ABDick 360 Duplicator

Sheet Control System Set-Up

Paper Feed

1. Crank paper guide on non-operating side of machine to correct scale setting according to the width of paper being used.
2. Position the opposite paper guide to the correct scale setting using crank.
3. The paper stack supports slide from side to side. They should be positioned so that the back stop will clear both supports when the table is at its maximum height. The tapered ends of the supports must face outward to prevent damage. Place paper stack support board on the paper stack supports. The support board should be lightly smaller than the paper size.
4. Push the table release down to lock it. Push the paper elevator crank in to engage it; then turn the crank counterclockwise to lower the feed table.
5. Turn the hand wheel until the four paper height regulators are in their lowest position.
6. Fan the paper and load it on the feed table, being careful to keep the reams neatly stacked. The assembly holding the rear guide, back stop, and spring guide may be lifted and latched in the up position to assist in paper loading. When loading is completed, release latch and bring assembly down to operating position.
7. Unlock the table release by pressing the two sections of the release together. Turn the paper elevator crank clockwise to raise the feed table until the top sheets contact the paper height regulators. Pull out the crank to disengage it.
8. Square the top few sheets of paper so the edge of the paper touches the paper guide on the non-operating side. The leading edge should be flush with the front plate. As many suction feet as possible should be used for the size paper being used. Each suction foot has a valve to control vacuum flow. The feet that contact the sheet of paper should have the valves positioned vertically while those feet not contacting the sheet should have the valves positioned horizontally.
9. Adjust the rear guide near the tail end of the stack to just touch the stack.
10. Adjust the back stop so that it touches the tail end of the stack but does not bind stack against the front plate. On heavy card or Bristol stock, there should be approximately 1/8" between the back stop and the paper stack. (There are two positions for attaching the back stop to the retainer bar. The bar and stop may also be reversed. Use the best position for the length and type of paper stock being used.)
11. Make sure all safety covers are closed and turn the motor drive switch to START until the stack reaches its maximum height. *Turn motor drive switch OFF.* Place the spring guide midway between the leading and trailing edges of the sheet.The spring, for most stocks, should be depressed about 1/8" by the paper stack. Make final adjustments to the rear guide and back stop.
12. Place the paper weight in a forward notch for light papers and further back for heavier papers. Following is a table of suggested settings for the paper weight.

TABLE OF SETTINGS

Hole #1 in this table refers to the hole nearest the suction feet. With a particular paper or cover stock, slight deviations may be necessary.

9 lb.-#1 hole (with special light weight paper weight)

13 lb.- #2 or #3

24/60lb. Offset - #3

65 lb.- #3

Heavy Card - #4 or remove

Paper Stack Height

The feeding level of paper stack generally should be low for light wight papers and high for heavier papers and card stocks.

The height to which the automatic raising mechanism will bring the stack can be controlled by raising or lowering the paper height

control lever. The lever may be moved through six gradations. The table below shows the approximate position for optimum feeding. With a particular paper or card stock, slight deviations may be necessary.

TABLE OF SETTINGS

9 lb.	13 lb.	16 lb.	20 lb.	24/60lb. Offset	65 lb.	Heavy Card
Low	1–3	2–4	3–5	4–6	5–6	6–High

Air and Vacuum

1. Turn the air and vacuum control knobs clockwise as far as possible to "full" position.
2. Turn both knobs counterclockwise three half turns. Be sure paper feed lever is in off (down) position.
3.- To check blowing action, turn the motor switch to START and vacuum pump switch to MANUAL. (All safety covers must be closed.) The top sheets of the paper stack should fluff up and follow the four height regulators. It may be necessary to increase the air setting by turning the air control knob clockwise until the sheets fluff up and follow the regulators.
4. To check suction action, *turn motor drive OFF.* Lift the paper feed lever and turn the hand wheel counterclockwise to manually feed one sheet of paper through the machine. If the suction feet do not pick up paper properly, increase the vacuum setting by turning the vacuum control knob clockwise.
5. Turn vacuum pump switch and paper feed lever OFF.

TABLE OF SETTINGS

With a particular paper or cover stock, slight deviations may be necessary. Air and vacuum adjustments are made from full air and vacuum positions. After adjustment has been made according to these suggested settings, increase if stock does not follow paper height regulations. Decrease if you are feeding doubles.

TABLE OF SETTINGS

Air Adjustment

9 lb.—Turn air control counterclockwise about 8–12 half turns.

13, 16, & 20 lb.—2-3 half turns counterclockwise.

20 lb.—2-3 half turns counterclockwise.

24/60 and 65 lb. Offset—2 half turns counterclockwise.

Heavy Card—One half turn counterclockwise.

Vacuum Adjustment

9 lb.—2 half turns counterclockwise.

13 & 16 lb.—3–4 half turns counterclockwise.

20, 24/60 & 65 lb.—2–3 half turns counterclockwise

Heavy Card—One half turn counterclockwise.

Note: A lightweight paper accessory is available. Contact your A.B. Dick representative for information.

Buckle Control

Adequate buckle is required to deliver each sheet firmly against the paper stops in the paper grippers. This assures accurate vertical registration.

"0" on the buckle control produces minimum buckle and "15" produces maximum buckle. Buckle is set too high if card stock is being nicked at the leading edge. Changing buckle may alter registration slightly. Therefore, the buckle control should not be changed during one run when close registration is needed.

TABLE OF SETTINGS

With a particular paper or cover stock, slight deviations may be necessary.

9 lb.	13 lb.	16 lb.	20 lb.	24/60lb. Offset	65 lb.	Heavy Card
15	12	7–8	5–6	4–5	3–4	0–2

Receiving Tray

Caution: Turn motor switch off whenever an adjustment is made to the receiving tray or ejector wheels and rings.

1. Attach tray bail.
2. Set stationary guide on non-operating side of duplicator at same scale setting as was used for paper stock.
3. Place one sheet of paper in the receiving tray. Adjust the back stop for the length of paper you are using and center it to the width of paper being used. The trailing edge of the paper should be even with the front edge of the receiving tray.
4. Rotate hand wheel so that the jogging guide is in the inward position. Using the lock knob, adjust guide so it just touches the paper.
5. Position the tray bail in the slot in the front stop and shape it to provide best stacking for the type of paper being used.
6. Lower safety cover over ejector system; then turn the vacuum pump switch to MANUAL and paper feed lever ON. Turn the hand wheel counterclockwise to manually feed one sheet of paper through the machine until it is just past the upper ejector wheels. Turn vacuum pump switch and paper feed level off.
7. The upper and lower ejector wheels control the paper as it leaves the cylinders and guide it into the receiving tray. The ejector arms are movable so that wheels can be positioned over the margins of the paper. They should not ride over the image area. Depress the locks to move the arms.

   Note: In cases where the ejector wheels have to travel over portions of the copy, use wiper kit 1-3718. This kit will remove ink picked up by the wheels so that it will not deposit onto the next sheet.
8. After the ejector wheels are set, turn the hand wheel to forward the paper until it is just under the lower ejector wheels. Position the ejector rings either inside or outside the lower ejector wheels and as close as possible to the wheels without crimping the paper. Their purpose is to control paper which curls up or down so that the paper will be delivered properly into the receiving tray. When using flat or curl-down paper, position the rings outside the ejector wheels. For paper that curls up, position the rings inside the ejector wheels.

   Note: It is not always possible to identify curl-up or curl-down paper until it is fed through the machine automatically. If the paper dives down into the receiving tray rather than coming straight out from the ejector system, it is curl-down paper. If the paper sails upward, it is curl-up paper.
9. Continue turning the hand wheel until the sheet falls into the receiving tray.
10. Raise the safety cover.

Printing Unit Set-Up

Night Latches

1. Lift safety cover over the ink rollers
2. Lower the ink oscillating roller toward the Aquamatic roller so that it contacts the two smaller distributor rollers.
3. Remove the Aquamatic oscillating roller from its support bracket and place it in position in the ink system. Make sure the hole in the roller shaft is placed over the drive pin on the non-operating side with the rounded side of the shaft up. The opposite end of the shaft is placed between the guides.
4. Move the Aquamatic night latch lever to operating position.
5. Move the operational control lever from NIGHT LATCH to NEUTRAL.
6. Turn the ink form roller knobs to ON.

Inking

1. Turn the ink fountain screws al the way to the right; this shuts off the ink supply. Then turn all the screws one-half turn to the left. These screws provide an even flow of ink to the rollers.
2. Using cartridge ink and an ink gun, pull the trigger on the gun to dispense ink evenly across the ink fountain. If you are using canned ink, remove a quantity of ink from the can with an ink knife, being careful to keep the surface of the ink in the can level.

3. Spread ink in the ink fountain. Using the ink fountain roller knob, rotate the ink fountain roller counterclockwise at least one revolution to carry the ink well down into the ink fountain and coat the roller with ink. Rotate the hand wheel counterclockwise until the ink ductor roller contacts the ink fountain roller. While rotating the ink fountain roller counterclockwise, adjust the ink fountain screws until an even, finely stippled effect is obtained on the ink ductor roller.
4. Raise the Aquamatic lock-out latch towards the Aquamatic unit to allow full contact of the ductor roller to the oscillating roller.
5. Move the ink fountain control to No. 11 position.
6. Move the Aquamatic control to No. 45.
7. Make sure all safety covers are closed.
8. Raise the motor drive switch to the START position to release.
9. Adjust speed. Speed should be adjusted only when the machine is running. The speed control adjusts the running speed from 4,500 to 9,000 copies per hour. We suggest that a beginning offset operator run the machine at Speed 5 until becoming proficient in its operation.
10. Allow the machine to run until all rollers are evenly covered with a thin film of ink, including the two in the Aquamatic unit.
11. Move ink fountain control to No.1 position.
12. Move Aquamatic control operating position (usually No. 20) and lower the Aquamatic lock-out latch.
13. Turn motor drive switch OFF.

Fountain Solution

Always be sure ALL ink rollers, including the two in the Aquamatic unit, are inked before fountain solution is added.

1. Fill fountain solution bottle with Fountain Concentrate properly diluted and recap the bottle. Make sure the drain hose is properly secured, close the safety cover and place the filled bottle in position in the Aquamatic unit.
2. As soon as the flow of fountain solution from the bottle stops, the ink and water system is in operating order. No running-in- or warm-up time is required.

Producing Copies

Attaching a Plate

Pinbar

1. Lower safety cover over the cylinders.
2. Attach lead end of plate to head clamp. While holding plate taut, crease plate at head clamp.
3. Holding plate taut with the right hand, rotate the hand wheel counterclockwise with the left hand until the tail clamp is about1" from the Aquamatic fountain. Be careful to avoid contacting the plate to the ink form rollers.
4. Hold plate tightly against cylinder surface with the left hand and crease the plate. Lift the tail clamp up with the right hand and insert the clamp down into the plate punchings. The tail clamp automatically adjusts to the position of the tail punchings of the plate.

   CAUTION: Keep fingers clear of sharp tail clamp spikes.
5. When using a metal plate, the two knurled knobs are used to tighten and lock the plate to the cylinder on runs where accurate registration is required.
6. Raise the safety cover.

Straight Edge

1. Lower safety cover. The open safety cover becomes a plate loading table for straight edge plates. Set the side guides to the width of the plate, using the scale on the loading table to center the plate.
2. The straight edge clamp is opened by depressing the head clamp lever.
3. Slide a straight edge plate into the clamp until it touches the stop evenly across the width of the plate. Release the head clamp lever and crease the plate.
4. If a full size plate is being used, punch the plate with the teeth of the tail clamp.
5. Raise the safety cover.

Sequence of Operation

1. Etch the plate with the recommended etch. Instructions are supplied with the plates.
2. Close all safety covers.
3. Turn the motor drive switch to START and vacuum pump switch to AUTO.
4. Move the Aquamatic control to No.20, and the ink fountain control to No.1

   You may find that the best setting for the plate and ink combination being used, and the speed at which the duplicator is being run, is different than mentioned here. In this case, make adequate adjustment to the Aquamatic control and/or the ink fountain control.
5. Move the operation control lever to INK. Look at the plate as the duplicator is running and be sure the plate is clean of any ink deposit in the non-image area. If it tends to pick up ink in the non-image area, this is an indication that there is either too much ink or too little water being fed into the system.
6. Move the operation control lever to IMAGE and hold it there for several revolutions (normally two to four revolutions are required) Then move the operation control lever to FEED. When released, the lever will automatically return to INK.
7. Allow one sheet of paper to be fed; then lower the paper feed lever. Inspect the copy for position, clarity and general acceptability. *If copy adjustments are necessary,* move the operation control lever to NEUTRAL, turn the motor drive switch off and see "Copy Adjustments."
8. *If the trial copy is acceptable,* set the copy counter to "0." Lift the paper feed lever to the open position. If necessary, rotate the ink fountain roller counterclockwise and adjust the ink fountain screws until an even film of ink with a stippled appearance is achieved. You may wish to adjust the ink fountain adjusting screws to compensate for heavy or light copy on one side of plate. To adjust the flow of ink to a particular area on the plate, turn the ink fountain screws clockwise to decrease the ink supply and counterclockwise to increase the ink supply. The over-all increase or decrease of ink being fed to the plate can be adjusted by setting the ink fountain control. Setting No. 1 is the minimum amount and setting No. 11 is the maximum amount.
9. When the required number of copies has been duplicated, move the operation control lever to NEUTRAL.
10. If the plate is to be filed, remove the excess ink from the plate image by raising the feed lever to allow six to eight sheets of paper to go through the machine with the control lever in NEUTRAL. Then, turn the paper feed lever off.
11. Turn both the vacuum pump and motor drive switch off.
12. Always clean the blanket after each run (and periodically during a long run) using a cloth dampened with Roller Cleaner and Blanket Wash.

    Caution: Do not use Automatic Blanket Cleaner to manually clean the blanket.

    Warning: Do not use Roller Cleaner and Blanket Wash near fire or flame, provide adequate ventilation.

Copy Adjustments

Stop the duplicator when making any copy adjustments.

1. *Angular copy adjustments* can be made by removing the plate from the plate cylinder and adjusting knurled knob so that the right end of the plate cylinder head clamp moves in the proper direction. If the copy is running downhill from left to right, turn the knurled knob counterclockwise to raise the copy. If the copy is running uphill from left to right, turn the knob clockwise to lower copy. Clean the blanket after making this adjustment.
2. *Lateral copy adjustments* up to approximately 1/4" can be made by removing the plate from the plate cylinder and turning knurled knob so the head clamp moves in the desired direction. When straight edge plates are used, merely release the head clamp and move the plate in the desired direction. After making this adjustment, the blanket must be cleaned. For a lateral adjustment greater than 1/4", move the

paper stack.

3. *Vertical copy adjustments* are made by rotating the blanket cylinder until the locking gear lines up with the built-in adjusting gear. Push the vertical adjustment knob in and loosen the locking gear by turning it counterclockwise. Continue to hold the knob in. Move scale by turning hand wheel and follow the arrows to raise or lower copy. After the adjustment is made, tighten the locking gear. It is not necessary to clean the blanket after lowering or raising copy, as the relationship of the plate cylinder to the blanket cylinder always remains the same.

Impression Cylinder Adjustment

The plate and impression cylinders on Model 360 automatically adjusts the blanket cylinder to compensate for changes in plate or paper thickness. Some applications, however, may require an adjustment in the impression cylinder control. For instance, the copy quality on rough-textured papers, particularly copy which contains halftones and solids, can be improved with a slightly increased pressure from the impression cylinder. Make this adjustment when the plate to be run is on the plate cylinder.

1. Insert an Allen wrench into the control dial opening and turn the dial to the lower numbers (clockwise) to increase pressure and to the higher numbers (counter clockwise) to decrease pressure.
2. Feed paper through the machine while turning the control dial to a lower number until there is a tapping noise. Then turn toward the higher numbers until the tapping noise stops.

   CAUTION: Keep hands and allen wrench clear of rotating hand wheel while making Impression Cylinder Adjustment.
3. With paper feeding through the machine, turn the dial toward the higher numbers (minimum pressure) until poor copy is achieved. Then slowly turn the dial toward the low numbers (maximum pressure) until optimum copy quality is obtained. The maximum pressure setting should only be used on porous or rough finished papers. A good rule to follow is that 20 lb. paper or lighter will require a setting in the lower dial range and paper stock heavier than 20 lb., including card stock and envelopes, will require a higher setting.

   Do not over-adjust the pressure. Too great a pressure will shorten the life of the blanket; at the same time, proper use of this control can greatly increase the life of the blanket.

Shut-Down

Idle Periods During the Day

To prevent the possibility of flat spots forming on the rollers, this procedure should be followed when the duplicator is idle.

1. Move the operation control lever to NIGHT LATCH.
2. Remove the fountain solution bottle and set i on a stable, flat surface.
3. Move the Aquamatic night latch lever toward the feed end of the duplicator.
4. Turn upper form roller knob to OFF.

Nightly

CAUTION: Do not use Roller Cleaner and Blanket Wash near fire and avoid prolonged skin contact.

1. Remove the fountain solution bottle.
2. Raise the safety cover and unfasten hose to drain and discard fountain solution from the Aquamatic fountain. Do not reuse this solution. Close safety cover.
3. Use strips of card stock to easily remove excess ink from the ink fountain. Place one card in the fountain, sliding it under the ink. Insert the second card at about right angles to the ink fountain roller, wedging the ink between the two cards. Hold the cards together and remove. Discard the ink and soiled cards. Repeat as necessary.
4. Remove the ink fountain by turning it up to a vertical position and then lifting it off the duplicator. Clean the ink fountain with a cloth moistened with Roller Cleaner and Blanket Wash.
5. Remove the ink ductor roller and clean it manually.

6. Clean the ink fountain roller with a cloth moistened with blanket wash. Replace the ink fountain.
7. Attach clean-up mat to the plate cylinder just as you would a plate. Before starting the machine be sure that the vacuum motor switch is in the OFF position.
8. Close all safety covers, start the machine and turn the speed down to minimum.
9. Using a container filled with blanket wash, apply a small amount of blanket wash over the ink oscillating roller through the opening in the safety cover.
10. Move the operation control lever to INK. Be sure all rollers are in the operating position and the Aquamatic control is set at No.45 Release the Aquamatic lock-out latch by lifting it up toward the Aquamatic unit.

    Continue to add small amounts of blanket wash over the ink rollers until they appear clean. Do not use too much blanket wash at one time, as it will drip into the Aquamatic fountain.
11. Move the operation control lever to NEUTRAL and the Aquamatic control to OFF. Stop the machine, remove the clean-up mat and set in inside. (When thoroughly dry, the mats may be reused on the reverse side.) Repeat this cleaning operation until all rollers are clean and dry. The last mat should be completely clean when the cleaning procedure is completed. Do not allow a film of blanket wash to remain on the rollers, as this can cause glazing or sensitizing of the rollers.
12. Lift the Aquamatic oscillating roller unto the support bracket.
13. Lift and tilt the ink oscillating roller toward the ink fountain so it does not contact any other roller.
14. Move the operation control lever to NIGHT LATCH.
15. Wipe the Aquamatic unit rollers and fountain clean and dry. Remove the Aquamatic tray to thoroughly clean it, as paper lint from the inking system settles in the Aquamatic tray. To remove the Aquamatic tray:
    a. Loosen and remove the knurled knobs.
    b. Lift the tray up and away from the ink system.
16. Replace the ductor roller.
17. Lower the Aquamatic lock-out latch.
18. Move the Aquamatic night latch lever toward the feed end of the duplicator.
19. Turn upper form roller knob to OFF.

    To keep the finish clean, wipe it with a soft, lintless cloth moistened with Roller Cleaner and Blanket Wash. The duplicator should then be polished with a clean, soft cloth.

Weekly

CAUTION: Do not use Glaze Remover near fire or flame and avoid prolonged skin contact.

Apply Glaze Remover once a week. Glaze on the rollers will cause them to lose their affinity to ink. This occurs when rollers become covered with a thin layer or hardened ink, fountain solution, blanket wash and/or paper lint. To prevent this condition from occurring, follow the procedure below, inserting it just after Step 11 in the Nightly shut-down instructions.

1. Attach a clean-up mat.
2. With the machine running, end the operation control lever in NEUTRAL, apply glaze remover to the rollers a little at a time until the rollers are thoroughly wet.
3. Run the duplicator about 5 minutes, keeping the rollers wet with glaze remover.
4. Turn the control lever to INK and run until the ink rollers are dry. Stop the duplicator and attach a fresh clean-up mat.
5. Place the control lever at NEUTRAL and apply a small amount of Ink Roller Conditioner to the ink rollers. Allow it to work into the roller system for two minutes.
6. Set the control lever at INK and continue to run the duplicator for another five minutes. Add more conditioner as the rollers become dry.
7. Attach a new clean-up mat and apply Roller Cleaner and Blanket Wash to the rollers to remove any remaining conditioner. Remove the clean-up mat.