

At the invitation of the newly formed Aero Club of America, the War Department designated Major Samuel Reber and Captain Charles DeF. Chandler to participate in a balloon ascension from Pittsfield, Mass., on October 22, 1906.

They were invited as passengers in the balloon CENTAUR by Mr. Charles T. Walsh. This was to be Reber's first ascension and Chandler's second. The voyage was uneventful and the balloon finally descended on Harmon Hill, three miles from Bennington, Vermont, early in the afternoon, after covering an airline distance of about 40 miles and reaching an altitude of 6800 feet. Shortly after the flight both officers became members of the Aero Club of America.

Following this flight Major Reber did little flying during the next three or four years although he did receive his Balloon Pilot rating number 43 from the Federation Aeronautique International in October, 1911. Once he obtained his pilot's license he was often requested to serve as an official at various air meets.

Major Reber was born in St. Louis, Missouri, 16 October 1864. He entered the U.S. Military Academy on 1 July 1882 at the age of eighteen and graduated 30 June 1886, number seventeen in a class of seventy-seven, which included Mason M. Patrick and Charles T. Menoher, future chiefs of the Air Service and John J. Pershing. He was assigned to the 4th Cavalry at Fort Apache, Arizona and served several years in campaigns against the Indians. Due to a back injury he transferred to the Signal Corps and in 1894 graduated with an electrical engineering degree from John Hopkins University.

He married Lieut. General Nelson A. Miles' daughter in January 1900, and had two sons by this marriage.

During the Spanish American War he served first in Cuba and then as chief signal officer in Puerto Rico until he became Military Secretary to the Commanding General. He remained as military secretary until the grade of Commanding General of the Army was abolished with the creation of the General Staff. He was a member of the first detail to the General Staff and the first secretary of the Army War College from which he graduated in 1905. Upon completion of his detail with the General Staff in 1907, he served as Chief Signal Officer of several military departments and of the division of the Philippines.

He was appointed Chief, Aeronautics Division Office Chief Signal

COL. SAMUEL REBER U.S. ARMY SIGNAL CORPS

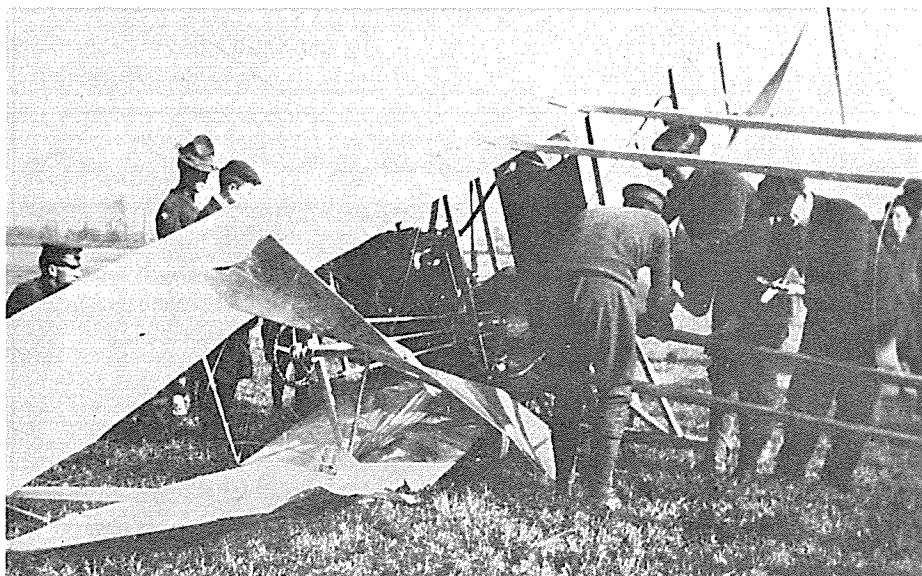
BY LIEUT. GENERAL HOWARD A. CRAIG

USAF - RET.



This remarkable photo from Chance Vought's album shows army field maneuvers near Fort Sam Houston, San Antonio, Texas, 1911. Flying close support in a Wright B is Lieut. Benny Foulois. Courtesy Art Schoeni.





(Left) Wreck of Wright plane, College Park, Md. 1912. Official U.S. Air Force photo.

(Opposite, left) Colonel Samuel Reber, Aeronautics Division, Chief Signal Officer. National Archives.

(Opposite right) Colonel Reber consulted Ben Foulois regarding army's high accident rate, including Foulois' wreck of only Wright after narrowly missing a tent containing Captain Douglas MacArthur. Foulois is seen here talking with Philip O. Parmalee in front of a Wright B which Robert F. Collier loaned to the Signal Corps. Parmalee was a Wright pilot hired by Collier to check Foulois out on the new and different control mechanism. Chance Vought via Art Schoeni.

Officer, on September 10, 1913. At this time he was one of the senior officers of the Signal Corps and had been on duty as Chief Signal Officer, Eastern Department, N.Y.

He immediately consulted with Foulois, Arnold, Milling, Kirkland, Beck and Cowan to find out what was going on in the Division that was causing all the accidents. The year of 1913 was one of heavy casualties by the aviation section. All of these senior aviators complained about the airplanes they were receiving. This caused Reber to initiate a Correspondence with Orville Wright, since the Wright airplanes were the principal aircraft owned by the Signal Corps. The substance of that correspondence was as follows:

Aeronautics Division
Army Signal Corps.
November 25, 1913

Mr. dear Mr. Wright:

In checking off the data in relation to our unfortunate aviation accidents, I find the following is the record of your various types of machines:

Original model

Type B

Type C

Lieut. Selfridge

Lieut. Rockwell

Lieuts. Hazehurst, Call, Love, Rich
and Ellington

While as yet a full report of yesterday's accident has not been received (Lieut. Post killed in Wright C) there appears to be a great similarity between this accident and those of Lieuts. Call and Love, and possibly Pat Rich. The percentage of accidents in our service, large as compared with the percentage in the various foreign military services, has caused quite a little criticism in the Department, and doubt in the minds of some of the higher officials as to the safety of the Type C machine, in comparison with approximately similar machines of other makes.

If it is practical I think it would be an excellent idea if you could see your way clear to spend a few days at San Diego to observe the methods of instruction and see if, in your opinion, your equipment is being handled in the way that you think proper.

Samuel Reber
Lieut. Col. Signal Corps, USA
In Charge of Aeronautics

About ten days later, December 5, 1913, Mr. Wright answered this urgent letter with the following:

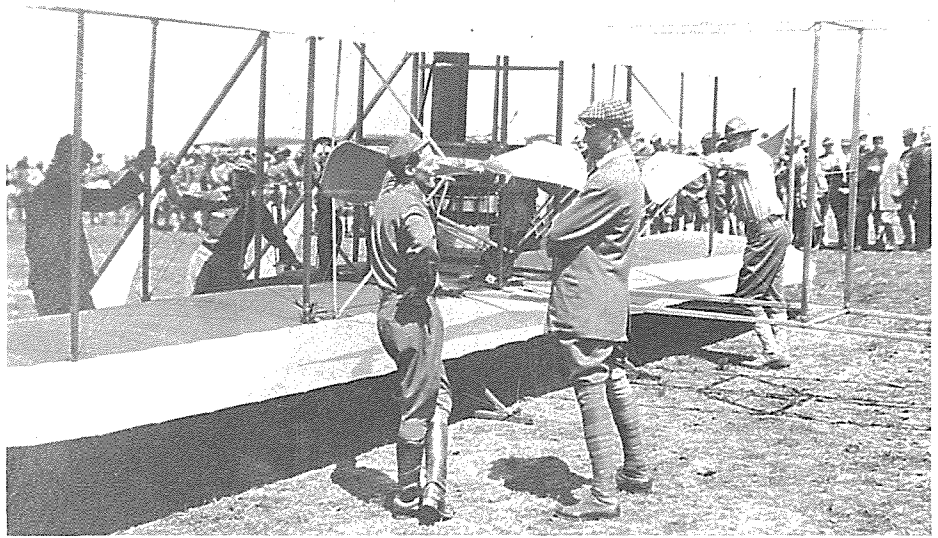
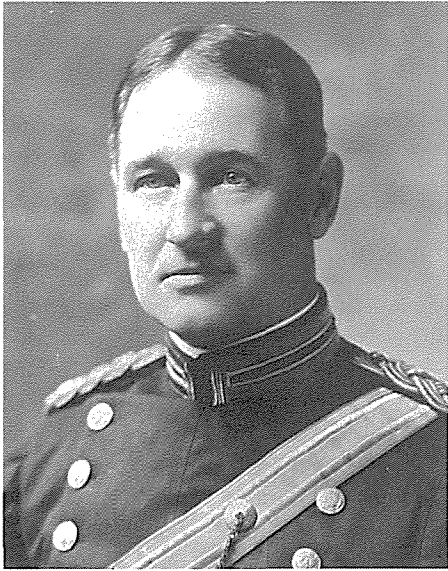
My dear Colonel Reber:

I have your letter in regard to aeroplane accidents in the United States Army. These accidents are most disturbing. I do not think, however, that the number in our Army is out of proportion to the number in the French or German armies. But naturally the death of one aviator who is a personal friend or acquaintance is more shocking to us than the death of a dozen of whom we had never heard. Recently no less than fifteen fatal accidents to European military aviators occurred within a space of sixteen days, yet in America, they were scarcely noticed.

The accidents are the more distressing because they can be avoided. I think I am well within bounds when I say that over 90% of them are due to one and the same cause — "stalling." "Stalling" is a term generally used to designate that condition of a flying machine when its speed has dropped to a point where it becomes unmanageable. Recovery is possible only by regaining speed. When in this "stalled" condition, the machine will dive downward in spite of every effort of the aviator to stop it. Many of these dives would not result seriously if the aviator had but the courage to cause the machine to make an even more fearful dive until it recovers its normal speed. But this usually is not the case. Due to certain peculiar forces acting on aeroplanes when in a stalled condition, the machine speeds up, but slowly, although descending at a rapid rate, and normal speed is recovered after a descent of several hundred feet.

"Stalling" is a danger that can absolutely be avoided. Proper care in observing the angles on Incidence Indicators, such as placed by your department on its machines, will positively eliminate it, and more than ninety percent of all accidents will be done away with. Too many flyers become careless in observing the angle of incidence as shown by the indicator, but trust to their "feel" in gauging the angles. This they can do very well when flying on a level course, but when the power of the motor is off and the machine is gliding downward, the sense of "feel" often deceives them. Practically all the accidents due to stallings occur either when a rapid climb is attempted, or when the machine is gliding downward under reduced power.

The fact that more of the accidents on our machines have occurred on the Model "C" than on the older Model "B," might lead one to think that the newer model is not as safe as the older one. But this is not true. On the contrary, the Model "C" is the best machine and the safest machine we have built, and is capable of maneuvers not possible with any other machine in the service. It is not more liable to "stalling" than other machines, but its great surplus of power, its great capacity for climbing, and its ease of maneuver (which makes it the ideal machine for use in restricted fields such as are encountered in actual military service)



tend to make the aviators careless in observing the angle of incidence.

*Very truly yours,
Orville Wright*

Here then, is the first technical analysis in air history of the stall in flying machines. While it is particularly applicable to the open box kite Wright type, it nevertheless shows the technical engineering and analytical correctness of Orville Wright. Explained away now were the mysterious "air pockets" blamed in those days for most accidents. And, also, it is interesting to note that the box kite types did not flat spin as readily as the later fuselage types; but they certainly did stall as described by Mr. Wright. There is still a question, particularly in the case of the Wright Model "C," whether there was enough elevator control left to effect the still steeper dive required for recovery.

But this particular concern of Colonel Reber and his involvement in the highly technical aspect of flying operation and maintenance, gave the original impetus to the technical work and scientific needs of the air services.

In view of the later acrimonious insinuations that were involved in the Colonel Goodier Court-Martial and the unfortunate animosities of the younger flying officers with their non-flying superiors, little did they then realize what a battle Colonel Reber was waging to protect their lives.

Perhaps this would be a good place, if any, to mention the Court-Martial of Colonel Goodier. It seems that in the fall of 1913, Colonel Lewis E. Goodier, the Judge Advocate General of the Western Command at San Francisco was visiting his son, Lieut. Lewis E. Goodier, Jr., at North Island, San Diego, California. In the course of conversation, he learned that Captain William L. Patterson, the adjutant of the school, and Captain Arthur S. Cowan, the Commanding Officer, had been placed on "flying status" and had drawn 50% increase in pay. Captain Patterson had also been rated a Junior Military Aviator although he did not know how to fly. Colonel Goodier investigated these allegations and upon his return to San Francisco preferred charges against both officers. The Western Command sent another senior officer to investigate the charges. This officer found that the allegations were true but the officers themselves were not to blame. Captain Patterson and Captain Cowan were awaiting time to start flying and at that time there was no requirement of the amount of flying time each was supposed to acquire for pay purposes.

In any event, the Commanding General, Western Command, without taking action, forwarded the report of the investigation officer, together with Colonel Goodier's statement, to the Judge

Advocate of the Army in Washington, D.C. The J.A.C. in Washington after reading the case, returned the papers to the Commanding General of the Western Command, directing that charges be preferred against Colonel Goodier for incompletely investigating the charges before pressing them, under the 96 AW.

This caused a great scandal at the school and showed a need to tighten up the administration procedures at the school. In any event, Colonel Goodier was found guilty and was assessed to be reprimanded by the President. President Wilson issued the reprimand which was considered to be excessively severe. Captain Cowan and Captain Patterson were relieved of their command and also Colonel Reber received a letter of criticism from the President and was relieved as Chief, Aeronautical Division and assigned as Signal Officer, Chicago, Illinois. He assumed full responsibility for anything wrong at San Diego.

When the World War I came along, Colonel Reber was sent overseas and became Provost Marshal, American Headquarters, at Chaumont, France. He later served as G3, 28th Division, and Base Commander. At the end of the war, he returned to Washington, D.C., where he applied for retirement after 33 years service. He died on April 16, 1933 at Washington, D.C., age 68 years.



ABOUT THE AUTHOR

Howard A. Craig, Lieut. General, USAF, Commander, 21st Recce Squadron, Chief of Air War Plans, Office Chief of Army Air Forces, G-3 European Theater of Operations; Air Officer, E.T.O. London and Algiers; Commanding 12th Air Support Command, 12th Air Force; Chief of Staff, Mediterranean Air Command; Chief of Army Air Force Office as Director, Operations, Commitments & Requirements Division; War Dept. General Staff, Operations Division; Commanding General, Alaska, U.S. Army; Commander-in-Chief, Alaskan Command; Deputy Chief of Staff, Materiel Hqs. U.S. Air Force; Inspector General, U.S. Air Force; Commandant, National War College. Retired 1955.