



In this posed publicity shot, construction work on the Cloudster is a white-collar job. Donald Douglas is in the front of the cockpit.

The Douglas Cloudster

Charles Atlas, with wings

BY PETER M. BOWERS

The Douglas Aircraft Company (now McDonnell-Douglas) has been one of the world's leading manufacturers of transport airplanes since the mid-1930s. The original firm, the Davis-Douglas Company, was founded in 1920, and the first Douglas airplane was completed in 1921. It was not designed specifically as a transport, since there was no market for one at the time; but it is remembered best for that kind of work.

Donald Wills Douglas, a 1914 graduate of the Massachusetts Institute of Technology, resigned as chief engineer for the Glenn L. Martin Company in Cleveland and moved to Los Angeles in 1920 to go into airplane manufacturing on his own. There, he met David R. Davis, a wealthy sportsman who was interested in obtaining an airplane that could fly coast to coast nonstop. Nothing with that capability existed at the time. Though young Douglas (he was then 28) would have preferred to design a passenger airplane, he was sure that he could build what Davis wanted. However, he had no assets and no facilities for doing so. As a result, Davis changed from potential customer to financial backer and business partner, and the Davis-Douglas Company was established in the back room of a barber shop on July 22, 1920.

The first Douglas-built airplane was a big biplane, serial number 100. (It is notable that many manufacturers did not give their first airplanes serial number one, preferring, like Douglas, to start with 100 or higher.) Construction was thoroughly conventional for the time—wood-frame fuselage, wings and tail, all fabric covered. A “tunnel” radiator beneath the 420-hp war-surplus Liberty engine was an advanced feature that soon became an industry standard.

Since the airplane was designed for a nonstop flight of more than 2,500 miles, it was virtually a flying gas tank. It had a capacity of 660 gallons of gas and 50 quarts of oil and an estimated range of 2,800 statute miles. Every effort was made to maximize the carrying capacity, and the yet-unnamed airplane was able to achieve a useful load greater than its empty weight, a fact subsequently publicized as a notable first.

The new company still had no manufacturing facilities, so the airplane was built on the leased second floor of a local planing mill. Some major assembling was completed in the open at ground level, and the pieces then were trucked to the nearby Goodyear airship hangar for final assembly. The first

flight was made on February 24, 1921.

When the one-and-only model was ready for the coast-to-coast flight on June 27, 1921, it had been named “Cloudster.” This was a contraction of a remark made by Eric Springer, former chief pilot for the Martin Company, who had joined Douglas: “You’ve got a real cloud duster there, Doug.”

Springer was the pilot and Davis a passenger on the coast-to-coast flight. They took off from the U.S. Army’s March Field, east of Los Angeles. All went well until the engine’s timing gear let go over El Paso, Texas. The flight ended with barely one-third of the trip completed. After it was repaired, the Cloudster was flown back to Los Angeles. Disillusioned, Davis withdrew from the company but left the airplane in it. Eventually he returned to aviation and developed the famous “Davis Wing” used on the B-24 Liberator bombers of World War II.

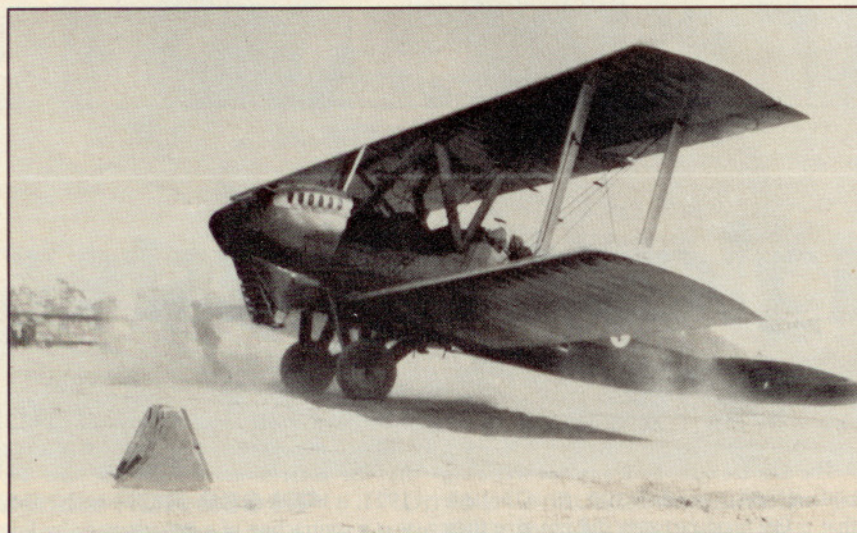
Davis’ dissolution of the partnership was not the end for Douglas. He already had designed a slightly smaller and more practical model, the “Commuter” (not to be confused with the little two-seat “Commuter” of

A biplane caught the eye of Peter Bowers, AOPA 54408, when he was 10. Since then, he has not let airplanes out of his sight.

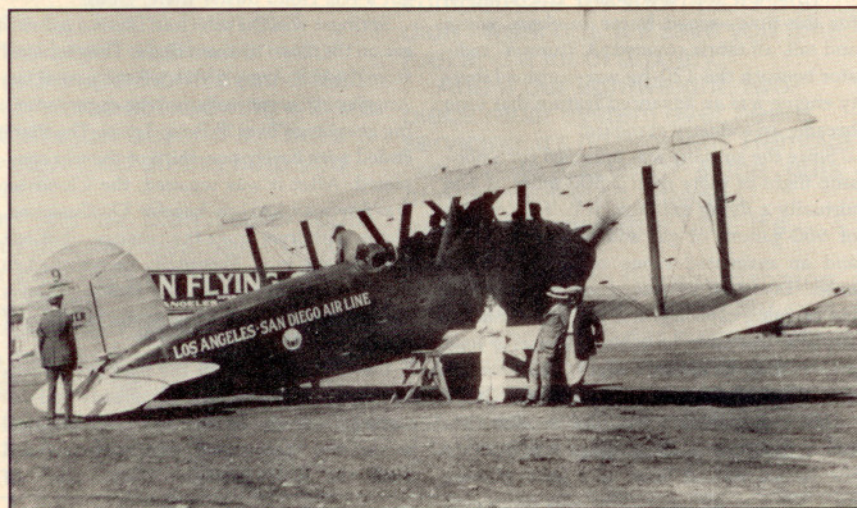
YESTERDAYS • WINGS



The first Douglas aircraft, the Cloudster, was designed and built for David R. Davis, a wealthy sportsman and the financial backer of the Davis-Douglas Company. Davis mainly was interested in an aircraft capable of a non-stop, coast-to-coast flight.



The Cloudster was converted to an open-cockpit, eight-passenger aircraft after being sold to an individual who intended to use it for commercial sightseeing.



After the sightseeing business fell through, the Cloudster reappeared as a passenger aircraft that flew between San Diego and Los Angeles. Owned by Ryan Airlines, the aircraft held four passengers in each of the two forward cockpits plus another who rode alongside the pilot in the rear cockpit.

1926, the first Douglas monoplane), for commercial use. But no one was interested; since war-surplus models could do very nearly the same job at a fraction of the cost, the biplane design was never built. Returning to the basic Cloudster design, Douglas adapted it to the specific requirements of the U.S. Navy for a new-generation torpedo-carrying airplane. The major change in the design was replacement of the wooden fuselage with welded steel tubing. The Navy ordered three prototypes under the designation of DT (for Douglas Torpedo) and followed up that order with production orders for 38 more.

An innovation on the Navy models was the use of folding wings to save space on aircraft carriers, a first for the U.S. Navy. Further minor modifications for the Army started a career for Douglas as the principal supplier of Army observation airplanes.

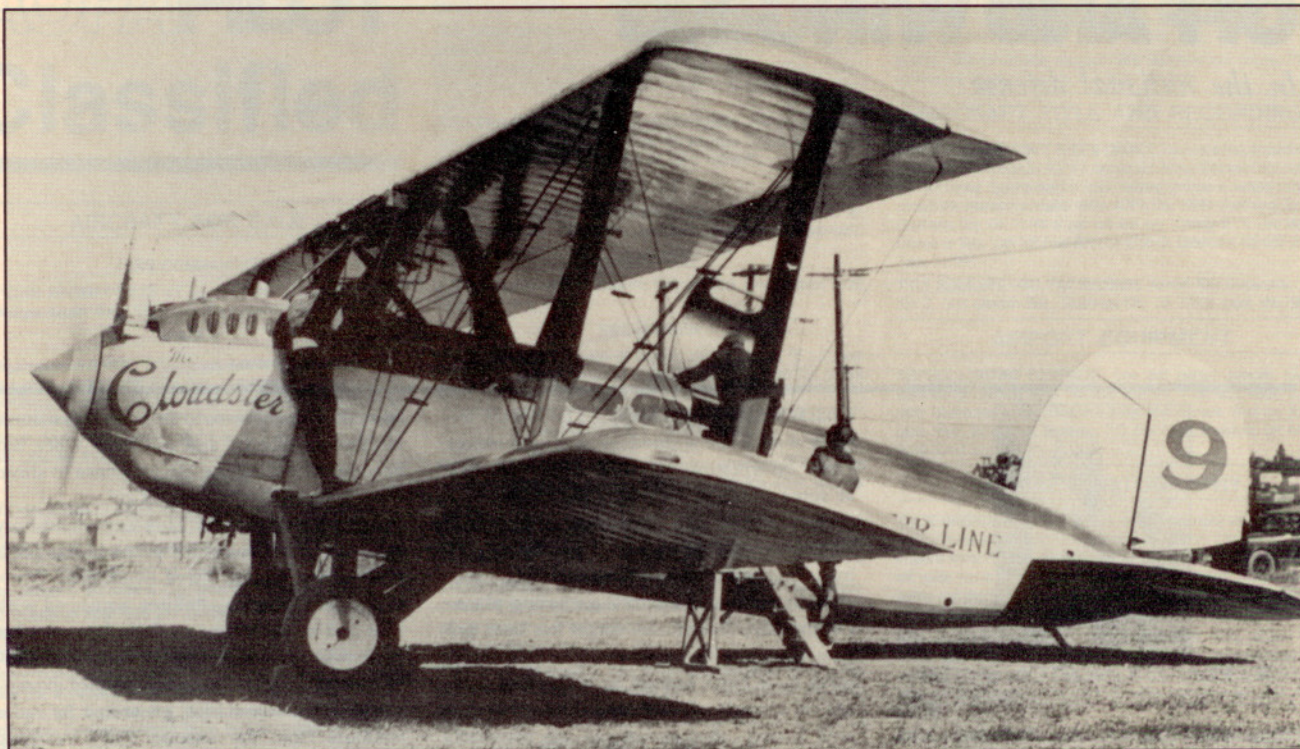
The most famous Douglas airplanes of the 1920s, however, were the four Army DWCs (Douglas World Cruisers), derivatives of the DT, which made the first flight around the world between March 17 and September 28, 1924. Two of the four DWCs that started were able to complete the 26,345-mile flight.

The first two Navy airplanes were assembled in the Goodyear hangar; but, on the strength of the Navy contract, Douglas was able to get new backing, form the Douglas Company in July 1921 and establish a proper factory in an abandoned movie studio on Wilshire Boulevard in Santa Monica. The firm was reorganized in 1928 as the Douglas Aircraft Company, Incorporated, and moved into a new plant on Santa Monica's Clover Field in 1929.

Soon after the Cloudster's unsuccessful flight in 1921, Douglas sold it to someone who intended to use it for commercial joyrides out of Santa Monica and expected to capitalize on the residual fame of its unsuccessful distance flight (there were still no airlines, as such). For this work, most of the fuselage tanks were removed to make room for seven passengers in two forward open cockpits; an eighth rode alongside the pilot. This operation was not an economic success, and the airplane soon had another owner.

Some people still were trying to operate short intercity airlines and keep them going on passenger revenue alone. There was no revenue from mail; the government carried the air mail in its own airplanes. One of the persevering individuals was T. Claude Ryan. In March 1925, he set up Ryan Airlines, Incorporated, to carry passengers between San Diego and Los Angeles in war-surplus Standard J-1 trainers. These were two-seaters that Ryan modified as four-passenger cabin models. Initial business was good enough to indicate that an airplane with greater capacity could be used. So Ryan bought the Cloudster for \$6,000—a real bargain since it had cost \$40,000 to build.

Ryan made further modifications and was able to seat four passengers abreast in each



Repairs and modifications were made to the Cloudster after Ryan overshot a landing field and flipped it on its back. With the changes, the aircraft held 10 passengers, seated five to a side in a luxurious cabin. The pilot and copilot sat up front in the cockpit.

of the two forward cockpits. On one early flight to Los Angeles, Ryan overshot the 1,200-foot field and flipped the Cloudster on its back. The nearby Douglas factory repaired the upper wing, and the Ryan shops went all-out to make the big ship a really plush transport. The pilots' cockpit was relocated up front and had side-by-side seating in the manner of the later DTs; the 10 passengers rode behind the pilot and the copilot, five to a side in a luxurious cabin. Carrying 12 people on a single 420-hp engine was a tribute to the efficiency of the 1920 design and seldom has been matched.

The refurbished Cloudster was initially successful on the San Diego - Los Angeles run at a fare of \$17.50 one-way or \$26.50 round trip. Unfortunately, business soon fell off to the point where the big ship was flown only when a full passenger load was on hand. A further decline in business made it necessary to shut the airline operation down altogether. That left the Cloudster useful only for the sightseeing and charter business that Ryan retained, along with his flying school and the factory that was soon to produce the *Spirit of St. Louis*.

Some histories, mentioning the Cloudster only briefly, have implied that it degenerated from a plush passenger carrier to a prohibition-era rumrunner. True, its last few days were spent hauling beer, but the work was legitimate and did *not* involve bringing contraband across the border. Any such liquids brought into the States aboard the Cloudster were inside the passengers who had been to Tiajuana, Mexico, on charter flights.

The lifting capacity of the Cloudster was put to good use on a special job in Mexico.

Just before the busy Christmas holidays of 1926, rains washed out the road between Tiajuana, a popular watering spot for Americans, and nearby Mexicali, the major source of Tiajuana's beer. Ryan Airlines got the job of airlifting 1,000 barrels of beer at \$10 a barrel from the brewery to the city, a task that it handled easily and profitably.

Just as this job ended, a wealthy Tiajuana resident chartered the airplane for a flight to Ensenada, Mexico, since that road, too, had been washed out. The pilot landed the Cloudster on the beach after dark. Because of the poor visibility, he inadvertently rolled it into the water and nosed it over. It was tied down to prevent being washed out to sea, but the surf pounded it to pieces during the night, ending the checkered career of the first Douglas transport airplane. □

THE DOUGLAS CLOUDSTER Specifications

Powerplant	Liberty XII
	420 hp @ 1,700 rpm
Wingspan	55 ft 11 in
Length	36 ft 9 in
Wing area	800 sq ft
Wing loading	12 lb/sq ft
Power loading	24 lb/hp
Empty weight	4,500 lb
Gross weight	9,600 lb

Performance

High speed	120 mph
Cruising speed	85 mph
Absolute ceiling	19,160 ft
Range (2-seat)	2,800 sm
(12-seat)	500 sm



While on a chartered flight, the Cloudster had an unfortunate night landing on a Mexican beach. Although the aircraft was tied down to prevent its being washed away, the tide and surf destroyed it.