

Early Flying “Robots: from models to target UAVs”

UAV (Drones) Inquiry Unit Supporting Question 2

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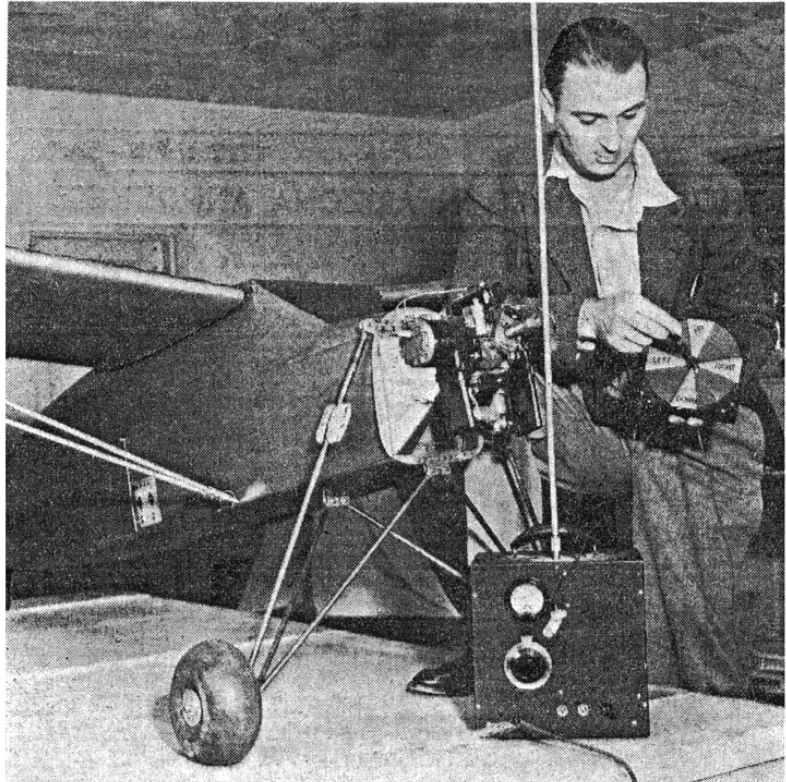
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Before the U.S. entered World War II, research had begun on remote, radio-controlled airplanes. At first, they were popular with hobbyist model builders; however, development began in earnest to build UAVs as targets to train military gunners in the Army and Navy. Reginald Denny, Walter Righter, and Paul Witter developed early UAVs in California beginning in the late 1930s. By 1940, the Radioplane Company, which eventually became Northrup Grumman, evolved from this activity. (Note the small size.)

Los Angeles Times

JANUARY 28, 1938.—FRIDAY MORNING.

AIRSHIP DESIGNED TO BE SHOT DOWN



Paul Whittier, co-builder of the radio-controlled model airplane to be tested Tuesday by Coast Artillerymen, the plane and his ground control equipment. Times photo

ARMY TO TEST MODEL ROBOT PLANE AS ARTILLERY TARGET

With elaborate range-finding equipment, a unit of the Sixty-third Coast Artillery under Lieut.-Col. Claude M. Thiele will go to Muroc Dry Lake next Tuesday to test its marksmanship against a radio-controlled model airplane.

If successful, trial flights of the miniature craft will pave the way for general use of such machines to train anti-aircraft and coast artillerymen.

RADIO CONTROLLED

Paul Whittier, veteran National Guard airman, and Reginald Denny, actor-model-maker, constructed the gasoline-powered plane, climaxing two years of intense experimentation before they were successful in building a delicate radio mechanism which permits control of the model aloft.

The craft's wing span is twelve feet. From tail to propeller, it measures eight and one-half feet.

IMPULSES CONTROLLED

Once the model's three-horsepower engine pulls it skyward, the radio controls go into action. In the fuselage of the plane, the builders have installed a three-

tube receiving set, which relays impulses to tiny electric motors. These operate the tail rudder and elevators.

Ground equipment consists of a shortwave sending set and a control box, with contact points which modulate the wavelengths of the radio impulses. These send the model up, down, left or right.

DEVELOPMENT PLANNED

Eventually, said Whittier, who served as chief engineer of the project since its inception in 1935, they hope to gyrate the small craft in intricate loops, falling leaves, and spins.

Earlier flight tests have indicated that the Whittier-Denny model will travel sixty miles an hour. Its tiny engine will haul its forty-two pounds to an altitude of 9000 feet—far enough to put the plane out of sight of the naked eye.

COFFEE CUP IDEA

Two years ago, over the coffee cups, Denny broached the idea of making such a ship for anti-aircraft artillery use. Practice procedure for the Army today demands the day-and-night service of an observation plane

and a skilled pilot. This costs the government \$300 an hour.

The model, proven successful, will permit coast artillerymen to attain their range-finding for a very small sum.

RATIO PLANNED

Its design aims at producing a miniature whose speed-size ratio corresponds exactly to full-sized ships. Thus, as the models become old, they will probably be used directly as flying targets for the artillerymen.

On a production basis, Whittier said, the craft will fetch \$600. This experimental model, however, represents a \$2000 investment.

ALL-DAY TEST

Col. Thiele announced he will take height-finders, speed determiners and other equipment to Muroc Dry Lake for an all-day test Tuesday.

He admitted freely that perfection of such a model will provide the Army with something it has sought for years.