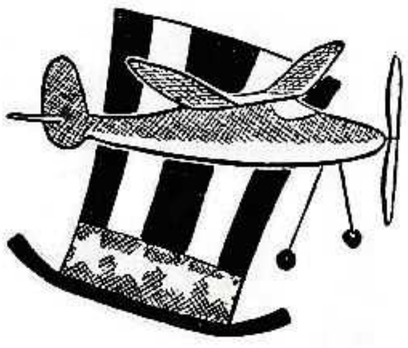
Captain G. V. Holloman adjusts parachute installation on radio controlled target plane



UNCLE SAM BUYS

High Lights of a Radio Controlled Model Plane Developed at Wright Field for Use As an Aerial Target

By DOUGLAS J. INGELLS

BACK in July, 1925, visitors at Wright Field, aeronautical research center in Dayton, Ohio, were very much perplexed when they saw a small car moving about the grounds without visible means of control.

"Something wrong here," thought the onlookers, "cars don't just run by themselves. Say, what is this . . . ?"

There was no doubt about it, that "driverless" car caused great concern. Actually, however, the car had a pilot, but he wasn't inside.

What happened was this:

That small car was under perfect guidance, being operated by radio control from an airplane flying at 2,000 feet.

Put that in reverse, let the moving car on the ground control a tiny plane in the air, and you have an up-to-the-minute headline—RADIO CONTROLLED AIRPLANES.

Today, fourteen years after that "mystery car" made its first public demonstration of automatic radio control, aeronautical experts at Wright Field are experimenting with a new radio controlled airplane. And they hope this small ship will prove satisfactory as a target for training pursuit pilots in aerial machine gunnery.

The plane around which these new experiments are centered is far from being a full sized airplane. It is about one-third the size of an ordinary combat ship, with a wing spread of twelve feet, but it has a real gasoline motor and its controls work on the same principle as those on a regular airplane except that it is operated by radio control.

Primarily the model is designed to serve as a target, replacing the sleeve-type tow-target found unsatisfactory because it lacked maneuverability and did not simulate an airplane in flight.

Radio installations comprised of intricate mechanisms placed in the small plane are the secret of its control.

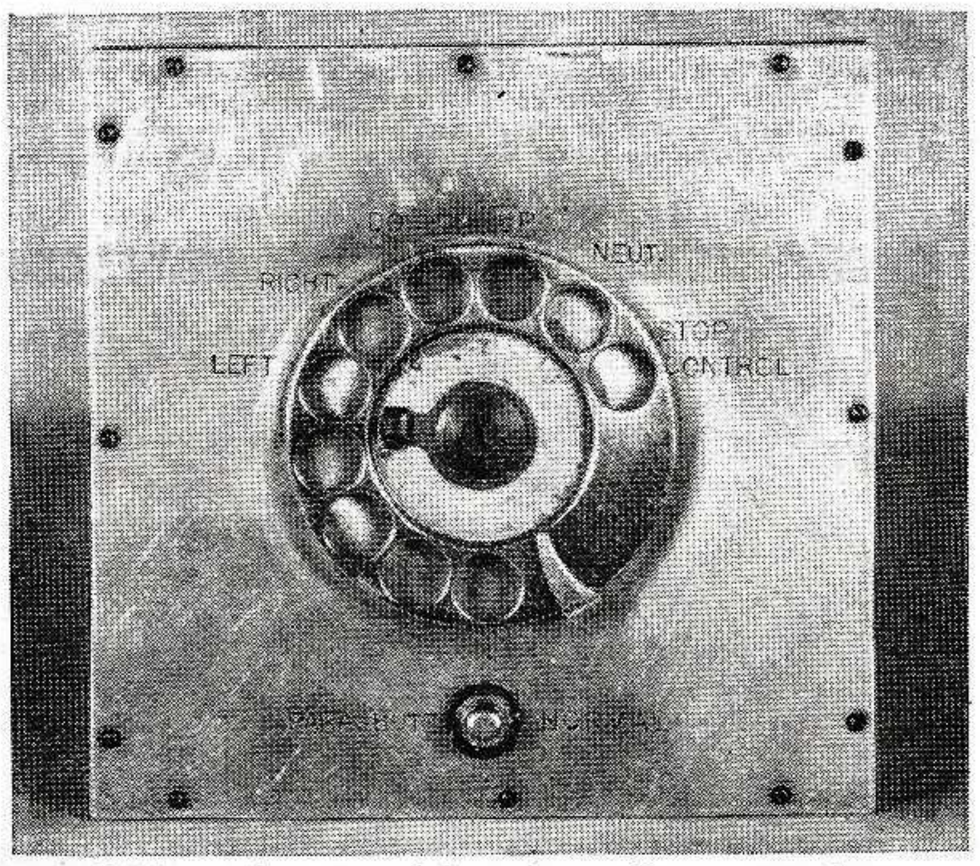
Although the target model is launched from a catapult it can take off on its own power, according to those working on the experiments. It can climb to a ceiling of 5,000 feet and still maintain its "ground control" by means of radio frequencies.

Aside from the actual radio control apparatus, which is one subject army engineers refuse to talk about, the outstanding feature of the model is its small engine. Unlike most small-motored model planes, this ship has a twin-propeller arrangement. Both blades run on the same shaft by means of gears, but they revolve in opposite directions, thus creating a greater pulling power for the plane.

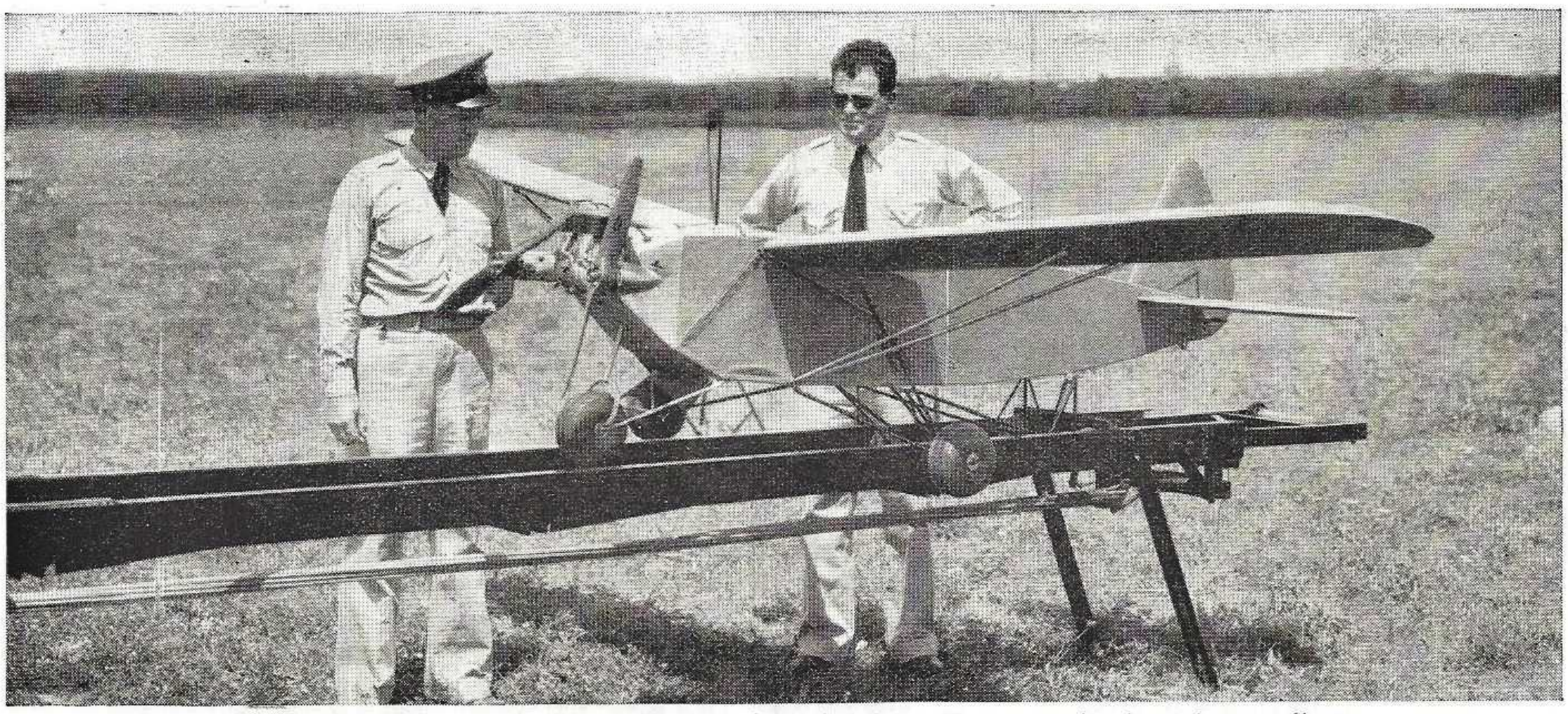
When the model has completed its mission as a target, a radio contact from the rheostat operator on the ground releases a small parachute from the plane and floats it gracefully to earth. The catapult launching method and the parachute descent are advantageous because they permit the operation of the model in a minimum of space.

It is not necessary that the model be lowered by its pick-a-back chute inasmuch as the radio control operator can land the ship by operating his "dial control." The dial control looks very much like a dial on the telephone, but it holds the control "contact points" which enable the model to react just as a large plane. Banks, climbs, dives and almost every other flight maneuver can be accomplished by a series of contacts from the ground operator, reaching the model through short wave frequencies.

In this way the plane, when it is in flight, greatly resembles a moving airplane target and serves as a "good test" for anti-



Dial on the control box for radio target plane



Making last minute preparations before launching the plane. Note catapult, also twin propellers

A MODEL PLANE

aircraft gunners on the ground. The model is fitted to a portable truck especially designed with radio equipment for use with the experiments. It can be transported from various fields to other locations and thus serves as a mobile unit.

Army men say that the target is cheaper than the tow-target used at the present time by them, and "much less dangerous" inasmuch as the tow-target must be towed by an airplane and there is the slight chance that shells might "go astray."

However the model, which is almost an exact replica of some of Reginald Denny's radio controlled jobs—the army actually bought twelve models from Denny sometime ago at a price of $1,000 each—does not appear to be just an "inexpensive toy."

Those familiar with the tests claim that the most difficult problem was getting the ship to land itself. This, they said, was because once the plane lost its motivation in the air the weight tended to "throw wave frequencies off" and thus made the control difficult.

In charge of the tests with the target model are capt. George V. Holloman, Capt. Rudolph Fink and Lawrence Shanabrook. Capt. Holloman was presented the Distinguished Flying Cross by Maj. General Henry H. Arnold, Chief of the U. S. Air Corps, on August 2nd at the air corps birthday party at Wright Field, for his part in the "development of the first automatic landing in an airplane."

"The small target model must in no way be associated with the

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The motor has stopped, the parachute has been released and the plane slowly descends

The aerial target plane is transported from place to place securely mounted on top of the control car, as shown

The model climbing steeply after the take-off, on one of its first test flights at Wright Field

Uncle Sam Buys a Model Plane

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developments we are working on pertaining to the automatic landing system," Capt. Holloman explains.

However, it is interesting to draw a parallel between the two inasmuch as Holloman has taken such an active part in each and both have to deal with pilotless planes.

Sometime ago a new Lockheed transport plane was brought to Wright Field for acceptance testing. When the test routine is completed this ship will be turned over to Capt. Holloman and those in the radio laboratory for experimental work with the new automatic landing system under test here.

The big problem right now is the development of the "straight line glide" landing. This is the new system which can be applied to the various automatic landing facilities now under experimentation. This "straight line glide" plus some "unknown" means of direction will be the ultimate objective of the experiments. This, from the experts who have been working on the tests.

In making the automatic landing the plane is brought over the field by means of the radio compass. Once over the field the pilot turns on the automatic landing device and by a series of curves completed through mechanical combinations of radio frequencies, electrical impulses and "iron mike," the gyro-pilot, the plane settles to earth without the aid of human control.

Imagine, landing in the airliners of tomorrow while the pilot is sitting in on a game of bridge!

Impossible, you say?

Far from it . . . if these experiments prove successful. If progress maintains its present pace, the fear of fog, rain or sleet won't stop the airliner from settling down to earth no matter what the weather.

That little model is only a target, yet it takes off, flies and lands—utilizing radio control. And soon the new Lockheed will become a guinea pig for the "straight-line" glide experiments.

At last here is the link between "Toy" and Transport.