

Excerpts from Large photocopy file in Air Force Museum Library, Wright-Patterson Field, Ohio, 1966. (Formerly Classified "Secret".)

"REPORT ON CRASH OF FOKKER F-10A TRANSPORT NEAR BAZAAR, KANSAS, IN WHICH SIX PASSENGERS, INCLUDING KNUTE ROCKNE, AND TWO PILOTS WERE KILLED."

(20 photographs attached.) Originally rec'd at AFMuseum 3/15/57

Apparently this is a photocopy file of the "Accident Board" Records of the Dept. of Commerce, Director of Air Regulation, including all documents:

Form AB-87 "Aircraft Accident Report"

Location: 2 1/2 miles Southwest of Bazaar, Kansas, between 10:45 and 10:55 A.M. March 31, 1931

Mfr. Fokker Type of Engine: 3 Wasps 420 H.P.

Model: Fokker A-F10-A. Dept of Commerce No.: NC999E

Mfr. by.: Fokker Aircraft Co. Rebuilt? Ship has not had major overhaul.

Owner: Western Air Express, Inc. Age of A/c: 1887 hrs.

Mkt Value when new: \$80,000. Total Flying Time: 1887 hrs.

Engines: Center 176:00, Right 176:00, Left 336:00 (since overhaul).

Damage to Aircraft: Washout complete. Total loss salvage and scrap.

Pilot: Robert G. Fry, Kansas City, Mo. and Los Angeles, Calif.

Age: 32 Transport license # 6675, Rating 2A-2C-3D.

Approx. total flying time 2500 hrs. Last 30 days: 200 hrs.

General ability: Excellent. Result of accident to pilot: Death.

Co-pilot: Herman J. Mathias, % TAT-Maddux Airlines, Glendale, Calif.

Age 30, License # T-13894

Six Passengers: Fatal. Flying Mail and Passengers, scheduled

Letter: April 15, 1931

To Western Air Express, Inc., 117 W. 9th St., Los Angeles, Calif.

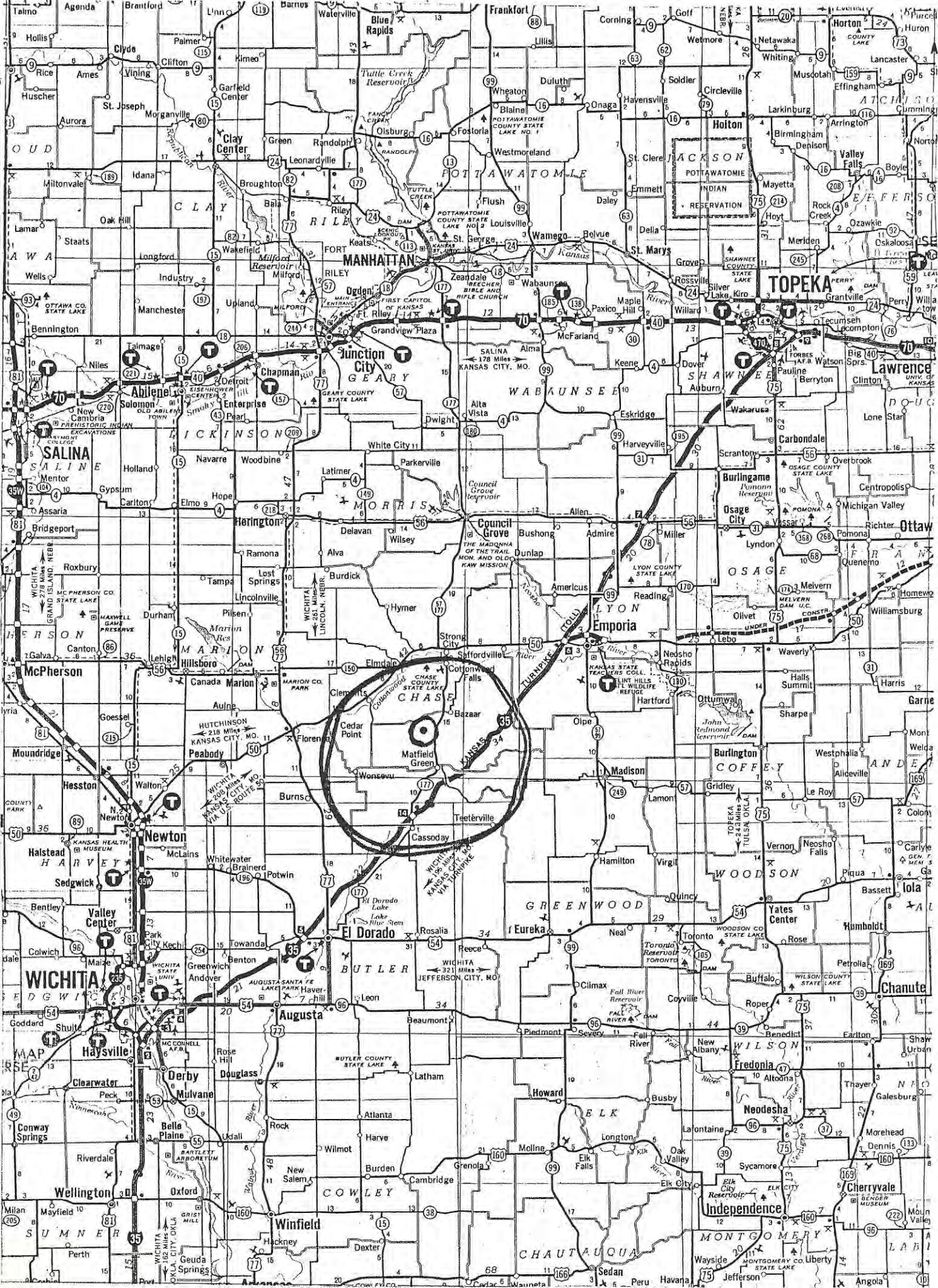
Cancels license NC-999E on Fokker A-FX-A, Bazaar, Kans., March 31, 1931

Undated 5-page Statement from Dept. of Commerce, Aeronautics Branch.

..The press, as well as people in all walks of life have looked toward the Dept. for an explanation of the catastrophe. Dept. charged with investigation of accidents to civil aircraft, and yet is without authority to hold formal hearings, subpoena witnesses, require testimony under oath, or to insist upon preserving the crashed airplane for inspection. Problems involved are apparent. Findings of Dept. are secured informally. Not infrequently, satisfactory evidence of the cause of the accident does not exist. Dept investigation is made for the purpose of attempting to determine the cause from an operating point of view in order that remedies may be considered, and, if indicated, applied against future operations. No attempt is made to determine legal responsibility because it is not within the province of the Dept. to do so.

...investigators have been obliged to draw upon their flying knowledge and experience to set up certain assumptions in arriving at conclusions with reference to this particular accident. Therefore, the assignment of causes as shown are to a substantial extent premised upon opinion and conjecture. The following statement is not to be construed as an official finding of the Department..

...Dept. investigators learned from eye-witnesses that the airplane was flying at an altitude between 500-600 feet apparently in a northeast direction, the assumption being that the pilot turned north of his course to avoid an unfavorable weather condition. At approximately 10:35 A.M. the airplane radioed Wichita radio station to learn the weather at that point. Wichita indicated satisfactory flying weather and inquired of the pilots whether or not they would get through. Pilots did not respond.



At 10:45 Wichita again radioed and asked whether or not they would get through. Pilots replied to the effect that they did not know.

...Watches of three occupants stopped at times varying between 10:45 and 10:50, indicating crash at approx. 10:47, or two or three minutes after last radio communication. Eye-witnesses said plane went into a dive of approximately 55 degrees and that a section of the wing from the outboard engine out was missing. Wing section seen in the air floating down somewhat like a piece of paper and was found approx. $\frac{1}{4}$ mile from crashed airplane. In addition, mail and mail sacks were strewn ~~along~~ along the ground from this piece of wing, to the airplane, and one mail sack was found close to the wing. Since this mail was stored in a compartment under and to the rear of the pilot's seat, this indicated that damage to the fuselage must have occurred in the air.

...working on a theory that the perhaps one blade of the three-bladed propellor may have let go, which would amply account for a sufficient amount of vibration to destroy the wing, they examined the engines buried deep in the mud (and not dug up until Wednesday). Right outboard engine had no propellor blades nor propellor hub, though the safety nut which holds the propellor and the hub in place was still affixed to the end of the crankshaft. It seemed that the hub must have broken in order to leave the engine, since it cannot normally be removed without first removing the nut referred to.

Engineering Section of Dept. calculated a load in excess of 100,000 # upon the engine and engine mount should one blade of the propellor break off at normal speed (cruising). Investigation indicates that this load snapped the wing off and then almost simultaneously the propellor hub broke, releasing the other two blades. Late today, these three blades and the hub had not been found although a searching party had been searching the country for miles around the accident.

Investigators were advised that ice had collected on the entering edge of the airplane wing and it is assumed that ice had also collected around the hub of the propellor. Possibly a substantial piece of ice broke loose from the hub, was hit by a blade, resulting in breakage of blade. With one blade thus broken, the resultant shock to the entire structure was probably transmitted through the brace struts which extend to the fuselage, thus opening the structure and releasing the mail. Such a shock would also have been sufficient to have broken the hub and to have caused the wing rupture previously mentioned.

Concluding, it would seem that the airplane had been operated entirely in accordance with Air Commerce regulations; daily inspections satisfactorily made, and aircraft to the best of everyone's knowledge, thoroughly airworthy, and also that no blame can be attached to the pilots.

Letter April 7~~3~~x 1931 From F.B. Rentschler, Pres. of United Aircraft & Transport Corp. 230 Park Ave., N.Y. to Col. Clarence M. Young, Asst. Sect of Commerce for Aeronautics, Washington, D.C.

...Speaks of national publicity several days ago in re: Inspector's report on failure of wing caused by failure of propellor. Says:

"Certain representatives of our own, as well as others, report that the propellor blades of the right outboard motor were found deeply buried in the ground immediately underneath the wreck of the engine, all of which seems to be definite evidence that the propellor did not fail in the air, but was broken with the crash of the motor. Mr. Fokker, among others, made the above statement of his findings directly to the Pres. of the Hamilton Standard Propellor Corp. Mr. Walsh, Pres. of Ham-Stand. reported all this to your office some days ago, but to date has rec'd. no answer....it would seem that it was in order for your office to issue some further statement of the crash.

Letter: April 13, 1931, Gilbert G. Budwig, Director of Air Regulation to F.B. Rentsheler.

States that a supplementary release to the press of April 7 exonerated the propellor from all blame....

25 Broad St.

Letter: April 13, 1931, R.P. Lamont to John E. ~~MMH~~ Muhlfield of N.Y.
(Sect. of Commerce)

States: This accident was the first one of its nature which has occurred in scheduled airline operation....Adequate strength is incorporated in the wings of multi-engined aircraft..in fact there have been more wing breakages on smaller single-engined aircraft than have occurred on the large multi-engined machines. Greatest difficulty which has been encountered in this connection is the flexibility of the extreme wing tips which will sometimes cause a rapid vibration or flutter if the airplane is dived at excessive speed. This is not related to the position of the engines. In both the Kansas accident and the Bach accident referred to in your letter, the wing broke at a point well outside engine location, indicating that engine weight was not in any way responsible....We are doing everything within our power, both in the matter of original design and in the field on inspection and maintenance, to prevent their recurrence.

Day Letter: Budwig to Young in Detroit, April 11, 1931

Refers to some kind of conference desired by P.M.Gen. Brown, but not sanctioned by Sect. Lamont. Brown trying to get in touch with Young

Telegram: Raycroft Walsh, Ham.-Stand Prop. Corp. to Budwig: 4/8/31

"Please Mail copy supplemental Press release reference Fokker Crash".

Letter: (Confidential) Leonard Jurden, Supervising Inspector, K.C.Mo. to Budwig, April 8, 1931: "Dear Bud"

(Had phoned about conditions and new information since talking, also a phone of Budwig with George Wiggs.)

...Transcontinental & Western Air cut the pay of pilots about 30%. No warning or notice. Moral of pilots and mechanics shot, and talk of quitting in a body in protest. They were ready to accept from 10 to 20% cut, but 30% was straw that broke the camel's back. Company planning on using Northrop(s) on the night mail, and pay rec'd for this will be equal to a 70% cut from the previous pay, according to one pilot.

Due to this condition and then the accident, morale sagged even lower and nerves ragged. In talking with several pilots, this condition borders very nearly on hysteria. They don't know what to do or where to turn. Partly thru this and partly by accident that Jim Kinney and I rec'd our first definite information that Fokker F-10, particularly the long-winged job, do set up a decided flutter in the wing when the normal cruising speed is slightly increased and bumpy air encountered.

We had in the office here two pieces of spar from the wreck (which Jurden sent by express to Washington April 7). One of the pilots with analytical ability came in and examined the pieces, stating he wanted reconstruct the accident in his mind and wanting to see if the broken spars confirmed a theory that he had formed. Finally he told us that he personally had encountered this flutter condition every time that he allowed the plane to gain speed in bumpy air. Described as "very rapid, the tip of the wing travelling up and down over a six to eight inch

travel. Would increase if left alone. Only way to stop them would be to pull up and throttle the motors.

Jurden and Kinney told pilot his name would not be used. He said that all the pilots wither knew of this condition from personal experience or by heresay. He said they never discussed it because they were afraid they would be fired and black-listed over all operating lines. He stated that the wings were continually flexing in bumpy air, centered at one point, the point where this wing broke off. He asked if it were not true that the accident that killed Jimmy Doles near Los Angeles showed that a wing left the ship at about this same point. Later in the day he brought in a non-pilot who had ridden in the Fokkers and seen the wing flutter to at least ten inches, and that on an occasion, after hitting an extreme bump, that the plywood on the under side of the wing split the entire chord on both wings a foot inboard from the inboard side of the aileron.

Conversations took place Monday P.M. & Eve. Jim went back to Wichita to make further examination of the gluing. Jurden talked to another pilot yesterday, who knew about the flutter, but would never let it start by never exceeding an air speed of 80 mph. Another pilot came in and his experience was mostly on Fords, but while breaking in on Fokkers his instructors would never allow the plane to exceed the cruising speed, "being afraid of the roof coming off."

The word was being passed around evidently, for shortly two more pilots came in. One is well-known, with lots of experience. He said he had experimented under various conditions, and found the flutter condition to be the rule rather than the exception. On one occasion, not connected with the flutter, he lost all the shingles on the roof from the outside of one tank to the outside of the other. (This was before the tacks were taped down.) All of these pilots had never admitted these conditions and hardly even discussed it among themselves, but they didn't know of a Fokker pilot who wasn't afraid of the ship.

After getting this information, I called you. Two pilots were willing to have their names used, since the situation was serious. Think that Dept. should act as a regulatory Board regarding a wage scale, due to the fact that the P.O. Dept. pays the operators on a definite scale.

Telegram: April 10, 1931, Budwig to Jurden:

Please obtain from one of the pilots with whom you discussed situation, license number or one or more subject airplanes which have wing flutter under certain air and load conditions. Desire to re-flight check some these ships. Complete new engineering inspection will be ordered on such aircraft."

RADIO PHONE LOG SHEET TWA, Wichita. March 31, 1931

Plane #116 Flight # 3 Time of Schedules 22& 52. Frequency 3070 kc.

9:15 A.M. Departed Kansas City

9:22 Unheard

9:52 ② 10 Mi. S.W. Ottawa 2-Way with KCY Good Reception

10:22 25 N.E. Cassoday, Flying right on ground. Heading back to KCY. Gave pilots Wit weather which was clear and unlimited. Plane called few minutes later stating that was going to try once more to get thru and requested Wichita Radio stand by on him WIT Good Reception.

10:45 Did not give position. Requested Wichita weather again. Report given was, 'Practically clear and unlimited visibility seven miles wind N.W. ten few cloud to N.E.' Asked plane if he thought he would get through but rec'd no reply. Made second request and received answers, "Don't know yet, don't know yet", which were last words received from plane.

G.A. O'Reilly, Wichita operator.

RADIOPHONE LOG SHEET, Transcontinental & Western Air, Inc. KANSAS CITY

Same data as above except:

10:22 25 Miles NE of Cassody Plane said that he was flying low on the ground no ceiling and was turning back to KCY but after getting WIT weather report Wit clear and would try it again and if could not make it would go back to Olpe and land.

10:45 Plane asked Wit for his weather. Wit told him it was clear and asked Pilot if he was going to make it. Pilot said don't know (nothing more heard from plane)

W.S. Lamee, Kansas City operator.

Release for Immediate Use April 8, 1931, from Dept. of Comm Aero, Branch

...issued statement last night that a broken propellor was not the cause. Information from the field that the propellor, which at first was declared missing, had been located underground beneath the place where the engine to which it was attached, was dug out of the earth. hub had split on contact with ground and was still missing. Additional evidences seems to indicate that weather was primary cause. Fifteen minutes after the airliner left K.C. it was followed by a mail pilot, flying alone, who reports that he encountered extreme ice conditions, rolling fog and a reducing ceiling. No mention made of ice in radio report by Fokker pilot. He is believed to have stabbed up through the low clouds to get above them, collecting ice in doing so, which rendered certain flight instruments inoperative. Without these the plane apparently went into a steep dive, and in coming out of this manouver with unusual rapidity, the enormous load brought about wing failure.

Four-page letter from Jurden to Chief, Inspection Service with copies of statements and eyewitnesses attached. April 7, 1931 also photos, etc.

Jurden heard about accident about 12:15, when newspapers called him asking to identify the plane. Drove to site from Kansas City with B.M. Jacobs, John Collins and R.S. Bridges of TWA. (weather not suitable for flying) Left 2:30, arrived Cottonwood Falls, where the bodies had been taken, about 7P.M. Statement obtained that evening from Mr. Blackburn.

Next A.M. went to scene and tried to reconstruct it. Ground dotted with wreckage which included nose ribs, shingles, etc. marked 8.9, 11 on

enclosed blue print. Parts of this type found for more distance than shown in the print. Found along a path of about 3/4 of a mile before where the wing was found. Between the broken wing and the rest of the ship, about 1900 feet, the debris was found in a curve. Wing broke off at approx. stations eight to eleven. Landed intact with both aileron horns and aileron in place. Plane hit upside down at a angle of approximately 50 or 55 degrees, which checked with the Blackburn statement.

Souvenir hunters, arriving shortly after the accident, had immediately started to take away everything that could be moved in the afternoon. In the evening two mechanics from Wichita arrived and stayed with the wreckage until it was trucked to Wichita.

Jacobs and I called back to inquest at Cottonwood Falls, where prop failure was discussed. After the inquest we returned to the accident with a shovel and with the mechanics dug under the motors. Digging did not at first show the prop of the right motor, and prop failure was also the first reaction of Mr. Fokker and Jack Frye, V-P of TWA. The next day, however, this was proven incorrect by finding the blades.

Paul Johnson, an N.A.T. pilot flying KC to Dallas left 15 min after the Fokker and saw it at Emporia, Kansas. Weather reports favorable, but Johnson encountered fog and ice conditions when he climbed away from the ground.

No evidence that the Fokker was diving or had excess speed. All witnesses and those who heard it claim motors sounded normal except for a very pronounced back-firing, which might have been caused by the pilot suddenly closing the throttles. One theory was that pilot was flying blind and ice froze his air speed indicator. Clouds were about 500 feet as near as can be estimated. Wing believed to have fallen almost straight down, since a mail bag was found under this broken wing, which may have fallen out when the wrench opened the mail compartment door. Jurden believed pilot picked up ice and probably froze his turn indicator and air speed.

Wife of the weather observer at Emporia, Kansas, stating that she saw a cyclonic cloud to the southwest of Emporia at about 10:40 AM.

Fokker pilot, possibly encountering bumpy air or possibly this cyclone condition or making a sharp turn, had possible wing flexing at stations 8 to 11. The shingles flew off and weakened it causing it to snap off, throwing the ship upside down, in which position it hit. I believe the pilot knew what happened and that he cut his motors before he hit. The props show they were not revolving very rapidly, or at all at the time of impact. The wing broke off upwards, under compression. Examination of these parts showed that in the upper and lower laminated portions of the box spars, some places the glued joints broke loose very clean, showing no cohesion of the pieces of wood. Other places showed that the glue joints were satisfactory. Two pieces, showing definite compression breaks as well as poor glueing, and another taken from the broken end of the broken wing, are being expressed to you. Glue tests are being made by Mr. Kinney in Wichita.

Pilot Fry considered very competent and reputation of a very conservative flyer.

cc: James L. Kinney

Several exchanges of telegrams between Walsh of Ham-Standard and Budwig in re: the erroneous "missing propellor blade" story and supplementary report retracting it.

Telegram in regard to inspection of Left Motor, which had 339 hrs since Nov. 16, 1930. Motor overhauled 12/31/30. Daily inspections Peter J. Griscon, Rosemead, Calif. orig. inspected prop. Daily since

Had been asked to submit his findings. Flew over scene on April 2 with Jack Frye, from Wichita. After landing on the hilltop, I visited first the spot where the broken wing had dropped. Picked up a piece that was left (wing had been removed), part of the bottom flange of the front spar, which showed a break under tension. Material and glue joints all perfect. Comparatively little left of the plane excepting the rear part of the fuselage, with elevator, fin and rudder and the entire tangled steel structure of the front part, engine nacelles and running gear. Of the wing only the middle pieces of the spar, directly above the fuselage, were left, and the part of the wing which broke off in the air had been brought to the spot where the ship itself had come down. This part was little damaged. Arranged it with other remaining wing parts and concluded that breaks were of long splintered character unquestionably caused by excessive tension, broken from the upward load the same as in normal flight. Break occurred over a length of six feet.

He concluded that the break was not caused by propellor failure even before the investigators had failed to find the missing blades of the right motor, and disagreed with their original conclusion. Frye and Fokker stayed and dug out all the engines. The right engine had struck earliest and been driven deepest, the ship falling sideways and backwards. Right engine turned upside down by a horse team. Reached conclusion of non-prop failure before the third missing blade was found by dynamiting the earth under the wreck. still didn't turn up broken hub. All remaining metal parts and all wooden parts except the three feet of spar of the broken wing which was sawed off were loaded on a truck and shipped to Wichita. Frye & Fokker flew back to Wichita. Hub turned up in debris on truck. F&F issued a statement that the break in wing was caused by overstraining far more than normal.

Fokker had personally inspected this plane three days before the accident, while on a transcontinental flight stopover at Amarillo, Texas.

He suggested that the plane had excessive speed as a result of a prolonged dive. Thought pilot might have lost control temporarily, or that in bumpy air everyone was thrown forward including luggage and mail. If the luggage and mail sacks in the compartment were not properly secured or strapped down, a shifting load might fall forward into the pilot's ~~compartment~~ cockpit, crash thru roof or windows, or fall forward on the steering column, causing it to jam and pilot unable to recover. As a explanation for the losing of mail bags during the plane's descent it was his opinion this was the most plausible theory.

Another possibility was over-quick recovery from a dive on viewing the ground. Pilot may have lost control on account of inexperience in blind flying, through failure or faulty indication of navigation instruments, or through excessive ice formation on the airplane.

Quotes Govt. weather forecaster A. M. Hamrick of KC. "A freakish weather condition caused by a low temperature centre at Dodge City, where the temperature dropped to mix above zero the morning of the crash. 100 miles to the east the temp ranged from 20 degrees upward. This cold air from the vicinity of Dodge City, moving Eastward, met warmer currents near Bazaar, and caused low-hanging clouds, fog and drizzling rain, a condition making flying hazardous."

Weather report given fatal ship on March 31 did not have barometer reading for Emporia filled in. No mention made of wind, and low temp prevailing west of Wichita. Dodge City at 8:30 was 22 degrees lower than Wichita and 26 degrees lower than KC. The wind was blowing in almost the opposite direction to the way it was blowing in KC

Blind flying is not supposed to be done for any prolonged time. Most pilots can ascend or descend through a layer of clouds or fog under normal conditions, but it is very difficult and requires training to fly blind in turbulent air and keep a course.

Fokker notes again that loading of the planes is not done according to Dept. of Commerce regulations or manufacturers instructions. Luggage and mail is not strapped down securely in spite of the fact that straps are provided. On my trip West, I did not fly in a plane (Fords) where this rule was not violated. This violation probably accounts for the lost mail bags in this crash, or for the failure to recover from the dive.

Radio in F-10 requires two hands and must be operated by either pilot or co-pilot, with info relayed by mouth.

Summarizing: It is my opinion that the accident could have been avoided by:

More cooperative and efficient weather reporting

More experience in blind flying

Observing regulations for loading planes and strapping of passengers.

Letter from A.L.Vail(sp.?) of Winona, Minn. April 3, 1966.

Quotes a Winona paper saying that a Local Winona flyer of but brief flying experience gives a statement of weather and flying conditions five minutes or so previous to the accident. As the press had it, the pilots were close enough (or course over 300 ft.) to wave to each other at that time. April 3 Winona paper says AHG Foker gives the idea that ice and apparent human element were the apparent factors.

Letter to T.W.A. from Thomas D. Ward, Aeronautical Engineer of New Albany, Ind., advances theory that plane was broken up by an upper-air tornado, a disturbance frequent in Kansas at this time of the year. 4/2/31

Statement by Arthur Baker April 3, 1931

Lives on farm 12 mi so. of Cottonwood Falls owned by father S.H. Baker. 22 years old, graduated from Cottonwood Falls H.S. 1928. Was moving some cattle across the road in front of his father's house (ranch) with his brother Edward T. Baker. Two other boys, Clarence Carpenter and Clarence McCracken were hauling feed right beside them. About 10:30 heard the hum of airplane motors, could not see plane, appeared to be coming from the northeast and going southwest. In perhaps three minutes heard plane again, this time from the northwest. Just then speed was apparently increased, and heard what sounded like back-firing continuing for several seconds. Then heard the motors shut off. Heard nothing for just an instant and then the crash. Seemed to be two reports, ^{one} right after the motors were shut off the second a second or two later. First was "had more of a pop to it", second "more of a crash."

Baker brothers immediately rode over on their horses and were first ones there. Five bodies lying a short distance in front of the plane and to the west. He went back to the house to call the coroner. Fumes from gasoline very plain. No oil except from broken motors. No evidence of fire or explosion. Could see the wing lying to the southeast about $\frac{1}{2}$ mile off. Bags of mail around the plane and two bags about 50 yds. away in direction of wing. Debris from plane northwest and southeast of plane and some as far away as $\frac{3}{4}$ of a mile. He was there within 5 min. Went back about 11:45 after ambulance had come. It was not raining, but there was a sort of mist with low hanging clouds. You could see the low hills around but not much farther. Temp about 40°.

Statement of Paul E. Johnson, NAT Mail pilot

Left KC 9:30 A. M. Tuesday A. M. March 31. Good weather reports given, but weather was 500' ceiling at KC. Had to go up the Missouri River and cut through the valley south of the Kaw River, and continue north or regular course down to Emporia because of the weather conditions. Low ceiling and misty rain between KC and Emporia, with alternate icy pick-ups and holes with good weather for four or five miles. Took him 40 min to get to Emporia, where he ran into low drifts of fog, snow-covered ground, and had to fly under drifts. Ran into wall of fog West of Emporia about 10 miles and started to turn towards the northwest where the weather appeared to be clearing. Started to pick up ice very rapidly and was flying just over the tree tops. Afraid to turn around and come back to KC, because of the Fokker, which I assumed to be in the rear of my ship. I had made several winding turns around the hill tops, running through two heavy drifts of ground fog, and had caught sight of the F-10.

I then turned northwest after the second drift, intending to turn round to the right. That was the last time I saw the F-10. It was turning, too, to the northwest. Johnson hit fog again and headed West, started climbing and at 800 feet got in a 50-foot space between fog and low clouds. Turned SSW trying to hit Cassady where good weather was given. Picked up ice very rapidly and unable to gain over 1500 feet altitude. Ice on struts ailerons bowed, air speed indicator iced up. Flew with turn indicator, climb indicator and tachometer. Ice too heavy to gain altitude. Motor advanced until wide open. Suddenly broke out of everything 15 miles straight East of Wichita. Radio out of commission while ship was iced up. Proceeded to Wichita and landed.

Opinions and Statements given by pilots and other personnel to Fred H. Grieme of DEpt. of Commerce Aeronautics branch.

Roy Bird, former TWA field mgr. arrived early at scene of accident. Examined the throttles and found them closed. Wing gave no indication of having prior contact with ground; practically intact. Bird examined motors and found both outboard motors with all blades and prop hubs intact. Center motor buried too deeply to be examined. Later on in P.M. blades were taken (by Souvenir hunters, and only returned at sheriff's request much later).

One of the TWA pilots arriving at Wichita on the evening of the crash was nearly hysterical. He opined that most of the TWA pilots were afraid of Fokkers, especially those who had flown Fords, but didn't dare to say anything about there not being safe above 140 mph. Said Ed Yuravich had tried to make him commit himself in reference to the Fokkers. Statements made under emotional strain. Next A.M. the pilot came to Grieme and asked him not to use them.

Four other pilots of TWA seemed to think that Fry was caught in bad weather, tried to pull through it and fell into a spin resulting in losing the wing. Co-pilot Herford who had flown with Fry for quite some time, remarked that Fry was considered as one of the best blind flyers in the Company, and he always pulled through the fogs and clouds on leaving L.A. He did not think Fry would get into trouble flying blind and was sure that something unusual had happened.

Statement of Edward Baker.

Coincides with that of his brother Arthur. Was 1 1/2 mi. away. 5 or 10 min between times he heard the plane. Second time sounded as if pilot had runned the motor and shut it off with some backfire, and then the crash. He could see the wing fall, but not the main part of plane. Six bodies visible, all dead. Ctr. motor buried, SE side motor in smaller hole, and NW side motor was above ground. Pilot was in the plane still strapped in

with his head upside down. Boys waited until their father and Dr. Titus (also a deputy sheriff, came up). Under Titus' direction they started to make identifications with billfolds and cards, which were turned over to the doctor. He picked up two mail sacks and put them in the doctor's car. Also some loose letters.

Statement of Charles H. Lander (Transport #78) April 1, 1931

He flew to scene from Wichita about three:30 and landed along side of the ship. Opined that ship was either in a dive or spin and excess speed tore wing off. Perhaps ice. There are several small hills and valleys around the scene and persons living in the vicinity told me that the railroad, running thru the valley is some 200-300 feet below the top of the hills. At the time of the crash they were unable to see the top of the hills. Various accounts differ as to whether the noise of the crash was heard before or after the wing tip was seen to fall to the ground from the ship.

Statement of L.E. Mann, Cottonwoode Falls garageman, April 1. 1931

Ran Mann Bros. garage. notified by Dr. A.E. Titus about crash and drove out, arriving a few minutes after the doctor. 4 or five people there 11:30. Saw several small pieces of ice lying around the plane, which evidently had shattered from the curve part of the wing. Ice U-shaped. Some snow in the pasture at that time, but it was not freezing. At that time the clouds were very low. To the east below Allison hill was heavy ground fog.

Statement of C.H. McCracken, April 1, 1931

Was feeding cattle on S.H. Baker's farm, 2 3/4 mil SW of Bazaar. Follows Baker brothers statement in general. When plane came back he saw it come out of the clouds very fast and appeared to him almost straight down. When plane came out of clouds at least one motor seemed to be sputtering, but they all stopped before the plane hit the ground. A hill obscured his view of actual hitting ground. A few seconds after the ship came out of the clouds I saw part of the wing come down, drifting slowly. He started to the house immediately and called his father who runs the central telephone office in Bazaar. Did not go to wreck immediately. Waited for ambulance. about 20 people there then.

When the ship came out of the clouds it seemed to me to be going end over end. After the plane hit and wing came down there were objects that came floating down.

Statement of R.Z. Blackburn,

Was feeding cattle on his ranch c. 2 1/2 miles SW of Bazaar and c. 1 1/2 mi NE of crash site. Attention called to a plane passing over out of sight. About 15 min. later heard another plane above clouds out of sight, which seemed to linger so long that it attracted not only his attention, but that of the cattle he was feeding. Sounded so close he began looking to try to locate the plane. Heard the back-firing of a motor, and sensed pilot was in trouble. Back-firing continued until the plane came in sight below the clouds and practically until it reached the ground. Stopped just an instant before it reached the earth. As plane came in view it seemed to be slipping in a NW direction at an angle greater than 45°. Hill obstructed his view of crash site. 20#3 cars and a team and wagon on site when he got there. Wing a 18' long piece with # on top. Mail sacks and pieces of wreckage found between wing and main wreckage. A small mail sack stamped "KC-Wichita Air Mail" was found underneath when wing was lifted. When ship came down one wing was on an angle toward him. Only glimpsed before crash.

Letter from Arnold Elson of N.Y. City 4/1/31

Asks for information, plans of plane, explanation of probable cause of crash, and what will the Gov't do to make sure "no other planes have the same defaults in their structures". He understands that the airline removed four seats from the rear of the plane and replaced it by a mail bin. Would that have any effect in balancing? If Govt. or private inquiry shows that the airline was negligent, what penalty can the Govt. inflict on the airline?

Answer to above from E. McD Kintz, Chief, Enforcement Section. 4/4/31

Says "The Dept. makes public its findings on accident investigations only in statistical form". Says that there is no proof in Dept.'s possession of the accident's having been the result of structural defect. Assures Elson that Dept will make every effort to regulate airline operation so as to prevent accidents of any nature or cause.

Details of Aircraft maintenance from W.H. Simmons to Clifford Mutchler, Asst. to V.P. in Chg. of Operations, T.W.A., March 31, 1931

Plane # 116 Mfr. # 1063 Plane commissioned 10/29/29 1887:37 on it. Not major overhauled. Wasp Engines:

	<u>T W A#</u>	<u>Mfr. #</u>	<u>Time since O.H.</u>	<u>Total Time</u>
L	178	1354	339:40	1894:26
C	174	1906	176:56	577:18
R	171	1598	176:56	1038:36

Pilot: Robert G. Fry Time last 90 days 191:36 as pilot.
Nite Miles 2511 as pilot

Co-Pilot: H. Mathias Time last 90 days 112:29 as co-pilot
Nite Miles 0

Total Time with W.A.E. and T & W.A.

	<u>As pilot</u>	<u>as Co-pilot</u>	<u>Pilot</u>
			<u>Nite Miles</u>
Robert G. Fry	1263:33	227:57	22964
H. Mathias	0	219:23 (W.A.E.)	0

Propellor time same as engine time since overhaul.

2 propellers installed & Engine changed Ship 116, Jan. 31, 1931
Center Hub # 10977 (c) blades #'s 17073-17074-17075 Etched-Checked-Bal-
Right Hub # 8837 (c) blades #'s 17689-18618-18522 anced 1/31/30

Statement from Ray E. Spangler, April 4, 1931 Chief Mech. TWA, KC.

He arrived at scene about 6:30, and did not leave the wreckage until April 3 about 4 P.M. after all debris had been removed. Found all engines, and accounted for four of nine blades. Sheriff asked to locate the remaining five blades. Three returned in evening of April 2nd. Remaining two returned April 3 about noon. All people who returned them said they were taken from the scene of the accident

Manifest for Plane # 116, Flight 3, 3/31/31, Western Division, (Alameda, Glendale, Los Angeles, Kinman, Winslow, Albuquerque, Amarillo, Wichita, Kansas City.) "On" at Kansas City Passengers 915 # Baggage 146 # Mail 63-6 #. Total 1125-6#.

Letter from E.S. Chartier, 1125 Mechanic St. Emporia (weather observer)

General conditions locally improved quite an extent from 8:00 Am Report. Ceiling raised to 1200 feet to 1500 feet and broken overcast, with a higher ceiling toward noon. At 10:40 Am Mrs. Chartier noted a peculiar depressing condition of the air (cyclonic atmosphere) which brought to her attention a dark cloud in the S.W. with a low streamer bordering on a funnel shape. The cloud was high in the air and streamer part of the cloud very shot, and possibly would not have been noted, excepting for the depressing condition of atmosphere. The sun was visible with a good high ceiling at the time the cloud was seen. At 7:58 AM. Overcast, ceiling 1000 ft. Visibility 5 miles, Winds no. at 6, Lt. ground haze. Fry flew the 8:15 plane from Kansas City on March 30, and again on Mar 31. April 1 the flight was taken by Ralph Montee, April 2, by S.R. Shore and April 3 by J. Walsh.

Winds NW-8 Barometer 30.
Salina weather 3/31, at 10:13 Am Clear, ceiling unl. Visibility 10 mi. 38°
Ottawa Weather 3/31, 8:06 AM. O'cast lt. hazy, ceiling 800' Visibility 7 mi. Winds NE-6 Temp. 34 Barometer 30.8
KC Weather 3/31 8:20 AM O'cast, lt. Snow, Ceiling 400' Vis. 1 1/4 mi. Winds N-3 Temp. 34, Barometer 30.07
Cassoday Weather 3/31 10:20 AM Thin o'cast, hazy Ceiling unlimited, vis. 6 mi., Wind N-17 Temp 34° Bar. 30.13.
Wichita Weather 3/31 10:00 Am Clear, hazy, ceiling unlimited Vis. 7 Mi. Winds NW-10 Temp 39°, Barometer 30.07

Transcontinental & Western Air, Inc. MANIFEST for Flight 3, 3/31/31
Agent R.S. Bridges, departed 9:15 A.M. Pilots Fry and Mathias.

<u>Selling Office</u>	<u>Passenger & Address</u>	<u>Baggage</u>	<u>Pass Wt.</u>	<u>Route</u>
Chi	H.J. Christen 400 N. Michigan Ave, Chicago	1-29	225	KCY-DOS
Chi	J.H. Happer 2037 Powell Ave., Chicago	2-31	190	KCY-LOS
CHI	Knute Rockne 1417 E. Wayne, South Bend, Inc.	2-31	190	KCY-LOS
NYNH	Hartford W.B. Miller 320 Farmincton Ave, Hartford	1-28	170	KCY-LOS
PRR, NY	S.S. Goldthwaite 333 E. 43rd St, New York	1-32	165	KCY-LOS
COL	C.A. Robrecht No. 10 Oak Park, Wheeling, W. Va.	1-26	200	KCY-AMA

William S. Lamoe was Radio operator at KCY
O'Reilly, Radio Operator at WIT telegraphed TWA hquts:
10:22 "Plane 25 N.E. Cassoday flying rite on ground We are heading back to KCY what is your weather STOP Wit reply if on ground 25 N.E. of Cassoday STOP Plane no we are not on the ground we are still in the air but are flying very low what is your eather STOP Wit the weather here at ten AM was Clear and unlimited/ visibility seven miles wind NW Ten Hazy STOP Plane Ok Wit we are going to try again to get thru and if we don't make it will sit down at Olpe Please stand by on us STOP Wit. Okay 116 will stand by for you.

Ten forty five Am. plane called asking quote What is your weather now WIT replied waether here has not changed much except few clouds to the N.E. The sky is clear overhead but there are some clouds possibly two tenths mostly MEx in N.E. Do you think you will make it. STOP Plane did not answer this question so called him again and repeated Do you think you will be able to set thru STOP Plane answered Don't know yet, don't know yet and was never heard thereafter. STOP

Telegram from Jurden to Chief Inspection Serv. Wash. 12:44 P 3/31/31

TRANSCONTINENTAL AND WESTERN AIR SHIP NC NINE NINE NINE E FROM KANSAS CITY TO LOS ANGELES CRASHED THIS MORNING ABOUT TEN THIRTY NEAR COTTONWOOD FALLS KANSAS STOP SIX PASSENGERS AND TWO PILOTS REPORTED DEAD STOP AM PROCEEDING -Jurden

Notes from "Corners" Inquest held April 1, 1931 in the Court House in the City of Cottonwood Falls, Kansas, in the matter of the death of Knute K. Rockne, H. J. Christen, C.A. Robrecht, John Happer, S. Goldthwaite, Waldo B. Miller, Robert G. Fry and Herman J. Mathias." Coroner Dr. Jacob Hinden. H. C. O'Reilly, County Attorney.

Undertaker was Ernest McKenzie of Cottonwood Falls, testified.

R.S. Bridges, local dist. traffic agent for TWA at KC, testified.

Said 30# of baggage was customarily the Co. limit.

Fry in service as a "western Division man" with TWA since Oct. 1

S.R. Blackburn, an attorney representing the interests of Goldthwaite questioned the certainty of identification by papers, etc. and was re-assured of continued identification of deceased.

W.E. Stanley appeared as legal representative of the company.

R.Z. Blackburn, stock man of Cottonwood Falls testified.

Said break in wing appeared a little ragged and splintered, but went square across. "An unbroken light on the top side, number side up" Told of bag under the wing and three more sacks between it and plane.

L.E. Mann, garage man of Cottonwood Falls testified. Said he arrived about 11:20 or 11:25. Did not examine wing until about an hour. Was a little sick but saw several U-shaped pieces of ice lying around the wing, about 6 " long. He rode up from Bakers with Wallace Evans and Chet Blackburn because they had chains on their car, three others in car, also Dr. Titus and Roy Maybell. All helped in removing the victims.

Arthru L. Deering, Sherriff, testified

Went to site with Bob Blackburn, Joe Woodring and Carl Park Retrieved two guns, one of which had "M" on it. (Mathias) ~~stated~~ This was loaded. Pilots gun was jammed, but loaded.

Jack Frye, V.P. in chg of operations for TWA, testified.

Said Mr. Bodine in K.C. would have records of inspection of plane. Coroner asked him if he'd known of any other wings coming off of a plane. Frye said none of this type. Said minimum of 2000 hours for first pilots. Co-pilot not required to have much experience. He takes care of the mail and passengers. Pilot had to have a minimum of five years flying experience. Co-pilot must have 200 hrs. Said pilots have never had a crash before, or any accident since they were in TWA service and not before that he knew of. Plane and pilots were to fly to Albuquerque (in six hours) Pilots then come back

Leonard Jurden, Superfising Aeronautical Inspector for the Dept. of Comm. Kansas City, testified. had been with D pt. about 3 years.

Edward Baker, who said he resided "on Rock Creek" testified, son of Seward Baker. Same testimony as in his previously noted statement. Says he saw a good sized piece of wood come down after the wing, and it landed a little south and east of the plane. Also some papers and light material came down after the wing. He and his brother rode their horse as fast as they could to the scene.

Arthur Baker testified. Says wing came down "perhaps a minute" after he heard the crash. Didn't get off his horse at first. Edward tied his to a fence and waited to see if there was anything he could do.

John A. Collins of Columbus, Ohio, Asst. Supt. Eastern Div. TWA testified. Says all pilots are employed by co.'s "ship pilot".

Clarence McCracken, lives north of Bazaar, testified. Says he heard the plane about ten minutes before he saw it. Engine sounded all right until it was falling. Falling when it came into his sight. He was about a mile from scene. Says it was only 10 seconds until the wing fell. Did not go immediately to scene, went with the ambulance in 3/4 of an hour. Small pieces scattered about 1/2 mile from plane.

Charles Howard, local Cottonwood Falls man taking flying instructions testified about what would cause backfiring. "Running and shutting off quick, or give it gas quick, or if it run out of gas."

Roy K. Maybell, Cottonwood Falls, testified. Went out with Dr. Titus arrived about 40 minutes after crash. Picked up pieces of veneer about two feet square with linen attached, between wreckage and wing.

Dr. A.E. Titus, medical doctor of Cottonwood Falls, testified. Called to scene and arrived there in about 25 minutes. No one was at the wreckage then. Called wing a "clean break".

Joe Woodring, Cottonwood Falls, testified. Said he got there about an hour after the accident, with Arthur Deering. Helped remove bodies. The Kansas City to Wichita mail bag was handed to him by a boy. The up side of the wing was a silver color. Thinks the number was on the low side, never saw the under side. Light was on the side laying up.

Carl Park testified. He visited the scene in A.M. got out of his car, was at the wreck 1 1/2 hrs, and then went to wing. Says the next partition in the wing was about 18 inches from the break. Did not notice any number on wing. Thinks it was silver on the side that the light was on and the other side red. Light was on the upper side of wing as it rested on ground.

Sherrif Deering recalled mentioned "various planes" which arrived at the accident scene from Kansas City.

Coroner's Jury Decision 1st Day of April, 1931 at Cottonwood Falls, Chase County, Kansas, six jurors under Henry H. Giese, Foreman "do say that:

Knute K. Rockne	South Bend, Ind.
H.J. Christen	Chicago, Ill
C.A. Robrecht	Chicago, Ill
John Happer	Chicago, Ill
Spencer F. Goldthwaite	N.Y., N.Y.
Waldo B. Miller	Hartford, Conn
Robt. G. Fry	Los Angeles, Calif.
Herman J. Mathias	Winston, Ariz

Met their deaths as the result of an airplane fall;
cause undetermined."