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OFFICE OF THE AIR ATTACHÉ

BRITISH EMBASSY

WASHINGTON, D. C.

Press Summary of Report of the Investigation
of the Accident to the Imperial Airways air-
craft G-ADUU (Cavalier) on January 21, 1939.

The Report of the British Air Ministry's Inspector of Accidents, Wing
Commander Vernon Brown, on the loss of Imperial Airways' flying boat
"Cavalier" at sea on January 21st is published today.

"Cavalier" sank after a forced descent some two hundred and eighty-five
miles south-east of Long Island. Two of the eight passengers and one of the
crew of five lost their lives.

Among the principal conclusions reached by the Chief Inspector are:-

The forced descent was due to fading of engines caused by complete loss
of power in two inner engines and partial loss of power of two outer engines.
This was the result of carburettor trouble due to icing. The sea conditions
were too severe to make a good landing possible. As a result of damage
caused to the hull in alighting, the cabins were quickly flooded, and about
fifteen minutes later "Cavalier" broke in half, aft of rear spar, and sank.

No blame can be attributed to the Captain or First Officer, who behaved
with great coolness throughout.

All British regulations (under which "Cavalier" was operated) were com-
plied with.

The British Air Ministry's Chief Inspector of Accidents left England
for New York on January 28th, but in the meantime, on instructions of
Sir Kingsley Wood, Secretary of State for Air, the Air Attaché to the British
Embassy at Washington, Group Captain G. C. Pirie, had assembled a Board of

Enquiry in New York. The Board consisted of Squadron Leader J. R. Addams, Air Ministry representative with the Lockheed Aircraft Corporation and North American Aviation, and Squadron Leader A. Ferrier, Royal Canadian Air Force, Chief Aeronautical Engineer in the Civil Aviation Division of the Canadian Department of Transport. With consent of the Chief of the Air Safety Board of the U. S. Civil Aeronautics Authority, two observers from the Authority also sat with the Board. They were, Mr. James Peyton of the Air Safety Board and Mr. Edward Yuravich, Chief of the Air Carrier Inspection Section. The Board assembled on January 24th. They took evidence from surviving members of the crew and from all ground and operating personnel concerned. As many as possible of surviving passengers were interviewed, and Imperial Airways' base at Port Washington was visited.

Chief Inspector of Accidents later visited the United States and, after consultation with Board, interviewed surviving members of the crew. He also made personal investigation in Bermuda. He finds that the "Cavalier" and its equipment were in a fully airworthy condition prior to departure on morning of January 21st and that local weather conditions at Port Washington and forecasts available fully justified the Captain, Captain M. R. Alderson, in undertaking the flight. Narrative of flight published in report records that the "Cavalier" took off at 10:38 a.m. (E.S.T.). At about 12:25 p.m., when all four engines were giving complete satisfaction, Captain Alderson, as a result of weather conditions, decided to climb through high cumulus cloud ahead.

Immediately on entering cloud the radio operator encountered severe static. He had first to earth and then to wind in his trailing aerial, and a few minutes later, owing to exceptional severity of conditions, he was compelled to earth the fixed aerial.

At 12:23 p.m. he transmitted to Port Washington radio station the message, "Running into bad weather, may have to earth".

This was reported widely in the press, the Chief Inspector comments, as, "May have to land", and Captain Alderson was unfairly criticized for complacency in continuing on his route, after knowing that he was in trouble, for forty-nine minutes, before the accident occurred.

It was after the "Cavalier" had been about ten minutes in cloud, the narrative continues, that all four engines suddenly began to fade. It was found impossible to revive the engines, and Captain Alderson therefore turned back towards Port Washington, hoping to regain a clear patch through which he had flown and thus to cruise in more favourable conditions. After a few minutes, however, he realized that too much height had been lost to regain the clear patch and he then turned to his original course.

The Chief Inspector of Accidents finds that if Captain Alderson had not continued on his course to Bermuda, the chances of rescue would have been reduced. He adds that, as the water temperature fell by approximately ten degrees for every hundred miles nearer New York, the chances of survival would have been progressively less.

The first passenger to die after the crash, the narrative states, was Mr. Donald Miller, who, although holding his life-belt, was not wearing it when he entered the water. "It is thought that he was stunned by part of the 'Cavalier's' structure", the Chief Inspector states, "but there is no definite proof of this".

The other passenger who lost his life, Mr. John Noakes, was severely injured at landing, as, contrary to the verbal instructions issued, he stood up to see what was happening. He died six hours later.

Steward R. Spence, the member of the crew who died, wore himself out assisting the passengers until he lost his reason.

There were in all twenty-two seat-type and six crew-type life-belts on board. The Chief Inspector finds that, owing to an unprecedented combination

of circumstances, it was only possible to make use of eight of them, i.e., four of each type, but that, there was, nevertheless, sufficient flotation-gear to support everyone in the water.

The survivors were rescued by Standard Oil Company of New Jersey, tanker "Esso Baytown", after having been in the water nearly ten hours.

The Investigation Board made a number of recommendations with which the Chief Inspector agrees. Among them were:-

(i) That the system of throttle and mixture controls used must have aggravated the trouble caused by icing and should be studied in the light of this criticism.

(ii) That flying boats of this class should be modified so as to give the crew more adequate control of oil temperature.

(iii) That for emergency conditions an additional supply of heat under control of crew must be made possible in order to raise temperature of the incoming air before it reaches the carburettor jets. As a necessary adjunct to this, a carburettor air temperature indicator visible to pilots is essential.

(iv) That passengers should be strapped in their seats at take-off and landing.

In connection with the Board's recommendations with regard to the carburettor heating system in use on the "Cavalier", the Chief Inspector draws attention to the design of the hot air intake shutters and attaches a sketch showing a case in which distortion had occurred.

He also refers to certain other cases recently where engines had faded in Imperial Airways' aircraft as the result of carburettor icing trouble. He points out that Imperial Airways had put in hand research on this matter as soon as reports were received.

The Board of Enquiry also draw attention to the desirability of instructing passengers in the method of fastening life-belts and location of emergency

exits and of providing additional life-saving equipment.

The Chief Inspector agrees that the former proposal should be considered, but points out that an illustrated notice showing how life-belts should be put on was displayed in each cabin. Reproductions of this notice are attached to report. As to the latter, he recommends that some type of raft or life-boat should be carried with provision for emergency rations and pyrotechnic signals.

Finally, the Chief Inspector of Accidents recommends that consideration should be given to the question of carrying a separate navigator in addition to two pilots on flying boats engaged in flying over long expanses of sea.