



This is the hut which houses advanced base litho units in the Pacific as shown by the Navy in Chicago.

Lithography in the Pacific War

Navy releases first photographs of advanced base photo-litho units in use on battlefronts

By H. H. SLAWSON

CHICAGO lithographers were afforded an opportunity last month to gain a first-hand knowledge of how the U. S. Navy uses lithography in waging war on the Japs.

Sandwiched in amid the welter of naval engines of destruction and an array of battle trophies, displayed at Navy Pier in connection with the Sixth War Loan drive, was a typical "Advanced Base Photo-lithographic Unit," similar in its last detail to those now operated by the Navy throughout the Pacific theatre of operations.

Housed in a modified Quonset Hut, 20 x 56 ft., and manned by a crew of fourteen lithographic craftsmen in naval uniforms, the equipment was operated to show how reconnaissance photographs are quickly reproduced for use by bomber plane pilots in their raids on enemy targets.

With limited working space available, the layout of this "shop" is a model of compact arrangement for

streamlined production, starting with a Varsity machine and ending with a 20" x 22½" Harris offset press, where the final lithographed sheet emerges to be rushed to the pilots' ready room.

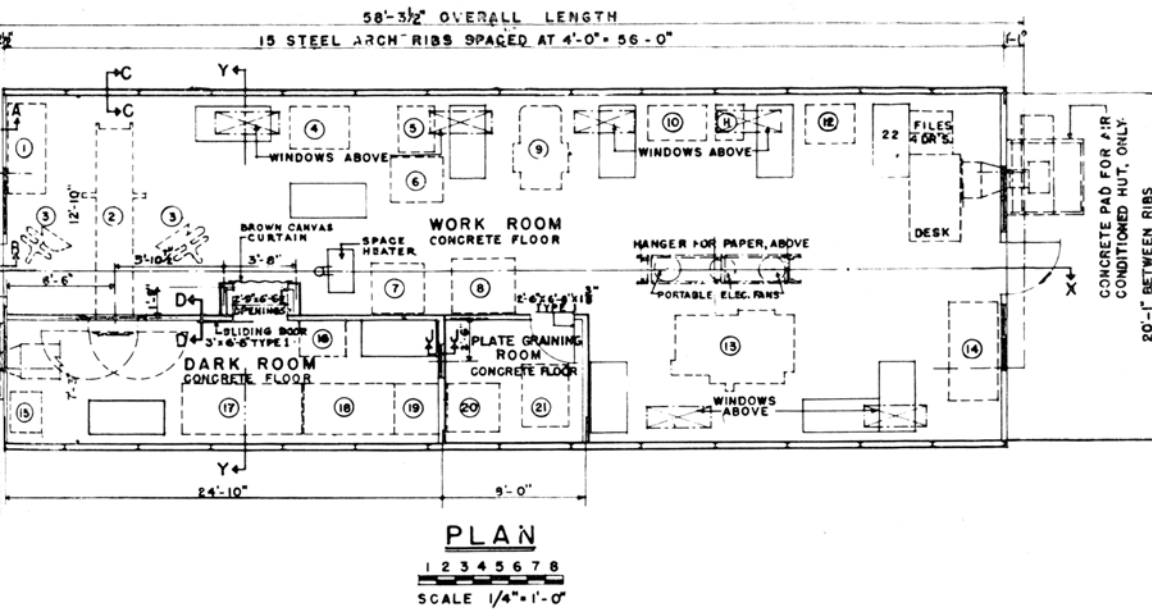
Familiar objects in the assembly line included a copy layout table, Pitman vacuum printing frame; a negative layout table; an A.T.F. 24" x 24" camera, using a magenta contact screen, vacuum back transparency holder for use with color transparencies. There was a Monotype vertical plate whirler, a plate regrainer, the press, a hand powered trimmer, a paper drill, and stitcher, air brush and other items. Also provided is an Ozalid printer machine for use when a short run or the time factor make offset production inadvisable. This device makes a positive from a posi-

tive, or a negative from a negative, it was explained. Development is done with ammonia fumes, without use of a solution and with no wetting of paper.

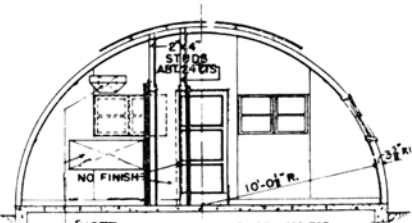
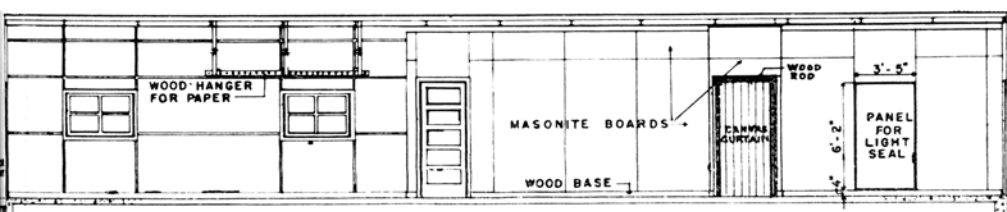
In the 7½ x 25 foot dark room behind the camera are the customary sinks of stainless steel with equipment for filtering water and for controlling temperature of water and solutions. There, too, is a dot etching stand, vacuum printing frame for contact printing of positives, a film cabinet with cutter for cutting films to size as used, and other incidentals.

Power for operating the unit's machinery and to provide light is obtained from a 50-k.w. Diesel-electric generator, stationed outside at the rear of the hut, which delivers either a 220-volt or 110-volt current.

Not commonly found in litho plants

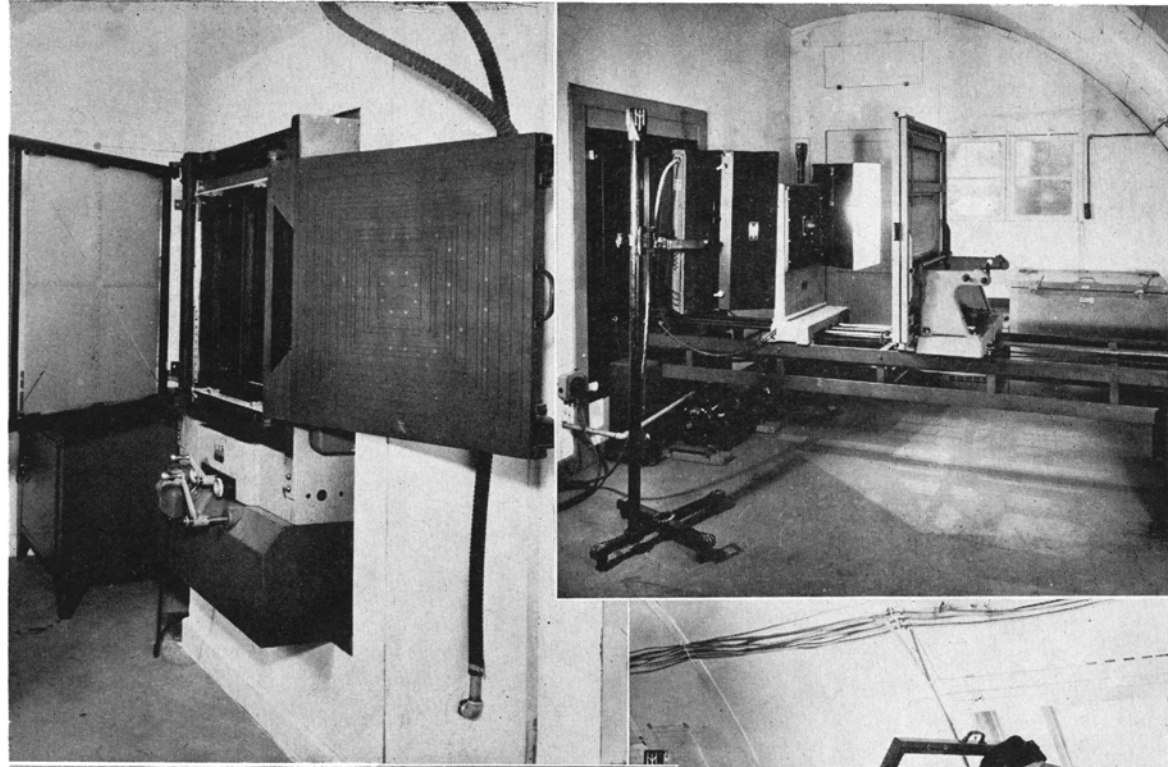


This is the floor plan of the advance base litho unit as released by the navy. Key to circled numbers showing location of equipment is below.



The circled numbers in the above drawing indicate:

1. Cooling cabinet (film storage).
2. Camera — 24" darkroom type.
3. Arc lamps—camera.
4. Stripping table with geared straight edges.
5. Arc lamp—for vacuum frame.
6. Vacuum frame for litho plates.
7. Plate sink, stainless steel.
8. Plate whirler coating machine, vertical.
9. Paper cutter.
10. Paper drill.
11. Paper stitcher.
12. Copy table (illuminated transparent tilting top).
13. Harris Model LTE mobile offset press.
14. Ozalid machine.
15. Film cabinet and trimmer.
16. Contact vacuum printing frame with point source light and electric timer.
17. Developing, rinse and fixing unit, temperature controlled.
18. Sink, stainless steel.
19. Illuminated negative viewing attachment.
20. Sink, stainless steel.
21. Plate graining machine.
22. Air brush and compressor.



Top, left: 24" darkroom type camera showing vacuum back for film and contact screen. Top, right: the 24" camera, arc lamps, and temperature controlled film storage cabinet. Lower, left: interior of the darkroom, 7 1/2 x 25 feet. Lower, right: an enlisted man operates the vacuum printing frame. (Official U. S. Navy Photos.)

is a film storage cabinet with a Victor Products Corp. tropical refrigerating unit, which preserves films at the desired temperature under jungle conditions. The hut is insulated and in the tropics it is air conditioned for control of paper stock used in color process work.

Clips for holding the paper during the conditioning period are located near the hut's ceiling while a ponderous litho stone slab, on which inks are mixed, strikingly links today's lithography with its almost forgotten "stone age" past.

In command of the Chicago detail was Lt. John McMaster, formerly associated with Eastman Kodak Co., who for the past year has been in charge of the navy litho training school at the Naval Air Station, near Washington, D. C.

Lt. McMaster called attention to the light weight construction of the Harris press, some of whose larger parts are made of aluminum castings.

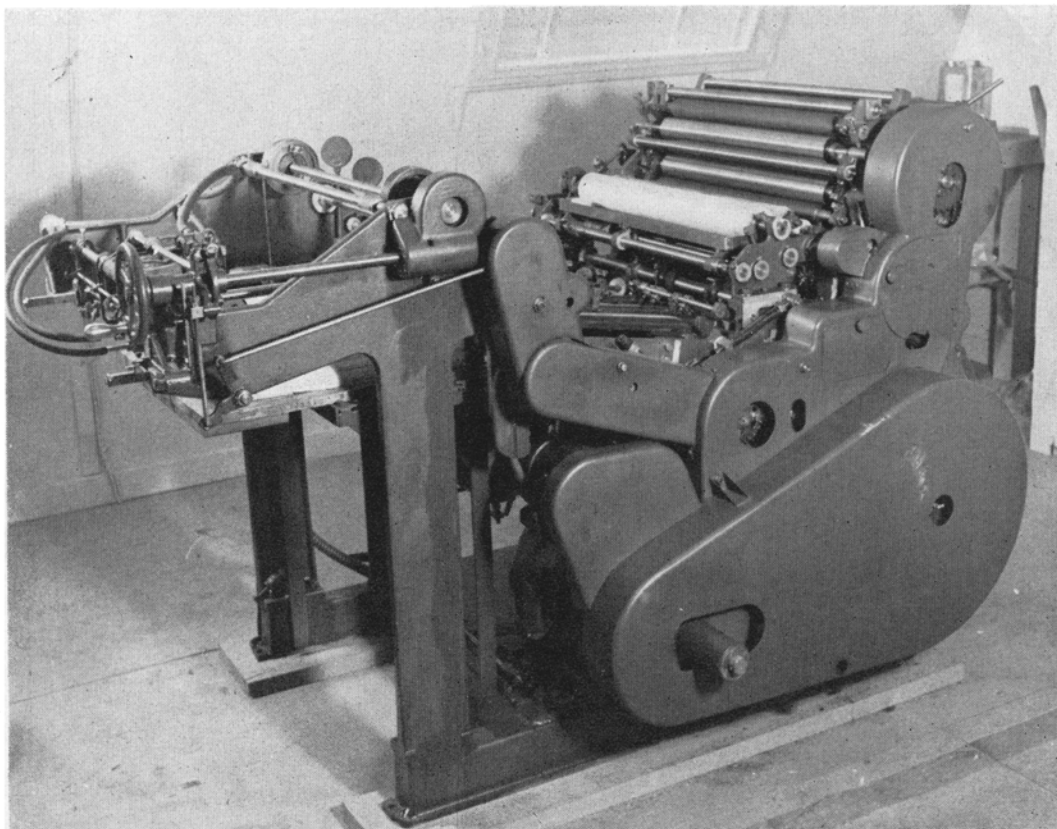
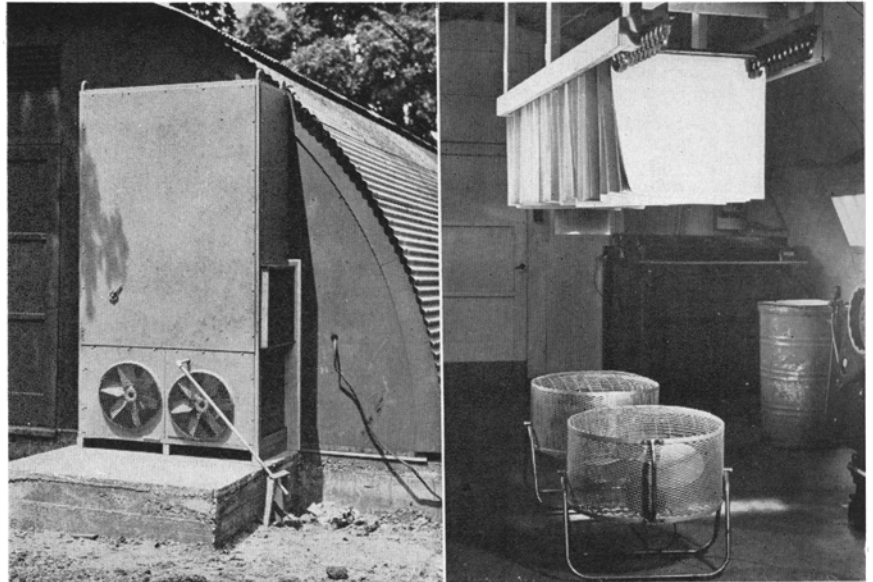
Further additional weight reduction is gained, he pointed out by cutting off about a foot from the bottom of the frame, resulting in a "runty" effect which might puzzle the civilian lithographer. Total weight of the machine shown would be approximately 2400 pounds.

While the advance base photolithographic unit is primarily designed for speedy reproduction of aerial photographs, it serves other uses in the field, Lt. McMaster said.

In combat areas it produces maps and charts, bulletins, directives and incidental printed material required by an advance base, also mechanical drawings for Construction Battalion (C.B.) engineers, and, if called on, the unit prints the camp newspaper.

Serving as a reminder of the serious nature of a front line lithographer's life were the five pieces of fire fighting equipment for use if Jap bombs should damage the steel ribbed structure. ★ ★

Right: Two five H.P. air conditioners are provided to maintain a relative humidity of 55 per cent within the hut. Far right: Paper hangers and fans for conditioning paper for close register map work.



This is the Harris Model LTE Mobile 20 x 22½" offset press. (All are official U. S. Navy photos.)