

Offset Instructions:

Offset printing process and adjustments

The offset press is more delicate than the etching and direct lithographic presses.

The two beds have different functions and the impression cylinder moves between them.

The paper bed: DO NOT ADJUST!

Do not adjust the paper bed. Adjustments in the height of this bed impact all subsequent printing.

If the paper you intend to use is significantly thinner than the standard paper consider adding a second sheet, otherwise, adjust movement of the pressure bar to accommodate minor changes in thickness.

The stone bed:

Adjusting the "stone" bed. The bed used to hold the printing element is highly adaptable. It can hold lithographic stones, linoleum, Plexiglas, and the aluminum plates normally used for photo-lithography. Each turn of the four large adjustment screws moves the bed up or down one (twelfth?) of an inch. The bed needs to be adjusted to accommodate various printing elements... and needs to be adjusted on all four sides. Follow the chart below to arrive a position slight below ideal, and adjust the bed upward by fractional turns until oil or ink transfers evenly from all four corners of the printing element. (Note: if you are working in lithography this is best done while gum is covering the stone.)

Fine tuning adjustment:

The term "on impression" means that the impression cylinder is in its lower position and able to pick up or deposit ink.

1. Lower the stone bed until it is below two straight edges resting across the geared rails. If the stone is in contact with the straight edges, lower all four corners by one full revolution. (1/12th inch).
2. Wax or wash out the stone leaving a thin film of ink or wax on the surface of the stone.
3. Position the impression cylinder over the center of the stone. Carefully lower the cylinder to its bottom position. It should clear the stone evenly by 1/12th of an inch.
4. Move the cylinder to the near and far side of the stone and check visually to see that the height is consistent. Make adjustments before

proceeding. Raise all four corners by one half revolution. Check the position of the cylinder for clearance. Adjust visually.

5. Repeat step 4 with the impression cylinder in its lowered position.
6. Once contact seems to be made when "on impression" check the contact made by the cylinder by looking at the strip of ink or wax transferred to the rubber surface. The contact should be even and a stripe approximately 1/2 inch wide should be transferred. Adjust until this stripe is even in both the near and far position of the stone.

Stone-Bed adjustments / small adjustments

1 revolution equals .083 of an inch (1/12th inch)

1/2 revolutionequals .042 of an inch (1/24th inch

approximately equal to a 18 gauge copper plate

1/4 revolutionequals .021 of an inch

1/8 revolutionequals .011 of an inch

Adjustments below this (for all four corneres) should be made in the impression adjustments. Rather than bed adjustments.

approximately equal to a photo-plate

1/16th revolutionequals .005

(difference between barely printing and printing)

Stone-Bed adjustments/ larger adjustments

Never turn one adjustment screw more than three revolutions with out adjusting others to match.

2 revolutionsequals 1/6th inch

3 revolutionsequals 1/4 inch

6 revolutionsequals 1/2 inch

12 revolutionsequals 1 inch

Safety First
No hands belong in the gears!

Clean up process:

When printing or cleaning up: no hands or other material on the gear rails.

CHILDREN SHOULD NOT HAVE ACCESS TO THE EQUIPMENT OR THE ROOM ITSELF.

Cleaning up:

Minimize water!

Water is not to remain on the steel portions of the press any longer than necessary.

Clean and prevent rust:

Steel parts should be rubbed down with thin past wax or rust inhibitors such as WD-40 and the gears should be free of foreign material. Fragments of broken stone, paper scraps, string and fibers from fabric do not belong in the gear races or on the blankets.

Blanket cleaning:

The blankets are expensive and they are crucial to successful printing. Inks will eventually stain them but their appearance indicates their health. Blankets should be cleaned with blanket wash and occasionally with glaze remover. After cleaning, they should be rubbed down with talc.

Do not use hand cleaner, alcohol, scouring powder, or soap on the blankets.

Selecting blankets:

Lithography requires the best available blankets. Relief printmaking and monoprints don't require the same blankets and are more likely to damage blankets. Use blankets that are no larger than necessary. Select a blanket that is wider than your image and paper.