT PRINTING PLATES

Running side-register handwheels are provided for both plate cylinders on a unit, permitting side register changes across the web up to $\pm$ 1/8". To supplement the standard side and circumferential running plate registers and to avoid the necessity for retiming, an optional direct litho-compensator may be purchased to fit in the lower unit base frame (usually fitted to unit closest to the rollstand) to increase color-to-color register range between the direct printed image from the first unit and the offset image from the second unit.

DIRECT PRINTING WEB LEADS

Suggested web leads for direct printing are illustrated as follows:

FIG. I shows a lead for printing three colors, and FIG. II shows leads for printing four colors on one side of the web.

FIG. I—THREE COLORS

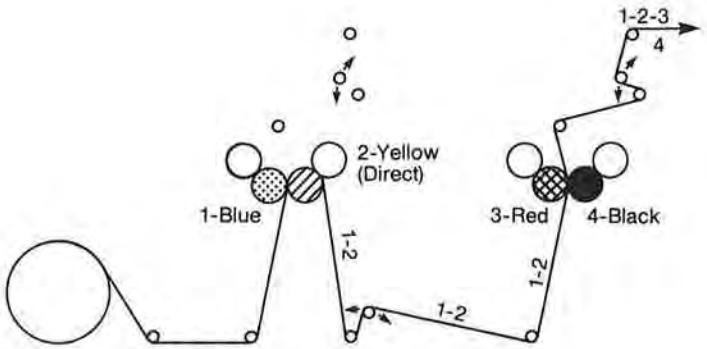
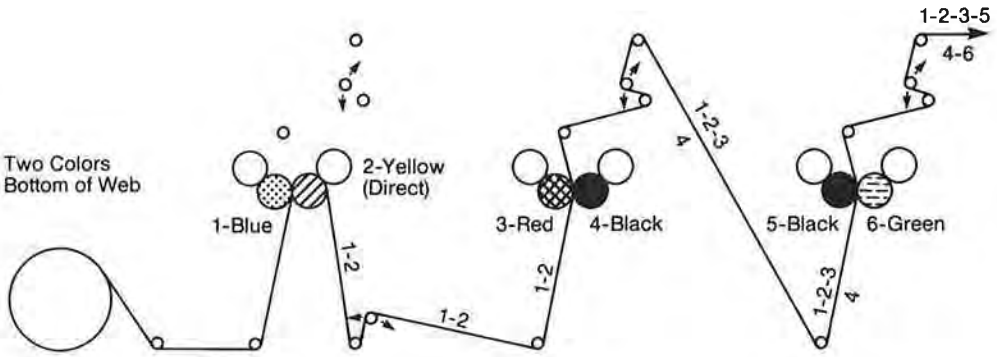


FIG. II—FOUR COLORS



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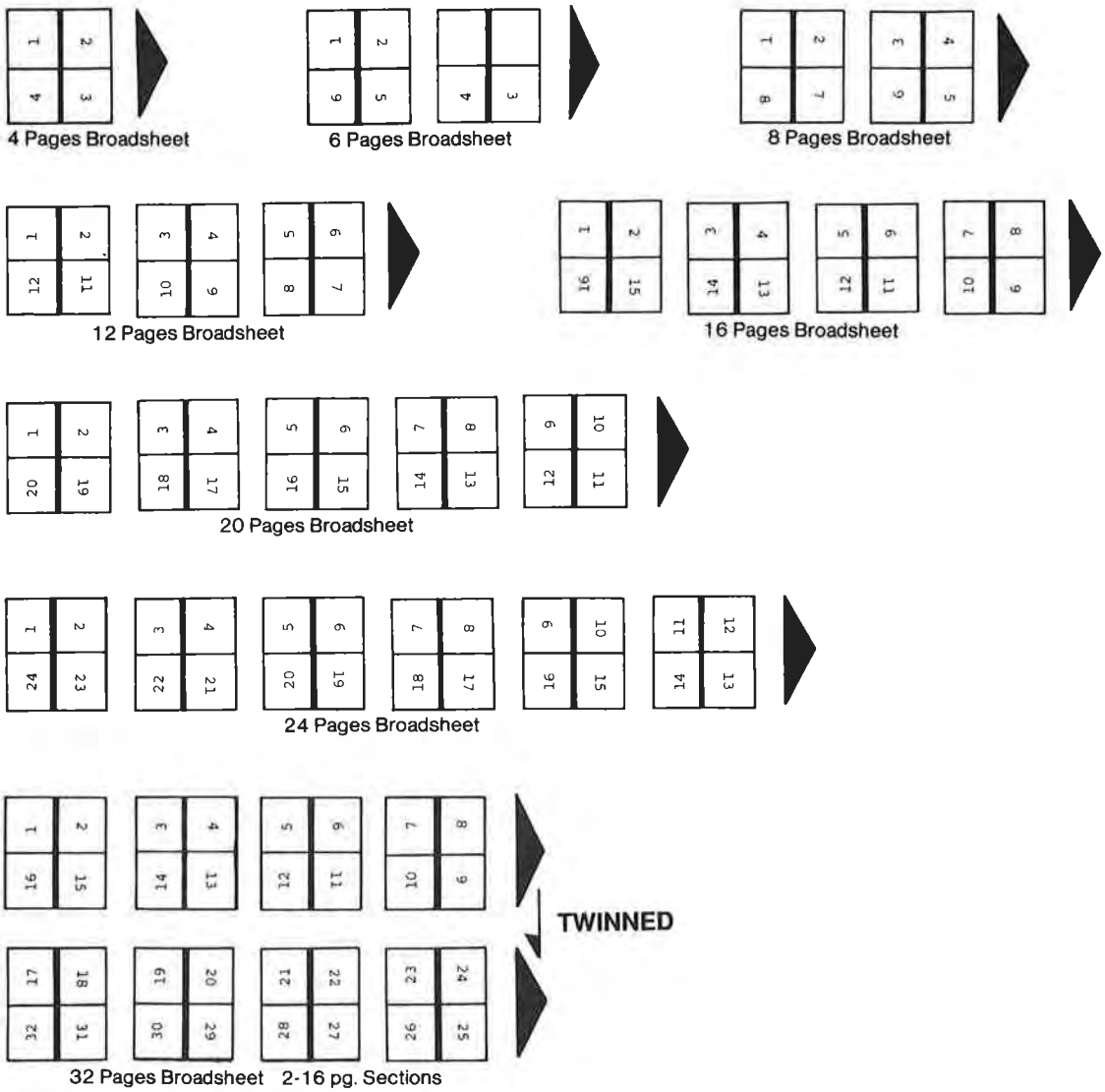
IMPOSITION

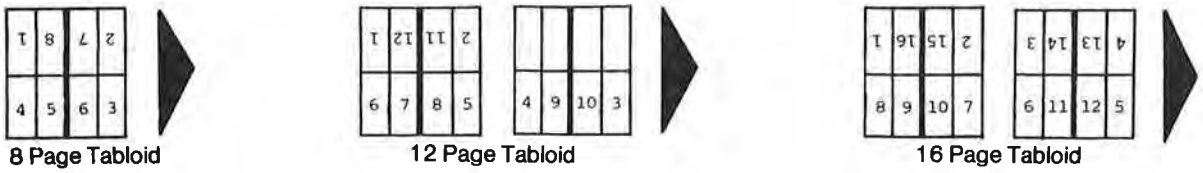
PAGE LOCATIONS

1. For a standard broadsheet run, two pages are placed on each plate. The heads of the pages are located at the trail edge of the plate.
2. For a tabloid run, four pages are placed on each plate. The head of each tabloid page is located at the center of the plate.
3. For a quarter-fold magazine-size product, pages are located on the plate so that all heads face the center of the plate.

BROADSHEET PAGE LOCATIONS



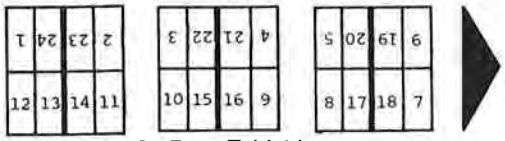
TABLOID PAGE LOCATIONS



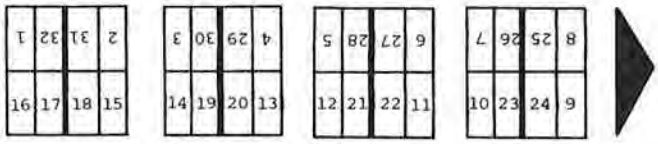
8 Page Tabloid

12 Page Tabloid

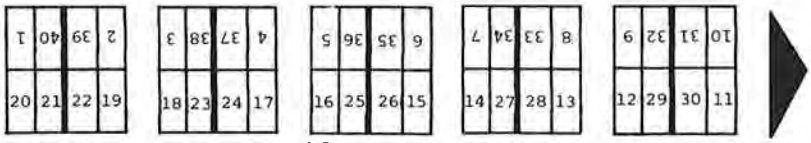
16 Page Tabloid



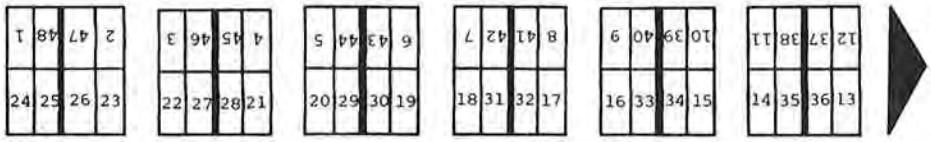
24 Page Tabloid



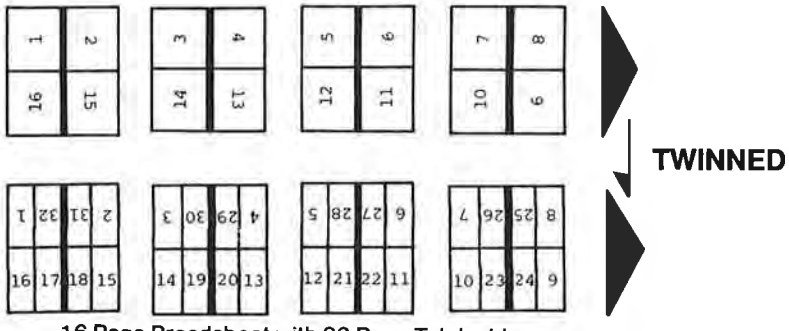
32 Page Tabloid



40 Page Tabloid



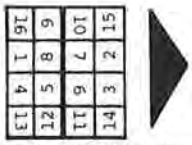
48 Page Tabloid



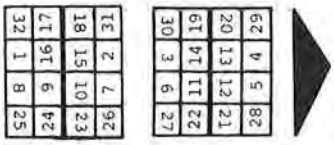
16 Page Broadsheet with 32 Page Tab Inside

MAKEREADY

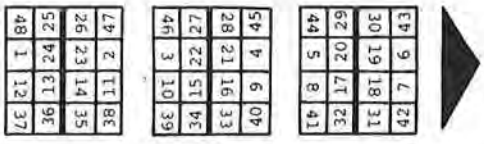
MAGAZINE (8½ X 11) PAGE LOCATIONS



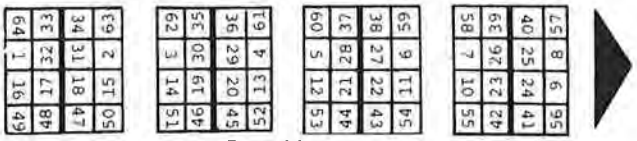
16 Page Magazine



32 Page Magazine

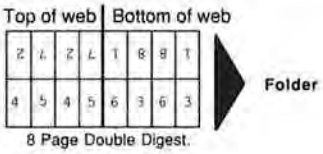


48 Page Magazine

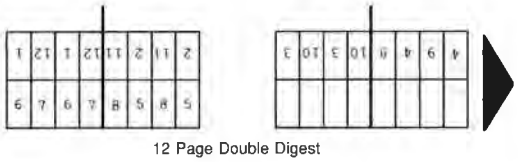


64 Page Magazine

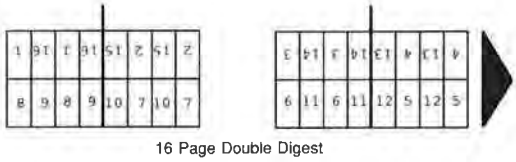
DOUBLE DIGEST PAGE LOCATIONS



8 Page Double Digest.



12 Page Double Digest



16 Page Double Digest

SECTION 5 RUNNING

RUNNING THE PRESS

SETUP

1. Engage the units required for the run; disengage those not required.
2. Fill the ink and dampener fountains at units in use.
3. Install dampener stops if and where necessary.
4. Web the press.
5. Adjust the folder for product width.
6. Center cylinder side register; plate the press.

INK FEED

1. Before starting a run, fill all ink fountains to be used. Agitate any old ink remaining.
2. Install fountain dividers as appropriate for narrow or half webs.
3. When running half-width rolls, shut off ink flow on the unused portion of the unit by turning in the fountain screws until the ink flow is at a minimum **without scraping the blade on the roller**. Absence of pickup roller pattern on the fountain roller ink film indicates a shut-off condition.
4. Apply roller compound or other suitable lubricant to prevent swelling and premature wear of any inking roller that will not be fed ink.

INITIAL START-UP

1. Throw **OFF** water and ink form rollers.
2. Disengage dampener feed.
3. Wipe the plates with a damp sponge to remove gum.
4. Start the press; run at 2,000 i.p.h.
5. Engage the water and ink feeds—with maximum water feed.
6. Throw **ON** the water form rollers to moisten plate; then throw **ON** the ink form rollers. Adjust water solution valve for even flow.
7. Examine the running webs and make preliminary adjustment to ink, dampener, register and tensions.
8. Check the product for page positions and cutoff, correcting as necessary.
9. Run the press up to speed and make fine adjustments as required.

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DURING THE RUN

1. Make constant checks of the product.
2. Make adjustments to ink and dampener feed as required.
3. Keep ink and dampener fountains full.
4. Keep the ink worked at all times.
5. Do not allow contaminants to enter fountain solution.

TO STOP

1. Shut off dampener brush motors (if so equipped); shut off dampener fountain motors.
2. On each unit, throw **OFF** the ink and dampener form rollers—in that order.
3. Slow down and **STOP THE PRESS** on the mark; put on **SAFE**.
4. Throw **OFF** impression.

CAUTION:

Disengage any units to be worked on.

TO START

1. Throw **ON** impression.
2. Throw **ON** the dampener form rollers.
3. Start the press and run it up to speed.
4. Start the dampener brush motors (if so equipped); start the dampener fountain roller motors.
5. Throw **ON** the ink form rollers.

AT THE END OF EACH DAY

1. Slow down the press.
2. Shut off dampener brush motors (if so equipped); shut off dampener fountain motors.
3. On each unit throw **OFF** the ink and dampener form rollers—in that order.
4. Disengage ink feed.
5. Let the press run for a few impressions to clear any surplus ink off the blankets.
6. **STOP THE PRESS** on the mark; put on **SAFE**.
7. Throw the units **OFF** impression.
8. Turn **OFF** dampener pump.
9. Wash and gum the plates that are to be reused.

CLEANUP

NOTE:
If the plates are left on the cylinder for more than two days, solution accumulated beneath the plate may damage the cylinder surface.

1. Attach the wash-up device to the dead shaft of the rubber ink transfer rollers, above the copper vibrator drum.
2. Start the press at slow speed and apply solvent to the vibrator drum.
3. When the rollers are dry, **STOP THE PRESS** and remove the wash-up device.
4. Wash all blankets used for the run.
5. Remove the plates from the press and wipe the cylinders with lightly oiled cloth.
6. Wipe drive side plate cylinder journals clean.
7. Wipe down the entire press.
8. Wipe out fountain trays.
9. Remove all objects and tools and put them in their proper place.

CAUTION:

Do not leave tools, wash-up devices, or cleaning materials on the press.

REMOVING A PLATE

1. Put press on **SAFE**; declutch unit.
2. Install handwheel.
3. Rotate handwheel **counterclockwise** to obtain access to plate cylinder slot.
4. Using plate remover provided, remove trailing edge and lift out of slot. After long periods, gum may clog slot and prevent easy removal; clear slot with a metal shim or similar tool.
5. Turn **clockwise** to remove plate.

CAUTION:

Remove handwheel immediately after use.

SECTION 6

PERFECTING UNIT MAINTENANCE

MAINTENANCE INTERVAL GUIDE

SERVICE AT:

50,000 copies

1. Wash blankets
2. Wash web guide rollers

200,000 copies

1. Grease unit and folder gears
2. Grease roll shaft gears

300,000 copies

1. Grease all equipment
2. Clean former

WEEKLY

1. Drain and clean water system
2. Wash up ink train
3. Grease drive lines
4. Check dampener covers and replace as necessary
5. Wipe press clean

MONTHLY

1. Clean Velcro®-covered rolls
2. Check oil level in all gear boxes
3. Clean out ink fountains
4. Check brake pads, reset as required

Set up weekly schedule to thoroughly check roller settings, pressure settings, blanket heights, blanket tightness, bolts and screws, lubrication, etc. Set this schedule to cover all equipment each month. A typical schedule follows:

WEEKLY SCHEDULE—FOUR UNITS, FOLDER AND ROLLSTAND

WEEK 1, 3, 5, ETC.—FOUR UNITS

UNITS—CHECK:

1. Blanket height with gauge
2. Pressure settings
3. Roller settings
4. Blanket tightness and condition
5. Grease fittings
6. Loose bolts and setscrews
7. Clutch handle assembly
8. Drive belt tightness and condition
9. Clean pipe rollers
10. Clean blankets

WEEK 2, 4, 6, ETC.—FOLDER AND ROLLSTANDS

FOLDER—CHECK:

1. Belts for tightness and condition
2. Clean tapes
3. Clean R. T. F. rolls
4. Clean pipe rollers
5. Clutch assembly
6. Gear boxes
7. Bolts and setscrews
8. Clean cylinders and drums
9. Trolley wheels
10. Slitter

ROLLSTANDS—CHECK:

1. Bolts and setscrews
2. Set brakes if needed
3. Clean pipe rollers
4. Oil level in hoist

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SPECIFICATIONS

WEB LEADER II PRESSES

Many runs that are not possible on competitive presses are commonplace on Web Leader installations. One of the major features that makes these unique runs possible is that the size of the plate and blanket cylinders, as well as their center to center distances, can be easily changed by the slight amounts necessary to balance web tensions on complicated web leads. The Web Leader cylinder sizes and impression settings are adjustable, not locked-in by bearers or other design limitations. The following table will be filled by Web's installer after he tests and balances out the most complicated web leads your production requirements and press configuration anticipate. Subsequent changes, if any, should be noted in the table for easy reference.

A SPECIAL WORD OF CAUTION—any operating adjustment inherently involves the possibility of incorrect adjustment and consequent poor performance. Experience has shown that the most usual cause of web tension problems is the failure of pressmen to understand **IT IS ESSENTIAL THESE SETTINGS BE CHECKED AND MAINTAINED.** If you experience any web tension problems, check these settings first. Metal-to-metal settings (clearances between cylinders) are made without plates or blankets installed. Note and follow the specific instructions elsewhere in the manual.

PERFECTING UNITS

Metal-to-Metal Settings:

Plate cylinder to blanket cylinder	.075″, +.001″, −.000″
Blanket cylinder to blanket cylinder	.135″, +.002″, −.000″
Blanket Height on Cylinder	.072″, +.001″, −.001″

QUADRA-COLOR UNITS

Metal-to-Metal Settings:

Plate cylinder to blanket cylinder	.075″, +.001″, −.000″
Blanket cylinder to drum	.069″, +.001″, −.000″
Blanket Height on Cylinder	.073″, +.001″, −.001″

NOTE:
Blanket height is measured with a reliable blanket height gauge after installation and short run-in of blanket. Combined thickness of blanket (usually .065″), and packing (usually .008″ for perfecting units, .010″ for Quadra-Color units) will be about .002″ more than height gauged after run-in due to the normal pull-down of compressible blankets.

Unit No. ____ P/B ____ B/B ____ Hgt ____	Unit No. ____ P/B ____ B/B ____ Hgt ____	Unit No. ____ P/B ____ B/B ____ Hgt ____	Unit No. ____ P/B ____ B/B ____ Hgt ____	Unit No. ____ P/B ____ B/B ____ Hgt ____	Unit No. ____ P/B ____ B/B ____ Hgt ____
Unit No. ____ P/B ____ B/B ____ Hgt ____	Unit No. ____ P/B ____ B/B ____ Hgt ____	Unit No. ____ P/B ____ B/B ____ Hgt ____	Unit No. ____ P/B ____ B/B ____ Hgt ____	Unit No. ____ P/B ____ B/B ____ Hgt ____	Unit No. ____ P/B ____ B/B ____ Hgt ____

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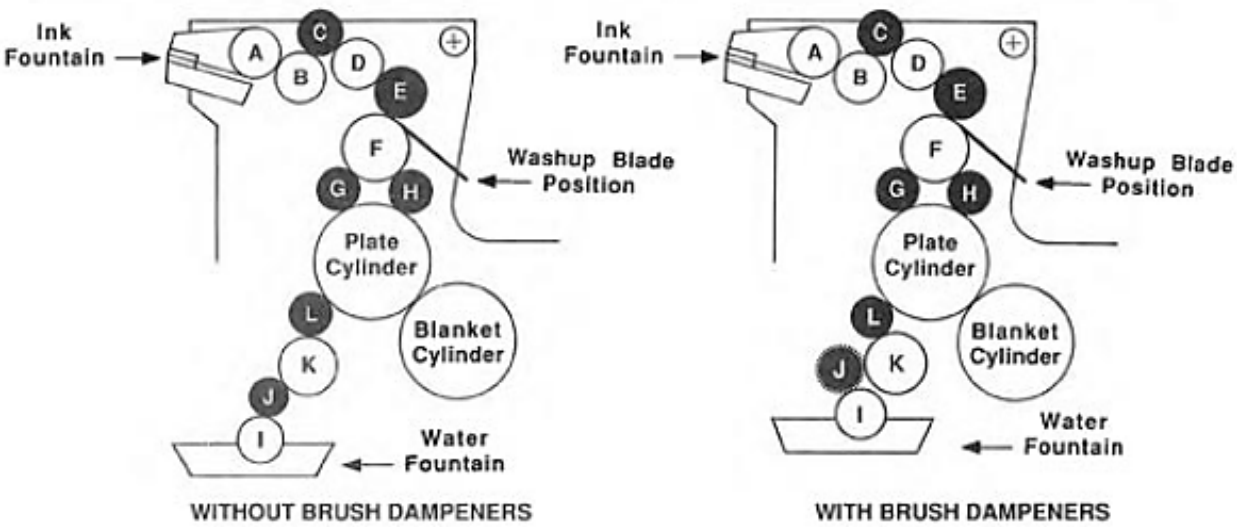
ROLLER SPECIFICATIONS [redacted]

Roller	Type	Part #	Diameter	Surface Material *durometer	Set To	Correct Setting and Method
A	Ink Fountain	514120	3"	Steel	Blade	Snug steady pull with .002" feeler gauge
B	Ink Feed pick-up	514250	3"	Steel	Roller A	Snug steady pull with .003" feeler gauge (unlock, lightly clamp blocks and tap pivot arms for desired setting)
C	Ink Transfer	514310	2 -3/4"	Rubber *30-35	Roller B & Osc D	3/16" flat - steady pull on slip sheets or ink stripe observation
D	Ink Oscillator	514710	3"	Copper / Rilsan		No adjustment required
E	Ink Transfer	514370	3"	Rubber *30-35	Osc. D & Osc. F	3/16" flat - steady pull on slip sheets or ink stripe observation
F	Ink Oscillator	514661	4 -3/8"	Copper / Rilsan		No adjustment required
G	Ink Form	514310	2 -3/4"	Rubber *30-35	Osc. F & Plate Cylinder	1/4" flat - ink stripe observation 3/16" flat - ink stripe observation
H	Ink Form	514640	2 -7/8"	Rubber *30-35	Osc. F & Plate Cylinder	1/4" flat - ink stripe observation 3/16" flat - ink stripe observation
I	Dampener Fountain	822040	3"	Stainless Steel		No adjustment required
J	Dampener Feed	514310 & 090001	2 -3/4"	Sock *30-35	Roller I	Snug, steady pull on slip sheets Repeat setting after 2,000 impressions
J	Dampener Feed	822200	2 -3/4"	Brush	Roller I	Light uniform contact
K	Dampener Oscillator	515331	4 -3/8"	Polished Aluminum		No adjustment required
L	Dampener Form	515280	2- 7/8"	Rubber *20-25	Osc K & Plate Cylinder	1/4" flat - snug, steady pull on slip sheets 3/16" flat - snug, steady pull on slip sheets



LUBRICATION

NOTE:
Frequent addition of small quantities of lubricant is best; over-lubricating at long intervals will severely shorten the life of the affected parts.

1. Before applying grease, all fittings should be wiped clean to prevent dirt from entering the bearings.
2. Web Press Corporation relies upon reputable lubricant manufacturers to suggest proper and tested products which will suit the requirements of your press. Except where abnormal conditions are encountered, the lubricants listed (or their equivalents) should be used.
3. Lubrication intervals are based on a single shift, daily operation or 50,000 impressions per day. If your press is equipped with an operating hour meter, consider daily as 6 hours, weekly as 30 hours, monthly as 120 hours, and 4 times per year as 350 hours of operation.

INTERVAL	PART DESCRIPTION	GREASE FITTINGS	LUBRICANT	METHOD
Daily	Brake Gear & Roll Shaft Gear		Gear Shield*	Apply to gear teeth **Caution: Keep grease off disc pads**
Daily	Roll Shafts & Cam Followers		**Lubriplate L0152**	Apply to surfaces
Weekly	Plate & Blanket Cylinder Gears		**Lubriplate L0152**	Apply to gear teeth
Weekly	Plate Cylinder Gear Hubs	2	Mobil EP2	Grease Gun
Weekly	Blanket Cylinder Sleeves	8	Mobil EP2	Grease Gun
Weekly	Plate Cylinder Bearings	4	Mobil EP2	Grease Gun
Weekly	Water Fountain Shafts	4	Mobil EP2	Grease Gun
Weekly	Water Ductor Pivot Shaft	2	Mobil EP2	Grease Gun
Weekly	Water Vibrfator Gear		**Lubriplate L0152**	Apply to gear teeth
Weekly	Water Vibrator Bearings	4	Mobil EP2	Grease Gun
Weekly	Main Drive Gear		**Lubriplate L0152**	Apply to gear teeth
Weekly	Oscillator Drive Shaft & Gear (Between Frames on Drive Side)	2	Mobil EP2	Grease Gun
Weekly	Water Fountain Drive Clutch	2	Mobil EP2	Grease Gun
Weekly	Ink Vibrator Gears		**Lubriplate L0152**	Apply to gear teeth
Weekly	Upper Ink Osc. Bearings	4	Mobil EP2	Grease Gun
Weekly	Lower Ink Osc. Bearings	4	Mobil EP2	Grease Gun
Weekly	Ink Fountain Drive Clutch	2	Mobil EP2	Grease Gun
Weekly	Main Drive Clutch	1	Mobil EP2	Grease Gun
Weekly	Brake Disc Bushing	1	Mobil EP2	Grease Gun
Monthly	Water Vibrator Drive Key		Mobil EP2	Apply to surfaces
Monthly	Ink Vibrator Drive Keys		Mobil EP2	Apply to surfaces
Monthly	Drive Shaft Bearings	3	Mobil EP2	Grease Gun
4-Times Per Year	Plate Cylinder Sidelay Arm		Mobil EP2	Apply to surfaces and hub
4-Times Per Year	Water Form Throw-Off Cam		**Lubriplate L0152**	Apply to surfaces
4-Times Per Year	Roll Stand Side Lay Screw			Apply to threads
4-Times Per Year	Water/Ink Feed Slides			Apply to surfaces
4-Times Per Year	Ink Form Throw-Off Cam		**Lubriplate L0152**	Apply to surfaces

*Lubriplate Gear Shield Extra Heavy #15035 or equivalent

NOTE: Auto-Lube Requires grease no heavier than NLGI-1; Lubriplate® 15006 or equivalent.

MAINTENANCE PROCEDURES

MAINTENANCE RECORDS

A log of all press maintenance should be kept. It should be used to record blanket packings, roller settings, press lubrication, or any other area that may have required special attention. The log should include the specific settings used each time packing or metal-to-metal settings are changed so that reference is available in case of problems.

CAUTION:

Never work on press unless it is on safe.

GENERAL

1. Clean around press.
2. Wipe side frames and clean platforms.
3. Place tools in their proper place.
4. **WEEKLY**: Check supplies used for the pressroom, such as sponges, rags, gum, and washes; obtain supplies before inventory is depleted.

PLATE CYLINDERS
(After each run)

1. Remove plates; wipe cylinders dry.
2. Coat cylinder surface with a light film of oil.
3. Once a week, thoroughly clean plate cylinder drive-side journals by moving the cylinders to the extremes with the sidelay control and removing any accumulation of ink or other foreign matter from the journal. Coat the journals with a light film of grease or oil. If dried ink is allowed to build up, register controls will become sluggish or bound.
4. While cleaning the journals, insure that a film of grease remains in the groove in the gear in which the register shoes ride. Premature or severe wear of the shoes can cause print and gear wear problems. When the bronze shoes are worn to the point of looseness in the gear groove, replace both front and back shoes.

BLANKET CYLINDERS
(After each run)

1. Wash blankets.
2. Check the blanket surface for smashes, nicks, and signs of excessive tackiness or wear.

   Replace blankets not producing a good quality print; note in maintenance log.
3. Clean the cylinder before installing a new blanket or changing packing thickness.
4. Check the packing for creep. Replace packing when creep occurs; note in log.
5. **WEEKLY**: Check blanket tightness and tighten when necessary.
6. **WEEKLY**: Wash blankets with a glaze-remover solution.

ROLLERS

1. Check condition of cloth coverings on dampener rollers. Replace when necessary; note in log.
2. **WEEKLY**: Check roller settings, reset when necessary; note in log.
3. Clean rollers with a wash recommended by the roller manufacturer.

4. **MONTHLY**: Check condition of bearings and sockets.
5. Check for out-of-round, pitted, hard, or cracked rollers; replace when necessary.
6. When a roller is glazed but not cracked and feels lively, recondition the roller per the manufacturer's instructions.
7. If the roller is not deeply pockmarked, regrinding may restore the roller. Rubber covered rollers may be reground 1/8" below the original diameter.

DAMPENER FOUNTAIN

1. **BEFORE EACH RUN**: Remove any debris.
2. **WEEKLY**: Drain and clean by loosening pivot shaft screws and swinging down as far as it will go, wiping thoroughly with a clean wiper.

WATER CIRCULATOR

1. **WEEKLY**: Remove the pump and screen filter. Clean thoroughly, washing out the tank and fittings with hot water and the cleaning materials recommended by the supplier of your fountain chemicals. It is important to remove all accumulated ink, algae, lint, and other contaminants.
2. **MONTHLY**: Drain and clean plumbing on the press, flushing with hot water and appropriate chemical cleaners as above. Cleaning of a long line may be made easier by using threaded caps at the ends of the horizontal runs, allowing connection of a hose for pressure flushing.

WASH-UP DEVICE

1. Clean after each use.
2. **MONTHLY**: Check condition of blade; replace when badly worn.

PAPER LEAD ROLLERS AND FORMER

1. **BEFORE EACH RUN**: Clean dirty lead rollers and former.
2. **MONTHLY**: To clean any rollers covered with special tape or material: brush lightly with stiff nylon brush to remove dried ink, lint, or other matter which may mark the web or, if built up sufficiently, interfere with proper web travel.

ROLLER FLAT MEASUREMENT

Observation and measurement of roller flats is the most reliable method of checking roller settings and roller surface condition. The width of flat and end-to-end uniformity are accurately reflected by the ink stripe on the plate or oscillator drum. It is important to avoid setting flats lighter than specified. Set forms and transfers to stripe widths given in specifications section; note in log.

To make a visible stripe to indicate form roller-to-plate flats using a plate which will not be reused:

1. Put press on **SAFE**; disengage clutch.
2. Rotate unit with handwheel to uniformly ink up the rollers.
3. Throw the ink form rollers **ON** and **OFF** the plate.
4. Rotate the unit until the stripes on the plate are visible. They should be 1/4" wide and uniform end-to-end.

NOTE:
Be sure to observe the ink stripe for only the roller being set.

If the plate mounted is to be reused, thoroughly gum the plate and protect the surface by using the proof sheet procedure as follows:

1. Throw ink forms **OFF** and ink up the press.
2. Insert a proof sheet between the form roller being set and the plate on the cylinder.

NOTE:
Be sure form roller does not fall into plate gutter when setting flats.

3. Move the form roller throw-off **ON** impression, then **OFF** again.
4. Remove the proof sheet and check the width of the stripes.

A quick check of the settings between rollers and oscillators can be made by placing a 3/4" wide strip of scrap film at each end of the nip between transfer or form rollers and the adjacent oscillator drum, rotating the unit with the handwheel to pull the strips into the nip approximately 1". Check for uniform, snug and steady drag against these strips when they are withdrawn from the nip. Care must be taken to pull tangentially to avoid a false reading which can arise if the strip is allowed to wrap around one of the rolls.

Alternatively, the slip sheet procedure outlined below can be used to eliminate variations in drag caused by differences in ink film thickness or tack.

1. Make 2 slip sheets out of paper about 16" long x 3" wide, folded in half to make 8" x 3" V's. Cut another 2 pieces about 9" long x 2" wide.
2. Insert the narrow pieces into the folded V's and roll the package into the nip of the rollers to be set. Adjust the rollers until the snug, steady, continuous pull on the inside narrow slip sheet is the same at both roller ends.

To make a visible stripe for accurate indication of form and transfer roller-to-oscillator flats:

1. Put press on **SAFE**; disengage clutch.
2. With form rollers thrown **OFF**, rotate unit with handwheel to uniformly ink up the rollers.
3. Stop rotation for a few seconds, then quickly rotate to bring stripe into view. It should be 1/4" wide and uniform end-to-end.

FLAT ADJUSTMENTS

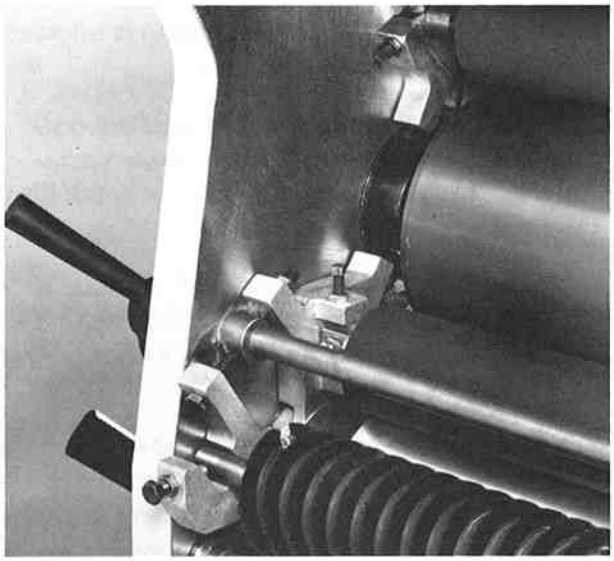
1. FORM TO OSCILLATOR (FIRST)

a) Check the width of the ink stripe on roller.

b) Loosen the roller locking screw.

c) Turn the roller adjusting screw **in to increase** the flat and **out to decrease** it.

d) Tighten the roller locking screw and check the setting for the correct stripe width.



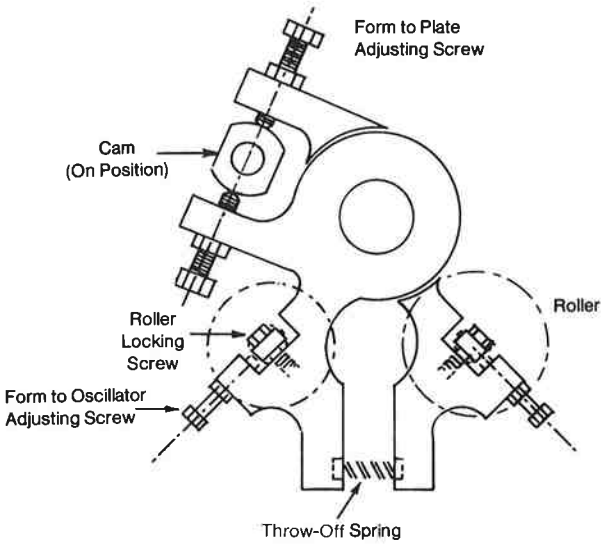
2. FORM TO PLATE (SECOND)

a) Check width of the ink stripe on the roller.

b) Loosen the locknut on the socket adjusting screw.

c) Turn the socket adjusting screw **in to increase** the flat and **out to decrease** it.

d) Tighten the locknut and check the setting for the correct stripe width of ¼ ″ .



3. TRANSFER TO OSCILLATORS

a) Check width of ink stripe on the oscillator.

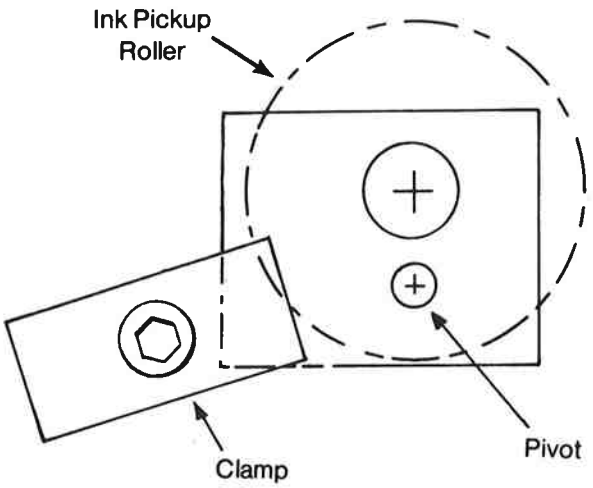
b) Turn the roller lock adjusting screw **in to increase** flat and **out to decrease** flat on each roller as necessary.

c) Check the settings to the copper vibrator "D" for the correct stripe width of ¼ ″ . Stripe will be the same on the ink pick up roller "B" and lower vibrator "F".

INK PICK-UP ROLLER

The knurled and ground ink feed pick-up roller is mounted in pivotol arms which are held in position by clamp blocks.

If misalignment to the fountain is evidenced by: (a) uneven inking across the web; (b) tendency for ink fountain roller to be driven by pick-up roller; or (c) excessive opening of fountain keys, reset as follows:



1. Put press on **SAFE**; disengage clutch.
2. Loosen the clamp block screws, then lightly clamp to steady pivot arms.
3. Insert .003″ feeler gauges about 2″ from each end of the pick-up/fountain roller nip and tap the arms until a loose fit to the gauge is obtained across the entire face of the rollers.
4. Retighten the clamp block screws.
5. Recheck the gap setting across the entire roller length.

INK FEED SLIDE

The bronze stop lever pivots on an eccentric pin through the slide housing. If the stop is too tight (jamming) or loose (slide works full out), it can be adjusted by loosening the socket head locking screw in the side of the housing and rotating the pin with a screwdriver inserted in its slotted end (top of housing on left halves, bottom on right halves).

SETTING OSCILLATORS

1. Put the press on **SAFE**; disengage clutch.
2. Remove drive-side housing covers.
3. Install handwheel and rotate the unit until main oscillator shaft is in the extreme outward throw position for both the lower ink and water oscillators (at this point the oscillator shaft arms are in the extreme outward stroke).
4. Check operating-side frame to make sure oscillator shafts are flush with outside surface of frame.

   If not, loosen oscillator arm by loosening clamping cap screw and move arm until shaft is flush with the operating-side frame. Tighten arm cap screw.
5. Check bearing clearance of drive side of oscillator to inside of drive-side frame.

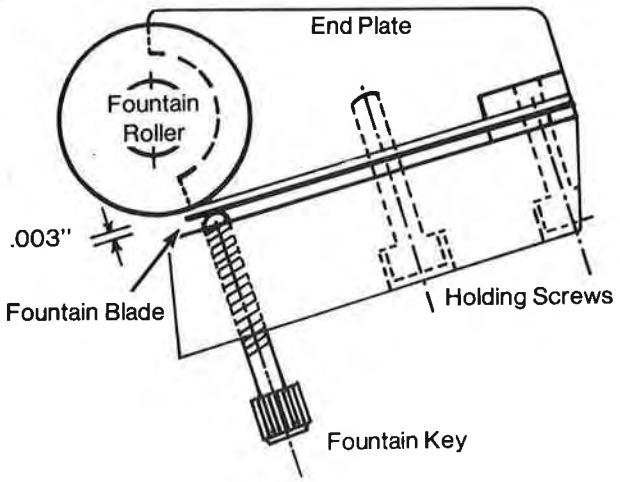
   Clearance between water oscillator bearing and oscillator gear bushing is 3/8″; clearance between ink oscillator bearing and oscillator gear bushing is 1/8″.
6. Rotate handwheel and set upper ink oscillator in extreme outward position.
7. Check operating-side frame to make sure oscillator shaft is flush with frame.
8. Correct position of upper ink oscillator should be 3¾″ from drive-side inside frame to face of copper roller.
9. Repeat for each printing couple.
10. Install drive-side housing covers.
11. Remove handwheel.

NOTE:
Periodically check oscillator drive key bearing strips for signs of wear. If worn to 2/3 or less of original thickness, replace by removing oscillator shaft and drum, inserting new bearing strips, re-lubricating, and reassembling. Detailed instructions will accompany the replacement strips when shipped.

CLEANING THE INK FOUNTAIN

Periodically, the ink fountain should be disassembled and cleaned.

1. Put the press on **SAFE**, disengage unit, and remove ink from fountain.
2. Loosen the first three keys at each end of the fountain to facilitate removal of fountain blade.
3. Loosen the 3 cap screws holding the fountain blade to the cross brace, and remove the blade.
4. Remove the end seals.
5. Removing and replacing the fountain blade is easier if the two end-holding screws are re-threaded into the top of the blade holder and used as handles.
6. Clean all parts thoroughly, including the cross brace and fountain roller.



7. Apply a thin film of grease to the ends of the fountain blades to ease installation of the fountain blade.
8. Install end plate seals.
9. Insert fountain blade into slots in end seals and slide into place, bringing blade retaining cap screws finger-tight.
10. Check that the rear face of the fountain blade is flush with the rear face of the cross brace before tightening the 3 cap screws.
11. Adjust the ink keys until a gap can just be seen between blade and roller. Alternately, insert .003″ feeler gauge between fountain roller and blade and adjust keys until snug, steady pull can be obtained. Repeat for each key across the roller surface working from the center outward to each end.

ROLLER CARE

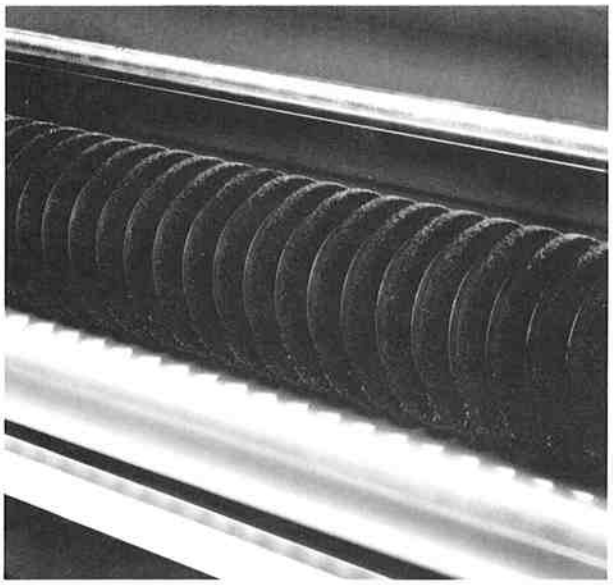
Life of a roller is dependent on the care it is given. The better care a roller receives, the longer it will last.

1. Wash up the ink train weekly or as required.
2. Mount the wash-up device so that the blade scrapes the ink from the vibrator drum.
3. Use the amount and type of wash-up solution recommended by your roller supplier and/or your ink supplier.

   NOTE:
   Some types of blanket washes contain detergents to help clean gum and lint off the blankets. These washes, if used as general roller washes, can penetrate the rollers and cause emulsification problems. Unless enough roller wash is used, a mixture of wash and ink will remain on the rollers and dry, causing pick-out of the rollers.
4. Clean the roller ends thoroughly a) at least once a day, and b) whenever you wash the rollers. The ends of rollers are often neglected; they need particular care because ink build-up occurs in this area and causes swelling, splitting, and premature failure. Bits of dried ink from the ends can also be a cause of hickies in the print.
5. If ink is accidentally left on the rollers and allowed to dry, remove the rollers and apply generous amounts of roller wash to all affected surfaces, allowing to soak for a short time. After soaking, rub the ink off the rollers with a soft wool rag. Repeat if necessary until the roller is clean. If rollers are glazed, use a recommended restoring compound.

BRUSH DAMPENER WATER FOUNTAIN

The water fountain rollers are motor driven. Their speed is controlled by a potentiometer located at the folder, and by a speed control at each unit. The rollers can be shut off at each unit when that unit is not in use.



BRUSH ROLLER

The brush rollers are driven at a fixed speed and are turned on and off by a master switch at the folder and by switches at each unit. They should be off when a unit is not in use.

When the brush roller is properly set, the fountain roller will penetrate into the bristles just enough to "flick" solution from the fountain roller onto the oscillator roller. This setting may change due to eventual brush wear. Need for adjustment due to long-term wear of the bristles will be evidenced by uneven dampening or "dry spots".

Set the brush roller to the fountain roller by loosening jam nut and turning setscrew. Turn the setscrew **clockwise to move the brush to the fountain**. Set no tighter than necessary to insure uniform feed across the width of the fountain roller.

MOTORIZED DAMPENER

The motorized dampener incorporates individual variable speed motors for each water fountain roll in the printing unit. The amount of fountain solution transferred from the fountain roll to the plate (via sock roller and water oscillator) is controlled by the potentiometers located on the overhead compensator of each unit. These potentiometers regulate the speed of the fountain rolls. If specified, there is a master speed control at the folder together with a master **ON / OFF** switch.

PICKUP ROLLER

To adjust pressure setting of sock roller:

1. Install covered sock roller; tighten nuts sufficiently to bring shaft into contact with springs.
2. Compress spring in adjustable set collar retainer by tapping upward and applying adequate torque on bolt to prevent slipping while compressing spring. Desired distance between set collar retainer and ductor block is 3/8".
3. Insert pull strips between sock roller and water fountain and apply torque to adjusting nuts securing sock roller so that a light, even pull is obtained.

NOTE:
Sock roller may require further adjustment to distribute water evenly to plate due to sock wear or shrinkage.

MECHANICAL DUCTOR DAMPENER PRESSURE SETTING

1. To the water fountain roller: unlock ductor arm cam locking screw to obtain a slight drag on the shaft. Tap arms lightly to obtain a snug, steady pull with slip sheets inserted near each end of the nip between ductor and fountain rollers. Lock screws.

2. To the vibrator: adjust compression of the ductor cam lever spring until obtaining a snug, steady pull with slip sheets inserted near each end of the nip between ductor and vibrator rollers. Be sure the ductor arm follower is clear of its cams.

   CAUTION:

   Cam lever should be flush with bearing inner race to avoid contact with cap screw head on water drive link.

SOCK INSTALLATION ON DAMPENER ROLLER

1. Remove the roller from unit and the old sock from the roller. Clean roller thoroughly.

   NOTE:
   Neither ductors nor pick-up rolls are interchangeable.

2. Select a manila tube that will fit over the roller and slide the sock onto the tube leaving about 2½ ″ of the sock off the end of the tube.

3. Push excess sock into the tube, stand roller on end and place the tube (sock end) over the roller.

4. Push tube over the roller feeding and stretching the sock evenly along the length of the roller.

   CAUTION:

   Do not twist sock on roller. The ridges of the weave must run the length of the roller.

5. Secure the ends of the sock to the roller by placing rubber bands around them in the grooves provided.

REMOVING DUCTOR ROLL – REPLACING HYTON: MECHANICAL DUCTORS ONLY!

NOTE:
Ductors must be replaced in the same location from which they are removed. To eliminate unnecessary adjustments on the ductor roll, follow the procedure outlined below.

1. Remove the ductor roll from unit and remove Hyton® covering from the roll.

2. Cover the roll-keeping surface smooth across the roll.

3. Depending on the model, fasten the ends using rubber bands, or by sewing, and replace ductor roll in the unit.

4. Snug Nylock nuts and loosen ⅛ turn. Using handwheel, rotate the unit forward until ductor stops turning; rotate two more forward revolutions so that ductor roll is resting firmly on the water fountain roll. Tighten Nylock nuts with equal torque.

BLANKET CARE

Your blanket supplier can give complete details on blanket care and cleaning solutions to use.

CAUTION:

Do not wash blanket until the unit is disengaged.

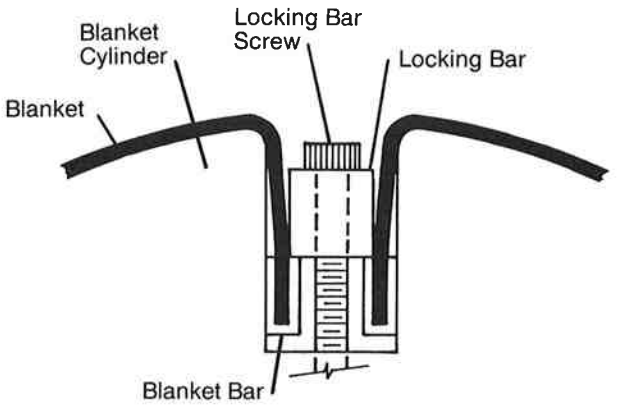
1. A new blanket should be scrubbed with blanket wash before it is used.
2. Wash the blankets whenever the press is to be left standing for any length of time.
3. Sponge the blanket with water to remove the gum and lint.
4. Wash the blanket with a sponge or clean rag, keeping the wash solution as much as possible away from the edges to prevent seepage under the blanket.

   NOTE:
   If packing becomes wet, blanket and packing should be removed and the cylinder wiped dry. Replace with new packing, applying grease to edges of blanket before replacing on press.
5. After the entire blanket has been washed clean, wipe dry with a clean rag. Do **NOT** let solution dry on the blanket.
6. Before each run, check all blanket surfaces after they have been washed clean for smashes, nicks, wear, and signs of excess tackiness.

   Replace the blanket if any of these problems are found.

BLANKET AND PACKING INSTALLATION—PERFECTING UNIT

1. In all cases, always measure the blanket and packing thickness with a blanket micrometer before installing. The correct thickness of the blanket plus packing is noted on the specifications page.



2. Use manila packing 35″ x 24″; plastic is not recommended.
3. Apply a thin strip of spray adhesive (approximately 1″ wide) to leading edge of the manila sheet to provide adhesion to cylinder until blanket is fitted.
4. Put press on **SAFE**; disengage unit.
5. Align manila packing 1/8″ back of leading-edge slot, feathering sheets 1/32″ each to make smooth ramp.
6. Rotate cylinder with handwheel one revolution.

   Make sure that packing is laid evenly without wrinkles or bubbles.

7. Trim trailing edge of packing 1/8" away from blanket slot.

8. Apply a strip of grease all around edges of the blanket to seal against fountain solution intrusion. Failure to seal edges can cause premature blanket failure and cylinder wear.

9. Insert leading-edge blanket bar in the cylinder slot and retain with one of the locking bar screws.

   CAUTION:

   Ensure bar screw is below cylinder surface.

10. Hand rotate the cylinder, ensuring that the blanket is centered and wrapped snugly and evenly around cylinder without disturbing the packing.

11. Apply a thin strip of grease to trailing edge of blanket cylinder slot, remove locking bar screw, and place both ends of blanket bars evenly in the cylinder slot.

12. Fit the locking bar in the slot and insert the screws.

13. Tighten the screws uniformly, first until the heads of all screws are below the surface of the cylinder, then until blanket is snug to the cylinder, and finally torque screws to 35 in. lb.

14. Confirm blanket and packing thickness on cylinder by measuring with a packing gauge such as a Colite gauge; note readings in log.

15. Pull up the blanket by retorquing the screws after about 3,000 impressions. Tighten them again after about 10,000 impressions. Check all screws weekly thereafter.

Revised April 2016

CYLINDER PRESSURES

PLATE-TO-BLANKET

NOTE:
The blanket cylinders are mounted in eccentric sleeves. The eccentrics, when rotated, move the cylinders toward or away from each other. Adjustable stops located in the ear of the eccentrics limit the rotational movement.

1. When making cylinder pressure settings, start first with the plate-to-blanket impressions.
2. Put press on **SAFE**; disengage clutch.
3. Remove plates and blankets from cylinders, and wipe cylinders clean.
4. Throw cylinders **ON** impression.
5. Loosen jam nuts and back off stop screws from frame stop pins adjacent to eccentric sleeves.
6. Locate the four impression links on the inside of both frames, connected via turnbuckles to sleeve, and link to impression shaft. Note and check that the impression link setscrews are tight. They are factory set and should normally never need adjustment.
7. Loosen jam nuts on turnbuckles.

   Correct feeler gauge thicknesses are noted on the specification sheet.
8. Insert correct feeler gauge between plate and blanket cylinder bodies—alternately on operator and drive sides—while adjusting turnbuckle to obtain a good firm pull on the feeler gauge.
9. Tighten the jam nuts on the turnbuckles.
10. Adjust eccentric sleeve stop screws to contact stop pins in frames (finger-tight).

    Tighten stop screws an additional 1/8 turn and lock jam nuts.
11. Check impression setting with proper feeler gauge size noted in specifications sheet.

    NOTE:
    Pull on gauge will be slightly lighter.

    Check setting with feeler gauge set .001″ larger. It should not fit between cylinder bodies.
12. Throw impression **OFF** and then **ON** again. The correct gauge should now have a light, snug feel between plate and blanket cylinders.

    NOTE:
    Throwing the impression ON or OFF should be achieved with medium pressure, when moving the handle down or up to over-center or off-center positions.

    If difficulty is experienced in the above procedure, repeat Steps 7 through 11 until satisfactory settings are achieved; note settings in log.
13. Repeat procedure for each printing couple.

BLANKET-TO-BLANKET

1. Remove 5½ ″ x 11 ″ cover plates from both operator- and drive-side frames.

   NOTE:
   Right and left are as viewed from operator's side.

2. Loosen upper unit inside tie plates on operator- and drive-side frames.

3. Loosen hold-down bolts on **LEFT** (side nearest rollstand) half of printing unit (both operator and drive sides). **NEVER** loosen right half.

4. Check to make sure the hold-down bolts and the jam nuts on the jackscrews of the right-hand side of the unit are tight on both the operator and drive sides.

5. Rotate unit to bring blanket cylinder gaps up at 1:30 and 10:30 positions.

6. Throw the impression **ON**.

7. Loosen and tighten jam nuts on the jackscrews in both operator- and drive-sides of the left half of the unit to obtain the correct metal-to-metal setting between blanket cylinders, using gauges at both ends of the cylinders, adjusting until the correct gauge thickness is a snug pull; note settings in log.

   NOTE:
   The correct feeler gauge thicknesses are found on the specifications page.

8. Tighten upper unit inside tie plates on operator- and drive-side frames.

9. Tighten hold-down bolts on operator- and drive-sides of the left half frames.

10. Recheck metal-to-metal settings. If settings are incorrect, repeat Steps 2 through 9 until satisfactory settings are achieved.

11. Recheck jackscrew jam nuts to make sure they are securely locked down. Replace 5½ ″ by 11 ″ cover plates on operator- and drive-side frames.

12. Recheck all unit hold-down bolts.

OTHER MAINTENANCE

BELT TENSION

1. Gear or timing belts should be installed with a snug fit, neither drum tight nor slack. The belt's positive grip eliminates the need for high initial tension. A properly installed belt will deliver long life, quiet operation, and minimum wear of either belt or associated parts.

   When torque is unusually high, a belt may "jump" a tooth on starting. In such a case, belt tension should be increased gradually until satisfactory operation is attained.

BELT HANDLING

1. On installation, the belt should never be forced or pried over the pulley flange. Reduction of center distance or idler tension usually permits the belt to slide onto the pulley easily, otherwise, one or both pulleys should be removed.

2. To assure smooth operation and prevent premature failure, belts in storage should be protected against sharp bending or creasing. They should not be subjected to extreme heat, low temperature or high humidity.

BELT TENSION– PERFECTING UNIT

The unit is driven by a belt between the main drive shaft and the unit pinion drive.

Belt tension is set by adjusting the pillow block bearings that mount the drive shaft. Correct tension is indicated by squeezing the two sections of the belt together at a point 12″ above the drive line. If this can be done with moderate effort, the tension is adequate. Special care must be taken to ensure the drive shaft remains level after adjusting.

Belt Size: 850 H 150

NOTE:
Driveline must be level. Use 6″ machinists level when adjusting belt tension.

BRUSH DAMPENER– PERFECTING UNIT

Brushes are motor driven with timing belts.

Belt tension is set by adjusting the motor mount bracket.

Belt Size: Brush 420 L 075

On some models, the water fountain rollers are motor driven by V-Belts.

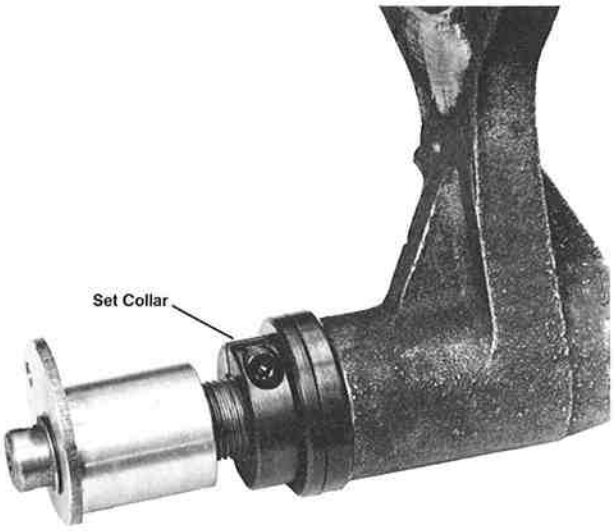
Tension is set by adjusting the motor mount bracket.

V-Belt Sizes, Fountain: 4 L 540
4 L 500

CIRCUMFERENTIAL FORK ADJUSTMENT

To prevent creeping of circumferential adjustment while the press is running, a slight drag must be set against the adjustment shaft. This preload should be set so that the shaft is snug but can be turned throughout its range without binding.

1. Put press on **SAFE**; disengage clutch on unit.
2. **INCREASING PRELOAD:**
   Loosen setscrew and **rotate set collar toward the circumferential fork to increase tension** and eliminate register changes during operation. Tighten setscrew and check adjustment. If too tight, repeat the above procedure until desired preload is achieved.
3. **DECREASING PRELOAD:**
   To relieve binding during adjustment, loosen setscrew and **rotate set collar away from the fork to decrease the tension**. Tighten setscrew and check adjustment. If too loose, repeat the above procedure until desired preload is achieved.



SETTING INK FOUNTAIN DRIVE

1. Put press on **SAFE**; disengage clutch.
2. Remove drive-side guard.

   CAUTION:

   Timing differential between printing couples is 180°. Using handwheel, rotate unit so that mechanical motion shaft (as viewed from the top) is turned counterclockwise as far as possible.
3. Loosen cap screw on pivot arm located on mechanical motion shaft.
4. Position pivot arm up against oscillator drive pivot arm.
5. Slide ink fountain push rod through rod end leaving 1/8″ clearance between the jam nut on rod end and cam follower on push rod.
6. Tighten cap screw on pivot arm.

   NOTE:
   Ink fountain pivot arm must be correctly aligned with push rod to avoid binding the spacer between them.
7. Install guards and remove handwheel after engaging unit.

SECTION 7

QUADRA-COLOR MAINTENANCE

NOTE:
Most of the maintenance information given for the perfecting unit is applicable to the Quadra-Color unit. Only those procedures which are unique to the Quadra-Color unit are covered below.

CYLINDER PRESSURE SETTINGS

1. Put press on **SAFE**; disengage clutch.
2. Remove plates and blankets from cylinders and wipe cylinders clean.
3. The blanket-to-common impression cylinder pressure is the first setting to be made.
4. Throw all four blanket cylinders **ON** impression.
5. Starting with the lower deck, throw **OFF** impression to obtain access to the turnbuckle and jam nuts through the opening in the frame.
6. Loosen jam nuts and back off stop screws from frame stop pins adjacent to eccentric sleeves.
7. Throw blanket cylinder **ON** impression.
8. Insert correct feeler gauge between blanket cylinder and impression cylinder bodies.

   NOTE:

   The correct thickness of feeler gauge is noted on the specifications page.

9. To **increase** pressure, **lengthen** turnbuckle until the feeler gauge cannot be withdrawn.
10. Lock jam nuts on turnbuckle.
11. Adjust eccentric sleeve stop screws to contact stop pins in frames (finger-tight).
12. Tighten stop screws sufficiently to release feeler gauge, then lock jam nuts. No more than one-quarter turn should be necessary to release feeler gauge to a good, snug pull.
13. Check setting with feeler set .001" larger. It should **not** fit between cylinder bodies.
14. Repeat Steps 6 through 13 on remaining printing couples until satisfactory settings are achieved; note settings in log.

    NOTE:
    Both lower decks must be set before moving to upper decks.

PLATE-TO-BLANKET IMPRESSION SETTING

After impression-to-blanket cylinder settings have been achieved, proceed to check and set plate-to-blanket pressures.

The plate-to-blanket cylinder settings are obtained by adjustment of the plate cylinder eccentrics.

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These eccentrics are located in position with "T"-shaped flat, slotted brackets on the inside of the frames.

The brackets are pivoted and held by socket head screws to the frame.

The slot in the bracket co-acts with a pin located in the face of the eccentric.

1. Release locking screw.
2. Insert proper feeler gauge between plate and blanket cylinder bodies.
3. Adjust "T" bracket **down to increase pressure**, until a light, snug pull is obtained on feeler gauge.
4. Tighten locking screw.
5. Check setting with feeler gauge set .001" larger. It should **not** fit between cylinder bodies.
6. Repeat procedure until all plate-to-blanket cylinder settings have been satisfactorily achieved; note settings in log.
7. Install properly packed blankets.

DRIVE BELT SPECIFICATIONS

The unit is driven by a belt between the main drive shaft and the Quadra-Color gearbox.

Belt tension is set by adjusting the pillow block bearings that mount the drive shaft. Special care must be taken to insure the drive shaft remains level after adjusting.

Belt Size: 700 H 200

NOTE:
Driveline must be level. Use 6" machinists level when adjusting belt tension.

BRUSH DAMPENER—QUADRA-COLOR

The brushes are motor driven with timing belts.

Tension is set by adjusting motor mount bracket.

Belt Size: Deck 1—270 L 075
Deck 2—210 L 075
Deck 3—210 L 075
Deck 4—270 L 075

On some models, the water fountain rollers are motor driven with V-Belts.

V-Belt Sizes: Deck 1—4 L 300
Deck 2—4 L 380
Deck 3—4 L 540
Deck 4—4 L 340

Timing Belt Size: 630 H 100

SLAVE OR HELPER DRIVE

The helper motor drives through a belt to the drive shaft, usually located at the Quadra-Color unit.

Belt tension is set by adjusting the motor mounting plate.

Belt Size: 630 XH 300

SECTION 8

FOLDER MAINTENANCE

FOLDER LUBRICATION

NOTE:
Frequent addition of small quantities of lubricant is best; over-lubricating at long intervals will severely shorten the life of the affected parts.

1. Before applying grease, all fittings should be wiped clean to prevent dirt from entering the bearings.
2. Web Press Corporation relies upon reputable lubricant manufacturers to suggest proper and tested products which will suit the requirements of your press. Except where abnormal conditions are encountered, the lubricants listed (or their equivalents) should be used.
3. Lubrication intervals are based on a single shift of daily operation. If your press is equipped with an operating hour meter, consider daily as 6 hours, weekly as 30 hours, monthly as 120 hours, and 4 times per year as 350 hours of operation.

INTERVAL	PART DESCRIPTION	FITTINGS	LUBRICANT	METHOD
Weekly	Folding Cylinder Bearings	2	Mobil EP2	Grease Gun
Weekly	Nipping Roller Bearings	4	Mobil EP2	Grease Gun
Weekly	Input Pinion Shaft Bearings	2	Mobil EP2	Grease Gun
Weekly	Jaw Cylinder Bearings	2	Mobil EP2	Grease Gun
Weekly	Jaw Cylinder Mechanism	2	Mobil EP2	Grease Gun
Weekly	1/4 Fold Fly Bearings	2	Mobil EP2	Grease Gun
Weekly	1/2 Fold Fly Bearings	2	Mobil EP2	Grease Gun
Weekly	Knife Bar Bearings	One	Mobil EP2	Grease Gun
Weekly	1/4 Fold Tension Pulley Bearings	2	Mobil EP2	Grease Gun
Weekly	1/4 Fold Support Shaft Bearings	2	Mobil EP2	Grease Gun
Weekly	Jaw Cylinder Idler Pulley Bag	2	Mobil EP2	Grease Gun
Weekly	Folder Drive Idler Pulley Bearings	One	Mobil EP2	Grease Gun
Weekly	R.T.F. Idler Pulley Bearings	One	Mobil EP2	Grease Gun
Weekly	Main Drive Gears		Gear Shield*	Apply to Gears
Monthly	Main Drive Shaft Bearings	2	Mobil EP2	Grease Gun
Monthly	1/4 Fold Timing Pulley Cam	One	Mobil EP2	Grease Gun
Monthly	Drive Clutch	One	Mobil EP2	Grease Gun
Monthly	Jaw Cam & Follower		Mobil EP2	Apply to Surfaces
4-Times Per Year	1/4 Fold Sidelay Screw		Mobil EP2	Apply to Threads
4-Times Per Year	Nip Roller 1/4 Fold Adj. Screws		Mobil EP2	Apply to Threads
When Necessary	R.T.F. Gear Boxes		Mobilube HD90 or Mobilgear 630	Fill Housing 6 oz.

*Lubriplate Gear Shield Extra Heavy #15035 or equivalent

NOTE: Auto-Lube Requires grease no heavier than NLGI-1; Lubriplate® 15006 or equivalent.

FOLDER OVERVIEW

The following descriptions are given for general guidance, intended to provide a starting point from which settings may be optimized for a particular range of paper types and products.

REPLACING A SLITTER KNIFE

CAUTION:

Slitter knife is sharp and can cause injury.

1. Replace the slitter knife when it becomes dull or chipped and will not slit properly.
2. Handle with care, the slitter knife is sharp!
3. Put press on **SAFE**; disengage folder clutch.
4. To remove the knife, disengage the slitter and unlock and remove the jam nuts holding the spindle and knife. Remove from slitter lever.
5. Replace with new slitter knife and bearing.
6. Reverse procedure to re-install knife.
7. Set the slitter knife to ride against the body of the anvil bearing—**not** in the groove.

REPLACING THE R. T. F. TROLLEY WHEELS

1. Replace the wheels when the surfaces become worn, chipped, tapered or cut.
2. Put press on **SAFE**; disengage folder clutch.
3. To remove the wheels, disengage the trolleys; loosen setscrews in the bearing. Remove bearing and replace.
4. Reverse procedure to re-install wheels.

FORMER SETTING

The former is set when the press is installed. It rarely, if ever, needs to be adjusted.

This setting is critical to web alignment and web control.

Do **NOT** attempt to reset the former unless it is absolutely necessary, and then only after calling Web Press service department.

PIN-FOLDING CYLINDER

The folding cylinder is twice the plate cylinder diameter and carries two pin and two tucker blade assemblies.

The pin assembly consists of a mounting bar, which is secured in the cylinder and holds the pins and the cutting rubber.

The tucker blade assembly consists of a mounting bar secured in the cylinder retaining a one-piece tucker blade by a clamp bar.

REPLACING PINS AND CUTTING RUBBERS

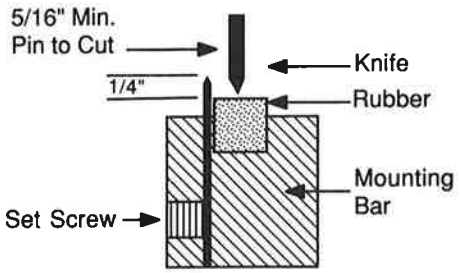
Check the cutting rubber and replace when it becomes worn. The expected life of the cutting rubber should be in the order of 1,000,000 cuts or 2,000,000 copies, although this figure could vary with different stocks and number of webs run.

In addition to failing to cut, some of the symptoms of a worn-out cutting rubber are badly worn corners of the slit created by the knife, excess build-up of paper dust within the slot, and dropped signatures due to imperfect cutting.

1. Put press on **SAFE**; disengage folder clutch.
2. Rotate folder with handwheel until pin/rubber bar is accessible.
3. Remove the pin bar assembly by loosening and removing the two securing screws at each end.

   CAUTION:

   Pins are sharp and can cause injury.
4. Using a screwdriver or similar tool, pry out the cutting rubber from the slot.



5. Unlock the setscrew securing the pin to the bar and remove the damaged pin.
6. Install the new pin and set to a ¼ ″ height above the cutting rubber. Check all pins to make sure that they protrude equally above the cutting rubber face.
7. Lock the setscrews after setting the height of the pin, and replace the mounting bar.

   NOTE:
   Check the pins daily, ALWAYS check their condition after a folder jam, and replace immediately when found to be broken or damaged.

REPLACING TUCKER BLADES

1. Put press on **SAFE**; disengage folder clutch.
2. Remove the tucker blade assembly by loosening and removing the two securing screws at each end.
3. To replace the blade, unlock the socket head setscrews holding the clamp bar to the blade. Slide out the blade.
4. When replacing with a new blade, make sure it seats against the two lower locating dowels.
5. Lock the socket head setscrews and replace the assembly back in the cylinder.

   Replace the tucker blades when they become worn, chipped or broken.

   NOTE:
   Always check the blades for straightness, nicks or burrs whenever the condition of the pins is in doubt.

JAW CYLINDER

The jaw cylinder is the same diameter as the plate cylinder and is equipped with a single cam-operated jaw station. The jaw cylinder is driven by and co-acts with the pin-folding cylinder. After cutoff, the severed web is transported by the pins until the pin-folding cylinder tucker blade engages with the jaw.

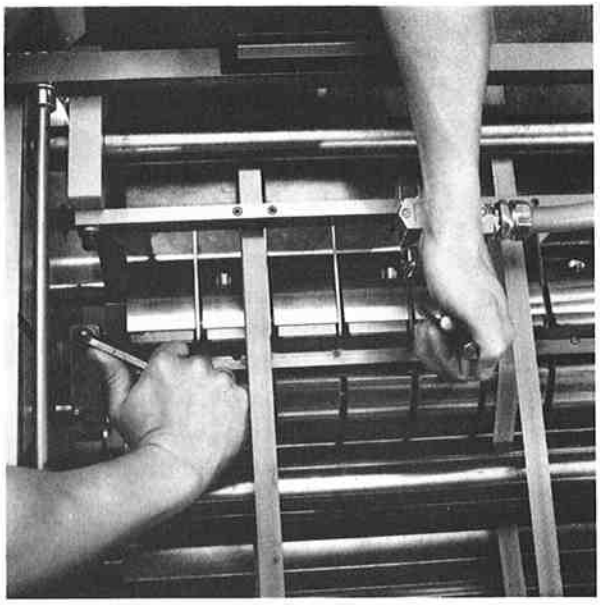
The jaw then closes and takes over control of the sheets.

The leading edge is lifted off the pins by stripper shoes, while the trailing edge is severed at the opposite knife station.

REPLACING JAW BLADES

Replacing jaw blades requires a ½ ″ open-end wrench and a 6 ″ machinists scale.

1. Put press on **SAFE**; disengage folder clutch.
2. Rotate folder until jaws are fully open and bolts are accessible.
3. Loosen the bolts that clamp the damaged blade and remove.
4. Insert the new jaw blade and use the 6 ″ scale to line up the top edge of the new blade flush with the solid stationary jaw and tighten bolts securing blade.
5. Repeat procedure if additional blades are to be replaced.



SETTING JAW TENSION

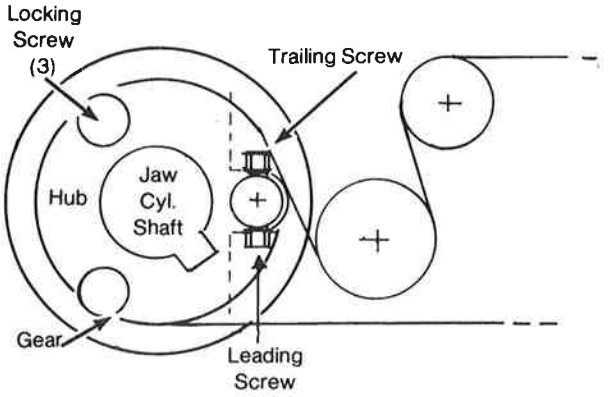
1. Put press on **SAFE**; disengage folder clutch.
2. Rotate jaw cylinder until jaw is almost vertical (just before timing mark) and jaws have not yet begun to open.
3. Insert ¼ ″ pins in the jaw cylinder and into the movable jaw shaft.
4. While firmly squeezing the ¼ ″ pins together, loosen clamping bolt on cam follower lever, allowing jaws to spring open.
5. Insert the number of webs desired into jaws. Close jaws, using the ¼ ″ pins, to desired tension and lock the clamping bolt on cam follower lever.

NOTE:
Be sure the cam follower is seated on the cam and 1/16 ″ clearance is maintained between cam and cam follower lever.

SETTING JAW CYLINDER TIMING

NOTE:
The fixed jaw should be timed to provide a gap to the tucker blade that approximates the thickness of paper that it is required to fold. This measurement is made when tucker blade and fixed jaw are parallel.

Adjustments can be made to the position of the tucker blade in the jaw by first loosening the three ½ ″—13 socket head clamp screws, then loosening and tightening the opposing jaw hub jacking screws in the rear of the folder. Tightening the leading screw advances the cylinder, which moves the fixed jaw further from the tucking blade to accommodate heavier products. The same adjustment will move the half-fold line somewhat closer to the pins, resulting in some overlap of the top half of the product with respect to the bottom half.



1. Put press on **SAFE**; disengage folder clutch.
2. Unlock the three hub bolts on the face of the hub.
3. Unlock the adjusting screw jam nuts.
4. To advance the jaw cylinder, back off the trailing screw and tighten the leading screw.
5. To retard the jaw cylinder, back off the leading screw and tighten the trailing screw.
6. Tighten the jam nut and lock the three hub bolts; note change in log.

JAW CAM ADJUSTMENT

The timing of the closing of the moving jaw is determined by the position of the jaw cam which is mounted on the inner face of the operating-side frame.

The cam is clamped in position by the bearing cap on the outside of the operating-side frame.

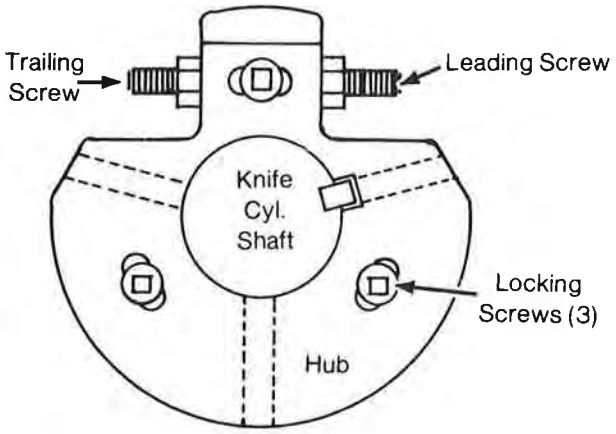
The cam should be timed such that the jaw has enough grip on the folded signature to retain control at the moment the tucker blade disengages from the jaws.

Timing of jaw closing is correctly set when the jaw segments start to close when the tucker blade and fixed jaw are parallel to each other.

1. If adjustments are necessary, unlock the operating-side cover screws and remove the jaw cam cover.
2. Insert pin punch or screws in cam face to assist in moving cam.
3. Tap screws lightly to move cam to the desired setting.
4. Replace cover and screws; note change in log.

KNIFE CYLINDER TIMING

To adjust pin to cut distance (usually 3/8″ to 5/16″), adjust the knife cylinder drive hub setscrews.



1. Unlock the 3 hex head screws on the knife gear hub face.
2. To **decrease** pin-to-cut distance, back off jam nuts, loosen leading and tighten trailing setscrews to shorten the distance.
3. To **increase** the pin-to-cut distance, loosen trailing and tighten leading setscrews.
4. Tighten adjusting screw jam nuts.
5. Lock the 3 socket head screws on the gear hub face; note change in log.

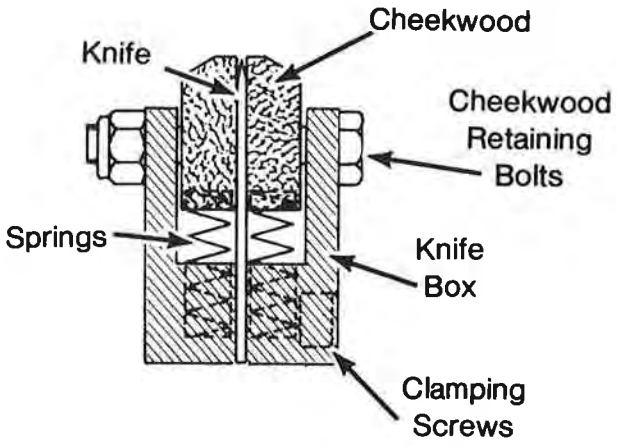
KNIFE

The male knife box is mounted on a cylinder which is driven at the plate cylinder speed.

The knife cylinder gear is fitted with an anti-backlash ring which is set providing .003″ backlash so that the main load of the knife coming to the cutting position is carried on the wider-face main gear.

The ring is locked in position by the main locking plate which clamps both gears to their hub.

Small screws hold the anti-backlash ring to the main gear to avoid loss or disturbance of backlash adjustment when the lock plate is loosened to re-time the knife-to-pin relationship.



REPLACING KNIVES

CAUTION:

Be careful!! Knives are sharp and can cause injury.

1. Put press on **SAFE**; disengage folder clutch.
2. Loosen the jacking screws on one side of the box only, remove the screws holding the knife box to the knife cylinder and remove the box.
3. Unlock the 8 Nylock® nuts, plus the 4 bolts holding the segments together; remove the hex head bolts.
4. Remove the cheekwoods, springs and knife.
5. Inspect the knife for dullness or broken teeth and replace if necessary.
6. Reset new knives flush to bottom of box.
7. Reset the knife in the cheekwoods so that it is just possible to feel the teeth when lightly touching the tops of the cheekwoods.
8. Replace and lock all screws and nuts when re-installing; note in log.

Adjustment for parallelism to jaw cylinder is obtained by loosening the two ½" –13 bolts at each end and adjusting the jacking screws on each side.

NOTE:
If it should become necessary to replace any of the cheekwood retaining bolts, be certain the proper bolt is used. It is a ¼" –20 hex head bolt, 1⅝" long, with a shoulder length of 1¼".

PIN STRIPPER ADJUSTMENT

To adjust the stripper assembly to the folding cylinder, unlock the four 5/16" socket head bolts securing the side frame mounting brackets and adjust up or down to either lift or lower the assembly to the folding cylinder. Relock screw after proper setting has been made.

HALF-FOLD DELIVERY

The folded tabloid or broadsheet signatures are carried in the jaws and released at approximately top dead center, then stripped out of the jaws to be guided into the upper pair of running tapes.

HALF-FOLD DELIVERY FLY

To adjust and tighten the timing belt on the half-fold delivery creel, unlock the four ⅜" socket head screws holding the creel and timing sprocket; tap the spacers to tighten. Lock the socket head screws.

SPLICING TAPES

The folder is equipped with "Habasit®" tapes with ½" cemented splice. To prepare the tape for splicing, clean opposing tapers with a non petroleum-base solution.

Install on folder and apply "Habasit" cement to both tapers.

Obtain a heat-set type iron, such as supplied in the "Habasit" P-40 kit, and heat glued tapers at 100°C (212°F) for 10-15 minutes.

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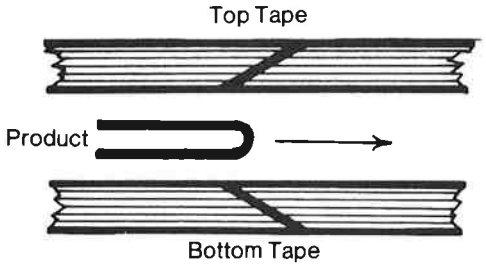
NOTE:
To maintain accurate control of the signatures, it is important that the taper of the splice (on the side of the tape contacting the signature) is trailing.



TAPE SPECIFICATIONS

Standard Half / Quarter-Folder:

Top Tapes: 3/4" wide x 54" long—light green shiny side contacts paper.

Bottom Drive-Side Tape: 3/4" wide x 54" long—dark green side contacts paper.

Bottom Operating-Side Tape: 3/4" wide x 55 1/2" long—dark green side contacts paper.

UPPER DELIVERY TAPES

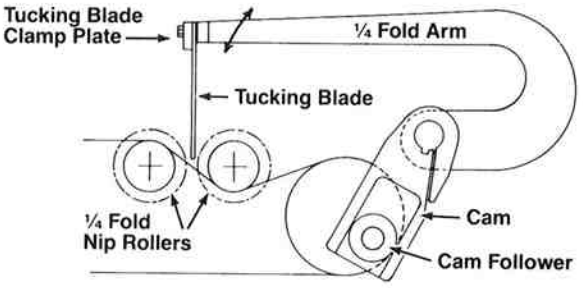
To adjust tension on the delivery tapes, unlock 3/8" socket head screws securing the tape pulleys and eccentric stud. Lightly tension the belt by pulling on the stud. To adjust the height of the upper tapes, tighten the socket head screws until snug, then turn the stud eccentric to set the desired height. Lock the button head screws.

LOWER DELIVERY TAPES

Unlock the four 5/32" setscrews holding the pulley blocks and pull to tighten the tapes. Relock the setscrews.

QUARTER-FOLDER

For the quarter-folding mode, a stop bar (located by 2 screws) is fitted at the downstream end of the chopper platform. The underside of the bar has slots to clear the tapes, and a central slot at the upstream face of the bar to clear the chopper blade. The holes in the bar are slotted to enable the stop to be adjusted to produce a square fold. After initial adjustment, scribe lines on the surface of the chopper table to aid accurate setting during subsequent changeovers.



SETTING QUARTER-FOLD CHOPPER TIMING

1. Thread folder with quarter-fold engaged. Center slots in quarter-fold stop bar.
2. Inch folder so that signature is approximately 5/8" to 3/4" from making contact with stop bar.

   NOTE:
   Chopper blade should be touching signature—if not, retime chopper as follows:

3. Loosen 3/8" cap screws securing idler bracket and slide bracket toward chopper to release belt tension.

4. Remove lower belt from pulley and advance or retard chopper timing by pulling on upper or lower belt.
5. Adjust timing belt on jaw cylinder accordingly by slipping belt on jaw cylinder pulley.
6. Replace lower belt on idler pulley and set belt tension.

NOTE:
Insufficient belt tension will cause jams in quarter-fold.

TIMING FOLDER CREELS

NOTE:
Follow proper sequence to eliminate retiming of creel.

QUARTER-FOLD CREEL TIMING

1. Engage quarter-fold.
2. Thread folder for quarter-fold mode.
3. Inch folder and position signature so that folded (leading) edge is even with ends of creel fingers.
4. Loosen setscrew in quarter-fold creel pulley (located in back of quarter-folder) and position creel so that end of creel finger is rotated 1″ ahead of edge of signature.
5. Tighten setscrew before operating machine.

HALF-FOLD CREEL TIMING

1. Thread folder in half-fold mode.
2. Loosen setscrew in half-fold creel pulley and position creel so that the leading edge of a signature is ¼″ behind the tips of the creel arms.
3. Tighten setscrew before operating machine.

DELIVERY TABLE

The creel lays the signatures on the delivery table in shingle formation. The amount of shingling is determined by the speed setting of the variable-speed motor driving the belts.

The table can be adjusted for height by unlocking the setscrews of the telescoping legs and setting the height best suited to the product being run.

TAPE SPECIFICATIONS: "Dixylon®" 1½″ wide, 12′ long (see splicing instructions).

DELIVERY STOPS

The delivery stops were designed to produce uniform delivery of half- and quarter-folded products. By adjusting the stops provided, the pressman can achieve the desired delivery.

SETTING: Loosen 7/16″ bolt and slide stop into position to achieve best delivery.

BELT TENSION

1. Gear or timing belts should be installed with a snug fit, neither drum tight nor slack. The belt's positive grip eliminates the need for high initial tension. A properly installed belt will deliver long life, quiet operation, and minimum wear of either the belt or associated parts.

2. When torque is unusually high, a loose belt, on starting, may "jump teeth". In such a case, belt tension should be increased gradually until satisfactory operation is attained.

BELT HANDLING

1. On installation, the belt should never be forced or pried over the pulley flange. Reduction of center distance or idler tension usually permits the belt to slide onto the pulley easily, otherwise, one or both pulleys should be removed.

2. To assure smooth operation and prevent premature failure, belts in storage should be protected against sharp bending or creasing. They should not be subjected to extreme heat, low temperature or high humidity.

DRIVE BELT SPECIFICATIONS

The specifications following are correct for most models. Be sure to check the size noted on your belt before ordering replacements.

1. MAIN DRIVE

The belt between the drive motor and drive shaft at the folder.

Belt tension is set by adjusting the motor mounting plate.

Belt Size: 560 XH 300

2. SLAVE OR HELPER DRIVE

The belt between the auxiliary drive motor and drive shaft usually located at the Quadra-Color unit.

Belt tension is set by adjusting the motor mounting plate.

Belt Size: 630 XH 300

3. FOLDER DRIVE

The belt between the pin-folding cylinder and R.T.F. gear box, driven by the clutch pulley on the main drive shaft.

Belt tension is set by adjusting its idler pulley bracket.

Belt Size: 1400 H 200

4. QUARTER-FOLDER

The quarter-folder drive belt drives the lower delivery tapes, the quarter-fold nip rollers and the quarter-fold arm. The drive is taken from the jaw cylinder pulley.

Belt tension is set by adjusting its idler pulley bracket.

Belt Size: 1250 H 100

Double Parallel Folder: 1400 H 100

5. QUARTER-FOLD DELIVERY CREEL

The belt is located at the back of the quarter-folder, below the delivery table. It is driven by the quarter-fold arm drive shaft.

The creel assembly is mounted with pillow block bearings. Adjust tension by loosening bolts and setting desired tension on belt. Moving bearings down increases belt tension.

Belt Size: 240 L 100

6. R. T. F.

A gear box driven off the folder drive drives the R. T. F.

Belt tension is set by adjusting its pulley bracket.

Belt Size: 630 H 200

7. HALF-FOLD DELIVERY CREEL

The belt is driven from the quarter-fold creel.

Belt tension is set by adjusting the pillow block bearings to which the half-fold creel is mounted.

Belt Size: 480 L 050

8. ANGLE BARS

Tension on the belt between top folder gearbox and gearbox pulley on angle bar assembly is set by adjusting the idler pulley bracket.

Belt Size: 390 L 100

Tension on the upper belt is set by adjusting the idler pulley bracket.

Belt Size: 480 L 100

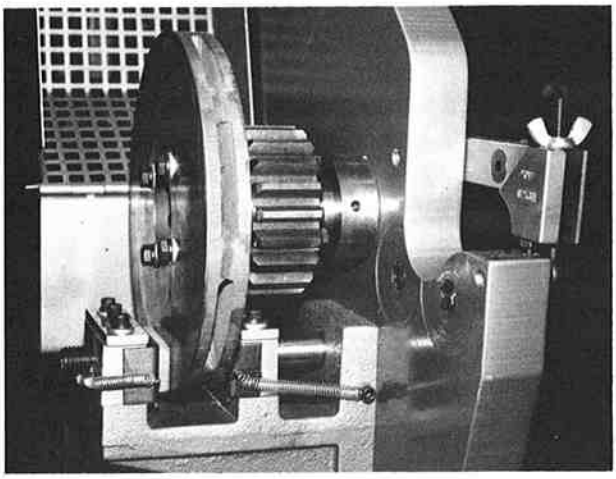
SECTION 9

ROLLSTAND MAINTENANCE

Revised April 2019

BRAKE SHOE WEAR ADJUSTMENT

A weekly inspection of the brake system should be made to insure optimum rollstand performance. With the rollstand loaded and the dancer in the **OFF** position, the brake pads should be adjusted to lightly contact the disc. The disc should now be free to rotate with no side movement between the brake pads.

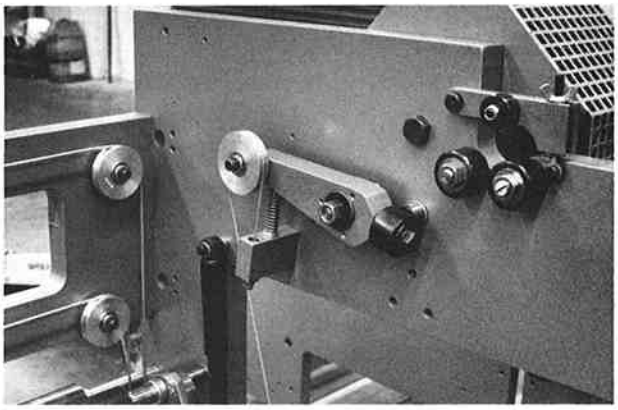


REPLACING BRAKE PADS

1. Remove guard from brake mechanism.
2. Loosen wear take-up bolt.
3. Remove outer pad retaining plate and remove worn brake pad.
4. Slide disc away from inner brake pad.
5. Remove pad retaining springs and lift out worn brake pad.
6. Install new pads and reassemble via reverse procedure.

GEAR BACKLASH

Due to the wide load range required to maintain reasonably constant web tensions, the rollstand is capable of transmitting very large loads in a very short time. To get the best performance from the system, lubricate frequently and maintain minimum backlash between the rollshaft gears and the brake disc gears.



1. **CHECKING**: Check setting with brake in **OFF** position, rotating shaft to insure minimal clearance without binding.

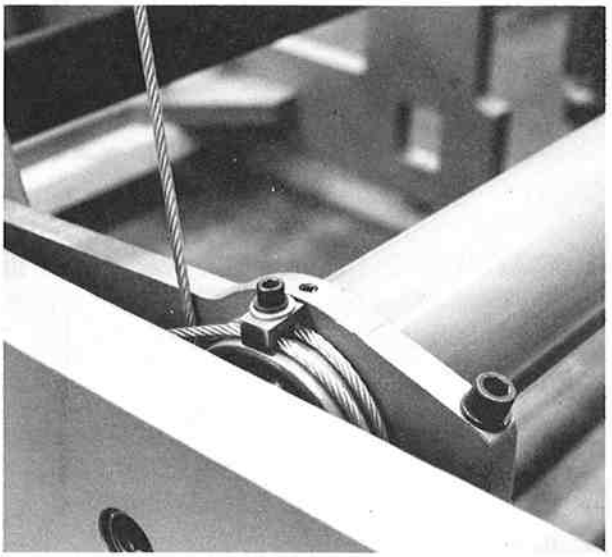
2. **SETTING**: Loosen mounting bolt holding brake disc gear stud; rotate stud to obtain minimal backlash; and re-tighten stud mounting bolt.

PAD-TO-DISC CLEARANCE

1. **CHECKING**: With brake in **OFF** position, pads should be touching disc but not causing a drag. With brake in **ON** position, a full roll should be very difficult to rotate.
2. **SETTING**: With brake **OFF**, tighten adjusting screw behind outer pad, removing any excessive clearance.

CABLE ADJUSTMENTS

NOTE:
Before making any adjustments to cables, check that cable clips holding cables to dancer tube are secure so as to prevent any cable slippage.



1. **CHECKING**: With brake **ON**, the cable between the dancer and brake should be taut and the cable between the dancer and operator adjusting knob should be loose when the knob is set for minimum tension.
2. **SETTING**: With brake **ON**, adjust cable between dancer and operator knob obtaining a slack cable when knob is turned **counterclockwise** (until bottomed out against adjustment stud). Using nuts on brake end of cable, tighten cable between brake and dancer. The proper tightness is obtained when throw-off cam follower on dancer is touching the bottom of slot in throw-off link, but can be turned with fingers.