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HOW TO PREPARE PHOTO OFFSET PLATES



INSTRUCTION MANUAL

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How to Prepare Photo Offset Plates

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Preface

The first "Relief Printing" system was invented by Mr. Johan Gutenberg in the fifteenth century. The first book published by the "Relief Printing" or the "Letter Press" system was the first bible.

As technology advanced, modern methods were invented. The latest is the "Lithographic" or the offset printing.

This booklet is a guide to preparing offset printing and in particular making photo offset plates systematically.

I hope this booklet will generate interest to those who are keen to know more about photo offset plates making and disseminate some valuable information to the printing industry.

Sincere thanks to Mr. D. Blumel for his guidance and assistance in producing this booklet. Special thanks to Mr. A. Lateef of S.P.C. Media Centre and not forgetting the hard work of Mrs. Ledia Tuitubou for typing this manuscript.

To those who have helped me in one way or another in producing this booklet, a big VINAKA VAKALEVU to you all.

Jan Prasad

Here are some of the Processing Tips before preparing Offset Plates

1. Handle plates under yellow or low intensity light to prevent difficult development.
2. Use high intensity ultraviolet light source when exposing plate.
3. Underexposure causes short plate life.
4. Overexposure increases chances for halation.
5. Do not allow gum to dry on plate before developing.
6. Use coarse grained block sponge to desensitize plate.
7. For sink developments, lay plate over slipsheet or used offset blanket.
8. Rinse out sponge before and after use each time.

IN THE FOLLOWING FIVE PAGES YOU WILL SEE
HOW TO PREPARE OFFSET PLATES STEP BY
STEP.

The line work includes all body copy, captions and line drawings. Each item is pasted in its proper position on the paste-up. The halftone areas are masked with black paper to make windows for stripping.



Line Copy is pasted up.



Copy is photographed.

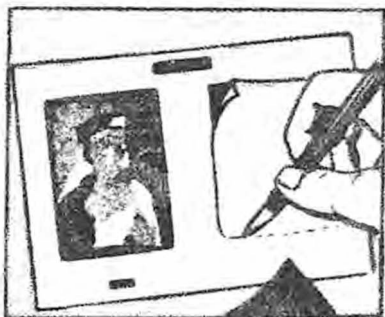
To photograph line copy the cameraman puts the paste-up on the copy board, loads the film and makes the exposure. To make halftone negatives, considerable skill is required as it requires more than one exposure.

The exposed film is carefully developed in the Developing Solution.



Negatives are developed.

Once the negatives are dry they are stripped and the halftone pictures can be taped into position behind the windows.



Negatives are stripped in.

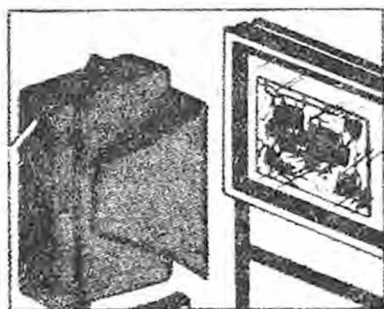
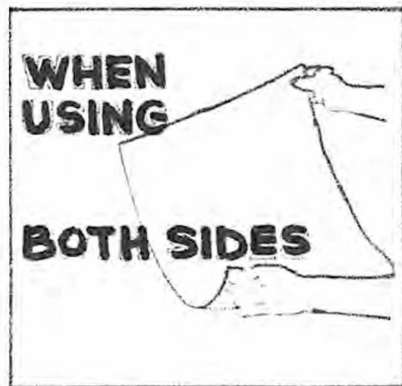


Plate is exposed to light.

The negative is then placed together with coated side of the sensitized plate in the vacuum frame. Exposure must be correct to obtain most durable image. Note manufacturer's instruction on the box.

After the first side is exposed the plate can be turned over and positioned with the second negative and exposed. Remember, some metal plates can be exposed to both sides.

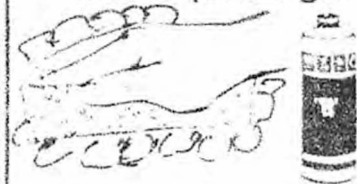


When both sides of the plate is exposed, clamp the plate over pad of paper. This will prevent the second side from contamination.

CLAMP PLATE over pad of paper



DESENSITIZE PLATE with "R" process gum



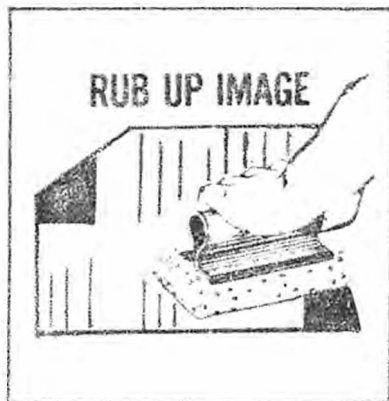
Desensitize plate with process gum. Do not allow gum to dry on the plate. Rub the entire surface.

Sponge off all excess gum from the plate. Only thin film should remain.

SPONGE OFF excess gum

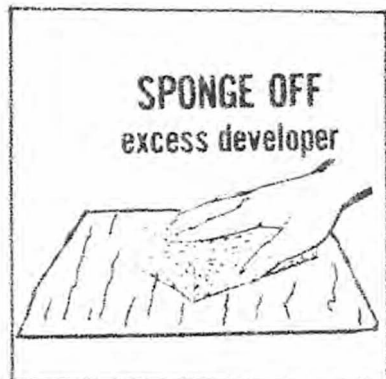


Pour required amount of developer and soak pad into the developer.



Use firm circular motion over the entire surface until the image builds up.

After the uniform image is built up, sponge off all excess developer from the plate.



Apply a light coating of gum with a sponge. Polish the plate dry with a clean cheese cloth.

APPLY FINAL GUM



STORE PLATE in hanging position



Keep plate in hanging position to prevent from scratching.

The plate is attached to the press cylinder and it is now ready to print.

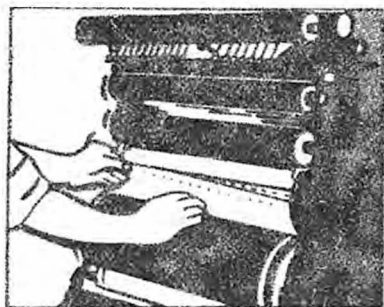
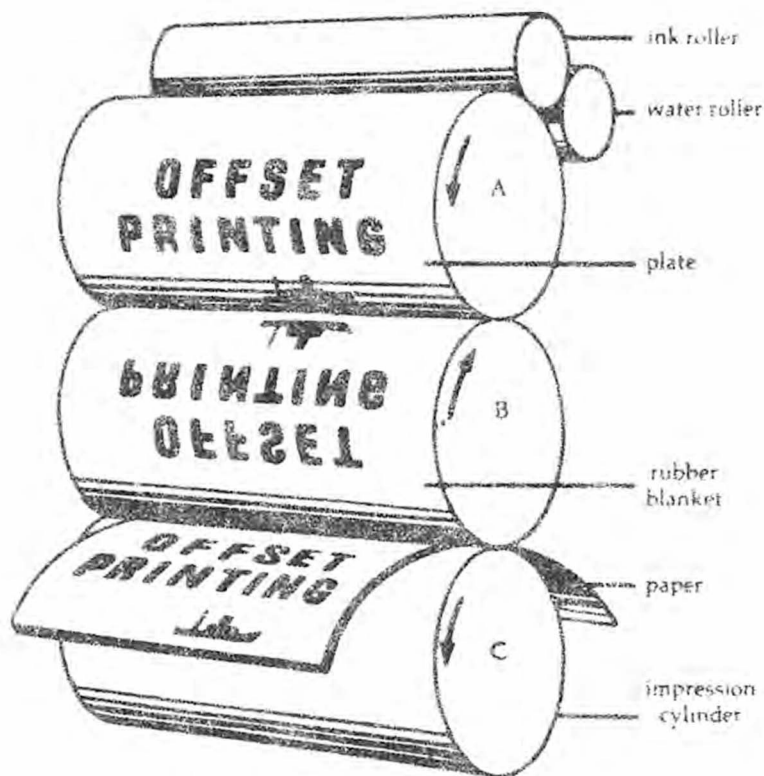


Plate is put on the Press.

Principle of Offset Printing



As plate cylinder A rotates, it is coated with water in the non-image area and greasy ink in the image area. The ink image is transferred to the rubber blanket on cylinder B and then to the paper as the paper passes between the blanket and impression cylinder C.

Glossary

- ARTWORK : Drawing, lettering and general design prepared by the artist.
- CONTAMINATION : Avoid plate from getting dirty and dusty.
- CYLINDER : Where blankets and plates are attached.
- DEVELOPER : Chemical used for developing plates.
- DESENSITIZE : Plates already coated with chemicals.
- HALF TONE : Printed illustrations of uniformly spaced dots of varying size which blend together and convey shades of grey.
- OFFSET : Printing in which the image is transferred from plate to paper by means of a rubber covered cylinder.

