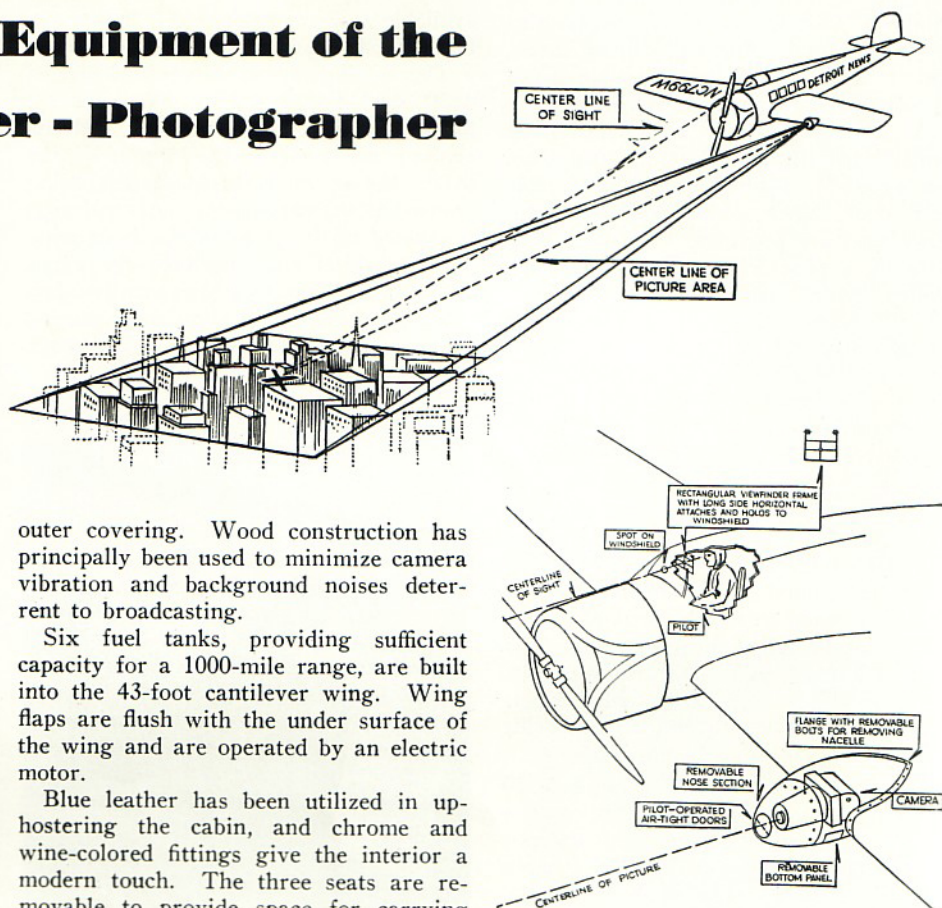




Complete Aerial Equipment of the Modern Reporter - Photographer

● One of the most interesting adaptations of the airplane for newspaper work, is the Pratt & Whitney powered monoplane built especially for the *Detroit News*. Equipped with every modern device for flight, it is further supplied with aerial cameras, three seats, a desk for a reporter or radio operator, and a compact broadcasting station.

The plane, which was built to *The News'* specifications by the Lockheed Aircraft Corp., Burbank, Calif., and which took 15 months to pass from the design to the completed work, is a low-wing monoplane convertible into a land or seaplane. Following standard Lockheed procedure, the fuselage is of monocoque construction and of selected straight-grain spruce, 15 laminated diaphragms forming the principal fuselage structure. These are joined together with steel rods and interbraced with wood compression members. Plywood, fabric covered, forms the



Graphic illustration of operation and action of the wing camera

outer covering. Wood construction has principally been used to minimize camera vibration and background noises deterrent to broadcasting.

Six fuel tanks, providing sufficient capacity for a 1000-mile range, are built into the 43-foot cantilever wing. Wing flaps are flush with the under surface of the wing and are operated by an electric motor.

Blue leather has been utilized in upholstery of the cabin, and chrome and wine-colored fittings give the interior a modern touch. The three seats are removable to provide space for carrying 1000 pounds of newspapers and large doors in the baggage compartment may be opened for oblique photographs.

A retractable landing gear is provided when the plane is used for land operations, the position of the gear being indicated to the pilot by visible and aural signals in the cockpit. Automatic control is obtained by the installation of a Sperry pilot, enabling the pilot to take pictures, broadcast news, write and navigate. Two small gyroscopes mounted in the control panel actuate the mechanical pilot; one unit controls the rudder and the other the ailerons.

Special equipment provides a practical method of taking aerial news pictures with an automatic camera directed and controlled by the pilot. Three camera installations make it possible to take pictures from any angle.

The camera used is a standard Fairchild K-3B aerial camera equipped with an Eastman F5.0 lens of 12-inch focal

length. It is the latest type of general utility aerial camera now being used for both vertical and oblique photographs by the U.S. Army Air Corps and other military and commercial aerial photographic organizations in the United States and foreign countries.

Particular interest is centered on the novel installation of the wing-camera. The conventional camera method of procedure in oblique photography is to use a hand-held, manually-operated camera and "shoot" over the side of the airplane, out a window or door of a cabin airplane. However, in *The News* plane installations, a unique method of mounting the camera in a fixed position for oblique photography has been devised and fully-automatic operation utilized.

This camera is installed in a streamlined nacelle on the left wing of the air-



Aviation Editor Piersol placing film pack holder in the aerial camera installed in the wing nacelle of the *Detroit News'* Lockheed

plane parallel to the line of flight and the method of operation is very similar to the operation of a fixed machine-gun. The camera can be operated electrically by pressing a push button on the control stick of the airplane, the controls leading through the wing to the cockpit.

Immediately after the exposure has been made, the shutter is automatically wound and fresh film moved into position for the next picture. The complete cycle of operations requires only about three seconds. A red signal light on the instrument panel warns the pilot when the camera wind mechanism is in operation. A 75-foot role of film, 7 × 9 inches in size is used.

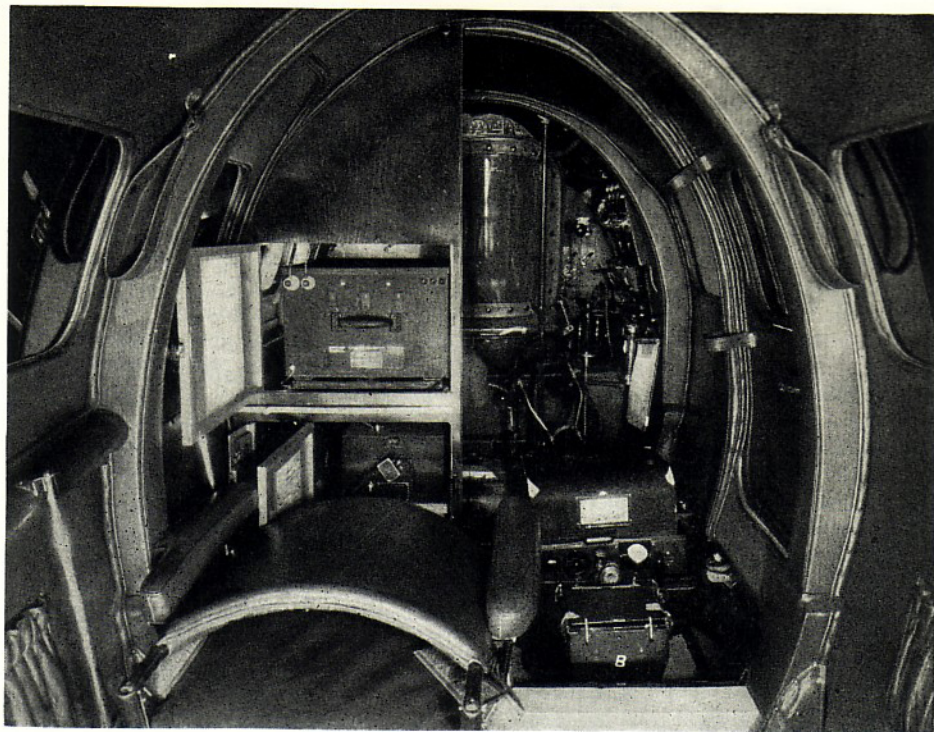
Precaution has been taken to assure trouble-free operation under all conditions. The camera is equipped with the Fairchild between-the-lens shutter. The enclosure which houses the camera on the wing is equipped with an adjustable lens protector to protect the filter and front of the lens assembly from precipitation while the airplane is in flight. As the airplane approaches the object to be photographed the pilot can open the cover of the lens protector by a Bowden wire arrangement located in the cockpit.

Vibration is effectively absorbed by an anti-vibration type mount.

A gun sight mounted on the pilot's windshield serves as the viewfinder. He aims the plane and it automatically aims the camera. Once in position, he presses the trigger on his control stick to make the photograph. Machine-gun accuracy is obtainable with the new sighting method. Pictures can be taken at intervals of two seconds and a total of 110 can be taken with one loading of the camera magazine.

Being a standard camera, the K-3B can be used, when the occasion demands, for vertical photography by removing it from its enclosure in the wing and placing it in a standard Fairchild vertical suspension-mount inside the cabin.

Photographs also may be taken straight down through an opening in the floor. This installation can be operated manu-



Looking forward to the pilot's cockpit showing the arrangement of the radio and photographic apparatus of the Detroit News' Lockheed

ally from the passenger compartment or automatically from the pilot's seat. The third camera installation located in one of the compartments in the rear, provides for manually operated cameras projected upward, sidewise and to the rear.

Radio equipment includes a new-type transmitter which is to be an auxiliary of WWJ, *The News'* radio station, in broadcasting outdoor events of public interest. The installation was developed by the radio station's engineers, as well as the radio technicians of American Airlines and TWA, Inc. The transmitter, which covers a range of 1000 to 6000 kilocycles was built by the Western Electric Co. It transmits both voice and code and can be operated from either the cockpit or cabin.

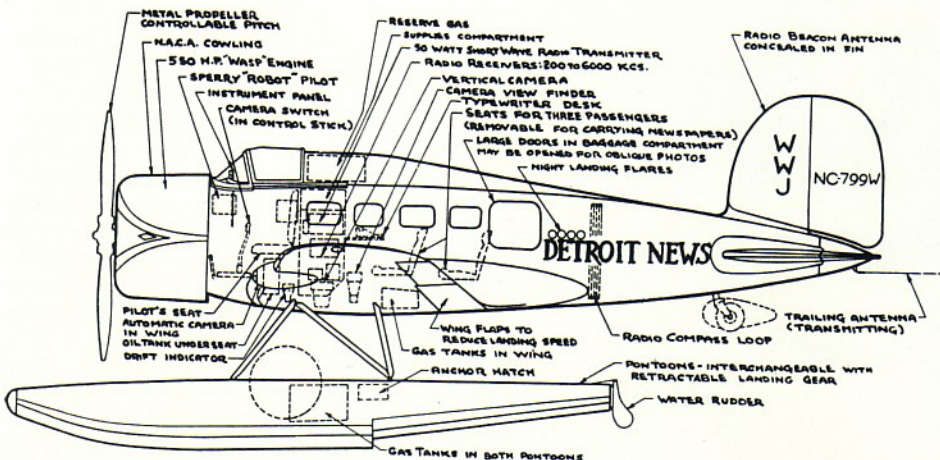
The radio receiving equipment covers the range of 195 to 6000 kilocycles. A

special receiver includes a navigator's directional loop, provision for flying the airway range beacons and receiving Department of Commerce weather broadcasts.

Powered by a supercharged P. & W. Wasp engine of 550 h.p., and equipped with a Hamilton Standard controllable-pitch propeller, the ship has a maximum speed of 202 miles an hour at 1000 feet. With the flaps in operation, landing speed has been reduced from 80 to 65 m.p.h., and wheel brakes reduce the length of the landing run. Streamlined tires are employed to ease landing shocks. The engine drives two pumps for governing the operation of the Sperry automatic pilot and the propeller control.

James V. Piersol is aviation editor of *The News* and pilot of the plane. In keeping with the early experience of William E. Scripps, president of *The News* who in 1912 qualified for membership in the Early Birds organization by piloting the first airplane delivery of newspapers in Detroit, the plane was christened the *Early Bird*.

The News previously owned a Pratt and Whitney powered Lockheed Vega and from the record established by that plane before it was retired from service, the new craft is in for a busy time. The old plane covered routine affairs, calendar events, spot news and special assignments. Trips were made to report on local as well as national events and where news of local interest was thousands of miles away from Detroit, the plane was flown there, utilizing the time in the air to photograph points of interest along the route.



Diagrammatic sketch of arrangement and equipment installation