

AERONAUTICS

Army Observation Plane Completing Flight Tests

► THE NEW Army plane, now under flight tests in Wichita, is a strange-looking craft in general appearance but it can take off and land on very short runways. It is for observation purposes, and will be delivered to the Army later this month by Boeing Aircraft Company, its builder.

It is a monoplane, with wings, conical boom from wings to tail, and inverted tail surfaces all in one assembled piece. Below the wings and the fore part of the boom is suspended a passenger-carrying boat-shaped body for pilot and observer. This houses its 125-horsepower Lycoming engine. Propeller blades are on its fore end, and landing wheels below.

The plane is designed to take off and clear a 50-foot obstacle in 600 feet. It can climb at 628 feet per minute, cruise at 100 miles an hour, and land at 35 miles an hour. It is approximately 26 feet long, and has a wingspan of 40 feet. Its gross weight is a little over a ton.

Pilot and observer in the plane have unobstructed view at all times. Large windows which slope inward at the bottom permit observation directly downward, while a transparent section overhead offers a clear upward view.

In the Army, the plane will be known as the XL-15. It is, in Army language, a liaison plane to be used in connection with Ground Forces operations.

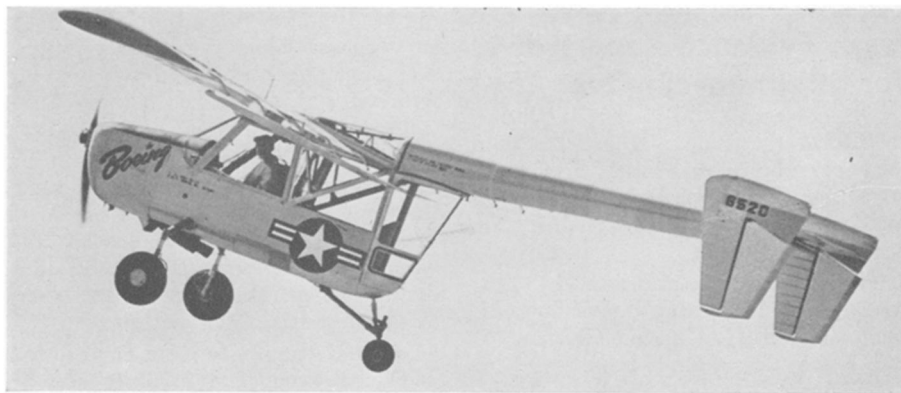
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PHYSICS

Electric Photocell Detects Carbon Monoxide in Plane

► CARBON MONOXIDE, which can be even more dangerous in airplanes than it is in automobiles, is detected photoelectrically in the device on which patent 2,425,059 has been awarded to William F. Fagen of Chicago, assignor to the Stewart-Warner Corporation. A continuous sample of the air supplied to the plane's cabin is passed through a tube containing a gel that turns dark blue in the presence of carbon monoxide. A light beam that passes through the gel in its normal state is dimmed, hence fails to excite the photocell on which it is directed. This change in current, suitably stepped up, operates a relay and gives warning.

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NEW LIAISON—The L-15 will be used for directing artillery fire, reconnaissance, aerial photography and emergency supply missions.

TELEPHONY

Train Telephone Service

Persons on trains can now talk with their offices or homes. Experiment is being tried on several trains running between Washington and New York.

► TELEPHONE conversations between offices or homes and passengers on board speeding trains became available Aug. 15, the Federal Communications Commission has announced.

An experimental service of this nature was inaugurated on that date on several Pennsylvania and Baltimore and Ohio trains between Washington and New York. Tariffs, now filed with the commission, are comparable with similar rates for regular long-distance calls.

The plan is part of the Bell system's work on a radiotelephony program to develop apparatus and methods to bring the telephone network within reach of persons on trains, automobiles, airplanes and surface ships. An experimental installation for telephone service on the famous Boston Post Road connecting that city with New York was started nearly a year ago. In that system six 250-watt land transmitters are used. One is at each end of the line, and the other four at way stations. It is similar to the system already in use in several American cities which provides telephone service between homes or offices and moving taxicabs or delivery trucks.

Induction telephone service, a different type from the other installations planned, is proposed by the Chesapeake

and Ohio Railway Co., for passengers' use between Orange, Va., and Cincinnati. The installation will cost nearly \$360,000, company officials estimate. Standing by itself, it would not be a profitable venture but the availability of the service is expected to attract additional travel.

This railroad telephone service for passengers is not the same as the radio service for train crews now in operation on many railroads and in a number of freight and terminal yards. About 100 authorizations for this type of service have already been given by government authorities. They cover some 75 land stations and 700 mobile units, since a single grant may cover from one to a hundred radio installations on engines and cars.

This railroad radio service, as it is called, was inaugurated Dec. 31, 1945, after it was shown that use of radio would benefit both the public and the industry. It was developed by the Federal Communications Commission in collaboration with the Association of American Railroads, and incorporates a geographical assignment plan to insure the utmost use of available frequencies. Wartime development of very high frequency transmission has made it possible to design radio equipment to meet the particular needs of railroads.

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