

"Denny's Radio Model Tested"

UAV (Drones) Inquiry Unit

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FLYING ACES

JUNE, 1938

Denny's Radio Model Tested

ARMY AND NAVY OFFICERS WITNESS TRIALS

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By Frank B. Knapton

Gas Model Airplane Association of Southern California, Inc.

AT LAST the secret is out! For the past few months there have been rumors around Los Angeles about some great secret on which the Reginald Denny Industries were working. But regardless of the shush-shush protection, most modelers in the vicinity were generally aware that the mystery pertained to a radio-controlled gas job.

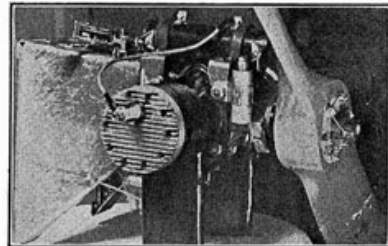
And that's what it was—a radio gas job that cost \$2,100 to build and in which both the Army and Navy are vitally interested! Recently, the first actual service test of the ship was made. And this writer was invited to attend as one of the "testers."

We started out from Los Angeles early in the morning for a dusty drive of about 160 miles to an isolated dry lake near Twenty Nine Palms. When we arrived there, we found an Army plane already waiting and a Navy ship just sitting down.

The Army observers included Lieutenant Colonel Gerald E. Brower—representing General Westover, Chief of the Air Corps—and Lieutenant Colonel Claude M. Thiele of the 63rd Coast Artillery (Anti-aircraft), Fort MacArthur, Los Angeles.

In our own group were Reginald Denny, Paul Whittier (Mr. Denny's chief engineer), W. D. Fletcher, W. H. Righter (a Denny man, who designed and built the engines for the radio ship), Kenneth Case (designer of the radio unit), Fred Hardy (who built the ship), and myself.

A real beauty is the Denny radio ship. It has a span of twelve feet, a chord of twenty-one inches, and it weighs—complete with a half-gallon tank of gas—forty-two pounds. No ailerons are used, the entire control of the ship being in the rudder and stabilizer. The model required more than two months for its actual construction.



Left: Designed and built especially for Mr. Denny's sensational radio job, this two-cycle, two-cylinder opposed engine is a marvel of precision machinery. It's shown here complete with motor-bearers, coil and condenser, pump, and timer. That's the timer switch stop the bearings. Right: And here's the radio ship's "brain" the compact and efficient little receiver. This set weighs but four pounds complete with batteries, and it is equipped with reversible motors for operating the control surfaces of the plane.

When the job was assembled, the newsreel men and photographers went to work, after which the ship was rolled along the sand toward the center of the haked lake bed. Here the engine was warmed up and the ship given a few short practice runs—Colonel Brower called them "dry runs."

Then, after the receiving set on the ship had been synchronized with the sending set which was located about a quarter-mile distant, the test signal was given and the ship turned loose.

Using her basic adjustments, the ship taxied for about seventy feet before leaving the ground. She started an

easy climbing turn to the left. At this point the radio was cut in with the lever on the control box adjusted for a right turn.

And—it worked! The model's rudder swung over, and the nose instantly followed through. The ship continued in that right circle until the motor—timer-operated—cut out. With that, the "X-model" went into a glide.

Her landing speed was fast, and with the seven-pound engine in the nose and the extra weight of the receiver and control-motors, she hit pretty hard. The engine yanked out the firewall and turned a somersault on the ground. And

since our repair facilities were quite limited, the tests had to be concluded for the day.

However, the plane's reaction to her radio control had been very satisfactory, and the officers present said that they wanted to witness additional tests.

Incidentally, Colonel Brower said that the United States Army has been using gliders for range-finding targets, but that a model plane which could be controlled in flight would be far more satisfactory. He also said that it costs \$800 per hour to take a regular airplane upstairs for range practice.

Use of a ship such as the Denny radio

job, however, would cut this cost considerably. In regular quantity production, this \$2100 ship could be duplicated for about \$600. And since it is built to a carefully worked out speed-size scale, the radio model at 5,000 feet will have the same appearance as a standard ship at 15,000. Thus the Army's range finders could be given almost unlimited practice at very low cost, and when the ships become too old for accurate control they could be used as firing

targets for anti-aircraft gunners.

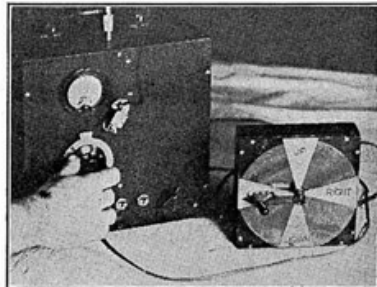
The Army men will take speed and height determining equipment and other military precision instruments on the next tests. It is expected that the ship will reach 9,000 feet at that time. Naturally, but little definite information concerning the radio system has been released. Kenneth Case, its designer declared, however, that the set operates on a wave length of seven meters. The receiving unit in the model

weighs four pounds complete with batteries and control motors. The motors, of course, are reversible, and are connected to the tail surfaces with fine cables.

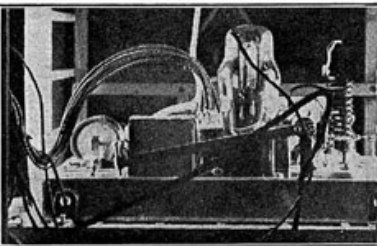
The engine in the Denny radio control plane was made by Mr. Righter in the Denny shops. It is a two-cycle, two-cylinder opposed job that delivers 3 h.p. at 3,500 r.p.m. The 28" prop was made by Story. Unfortunately, it was damaged when the model landed.



Paul Whittier, chief engineer of Reg Denny's radio-control model venture, is checking the details before the \$2,100 job is sent "upstairs." That opening in the fuselage leads to the chamber for the receiving unit. No ailerons are used on this ship, entire control being achieved through the rudder and elevators.



Simple, isn't it? Just set the lever on the desired marker and turn on the juice! But Ken Case, designer of the radio unit and whose hand is seen on the knob, says there's more to it—MUCH more to it—than that. The Government won't let him tell all of his secrets, however, although they'll let him admit that this "shot" above the sender.



In the late 1930s, Reginald Denny Industries, which later became Radioplane Company, developed a series of radio-controlled model airplanes as aerial targets for anti-aircraft gunnery training by the Army Air Corps. This article highlights the field test of one of the company's first radio-controlled model aircraft, which was attended by both the United States Army and Navy, as well as the engineers and employees of Reginald Denny Industries, later known as the Radioplane Company.