No. 24

Morton Air Services Ltd., Consul G-AHFT, ditched in the English Channel after failure of one engine, 14 June 1952 - Accident Report MCAP 110

Circumstances

The aircraft, a twin-engined Consul, was on a charter flight from Croydon, England to Le Mars, France with seven passengers and the pilot. The flight was without incident until shortly after crossing the English coast in the vicinity of Brighton at about 0855. The starboard engine gave one or two bangs which the pilot thought might be due to carburettor icing. The engine quickly recovered, however, and the flight proceeded. At about 0915 the starboard engine again began to cough. This time it did not recover. The aircraft was then twenty-two nautical miles from the nearest aerodrome, namely Le Havre on the French coast while the nearest English aerodrome was Shoreham, fifty-seven nautical miles in the opposite direction. The pilot elected to turn back to the English coast and make a 180 degrees turn to port. The aircraft continuously lost height and finally ditched twelve miles south of Brighton at 0949 hours. There were only two passenger survivors who were picked up two hours later.

Investigation and Evidence

The pilot, the seven passengers and their baggage were weighed and the Load Sheet made out. This showed that the all-up weight was 8,241 pounds, which was 9 pounds less than the maximum permissible.

The passengers were conducted to the aircraft by an employee of the Company, who instructed them in the use of safety-belts, but made no mention of the lifebelts carried in the aircraft. Six passengers were seated in the normal passenger cabin and the seventh occupied the right-hand seat in the pilot's cockpit, which is normally the radio officer's seat.

Because no radio officer was carried, the pilot asked this passenger if he would operate the VHF frequency switch as it was difficult for him to reach it himself. The passenger occupying this seat had been a Battle of Britain pilot. He fortunately survived the accident and the Court was greatly assisted by his evidence.

At 0834 the aircraft was cleared by Croydon Control to take-off, leaving the Control Area seven miles south-west of Dunsfold, and crossing Dunsfold at 2 000 feet, At 0835 the aircraft was airborne and at 0836 Croydon asked the aircraft to report over Dunsfold. At 0834 the pilot informed Croydon Control that he estimated his position as being 10 miles south of Dunsfold, which is about 22 miles south of Croydon, but having regard to the performance of the aircraft and the prevailing winds, the Court was of the opinion that the pilot must have been mistaken in giving this position.

When crossing the coast, according to the witness seated beside the pilot, the aircraft was flying at 140 miles per hour and at a height of 1 800-2 000 feet. Shortly after leaving the coast the starboard engine gave one or two bangs, and for a very short time ran roughly. From a remark made by the pilot it appears that he thought this was caused by carburettor icing and he, therefore, moved the "hot and cold air" control lever. According to evidence, the lever was down in the "hot" position at the time and the pilot moved it up, although it was clearly his intention to inject hot air.

The starboard engine very quickly recovered, and under these circumstances the Court saw no reason to criticise the pilot's decision to continue the flight.

At a time estimated as twenty minutes or half an hour after crossing the coast, and which the reconstruction of the flight indicates as being about 0915, the starboard engine started coughing. The pilot opened the throttle and pumped it several times but without result, and the revolution counter for that engine fluctuated between zero and 1 600 rpm. The pilot adjusted the rudder trim, and a little later opened the port throttle to 2 000 revs. He continued to fly in this manner for a period estimated as anything up to five minutes, during which time he may well have been assessing the relative advantage of going on or turning back. At about 0920 hours he made a turn of 180 degrees to port.

The decision to turn was a vital one, and much evidence and argument ensued as to whether the pilot was right in making it. At the time the aircraft was about 57 nautical miles from Shoreham, the nearest English aerodrome, and about 22 nautical miles from the nearest French aerodrome, which was Le Havre. On the assumption that a forced landing was inevitable, the convenience of passengers and the effecting of necessary repairs to the aircraft must have weighed strongly in favour of returning to England.

In addition, among other factors which may have influenced the pilot in favour of turning back are the following:-

(a) He had recently experienced the weather conditions in England but had only the forecast to rely upon for the conditions along the coast of France. At the time the turn was made the pilot was in cloud and could see nothing which would suggest that the weather in France was better than in England. In these conditions he may have considered it preferable to return to England where the coastline was comparatively flat in the vicinity of Shoreham, whereas near Le Havre and Deauville there are high cliffs.

(b) He had given Deauville as his alternate and it is therefore probable that had he decided to go on, he would have made for that aerodrome. However, in view of the weather, and the fact that he had previously failed to contact Deauville by radio, he may well have felt apprehensive about attempting an IFR landing there.

(c) A belief that the aircraft, with the power available, would be able to reach an aerodrome in England.

This belief may have been based on tests which he underwent with the Ministry of Civil Aviation for his instrument rating when he was required to fly a Consul with one engine throttled back to 1 200 rpm. This test, however, was not carried out at full load and there is no satisfactory evidence that the pilot had ever flown a Consul asymmetrically at full load.

(d) Further, it was suggested that since the Channel shipping lanes lay nearer to the English coast than the French, the chances of rescue were better on the English side of the Channel if ditching became necessary. However, the Court has some doubt as to whether it would be proper to assume that the pilot had any knowledge of the shipping lanes, and that this factor therefore entered into his calculations. As against these, however, and assuming that the pilot was aware of his approximate position, the following points should have been present in his mind:-

(a) His greater proximity to the French coast.

(b) The prevailing wind, which would have been about astern of him had he continued towards France.

(c) According to the meteorological forecast the weather on the coast of France would have been no worse than in England and should have improved the further inland he got.

(d) The possibility of the complete failure of the starboard engine which would make it doubtful whether the aircraft could reach England.

As events turned out, if the aircraft had continued on its course the accident might well have been avoided, since the aircraft maintained height long enough to enable it to have made a landing somewhere in France. But the Court is not prepared to hold that the pilot's decision, taken as it was in an emergency, was wholly unjustified.

After the turn, the starboard engine continued to cough and bang with the rpm. fluctuating up to 1 600 rpm. for about a quarter of an hour, after which it ceased working altogether and the propeller merely windmilled. During this period a speed of about 120 miles per hour was maintained, no alteration was made to the throttle of the port engine and the aircraft slowly lost height. After the starboard engine failed completely, the aircraft then being at a height of about 1 000 feet, the pilot opened the throttle of the port engine to the gate, but made no adjustment to the mixture control. From shortly before the turn until the aircraft ditched, the pilot flew at 120 miles per hour, except for a very short time when, at about 300 feet, he reduced speed to approximately 90 miles per hour. This failure to reduce speed and to put extra boost on the port engine is significant, as tests carried out subsequently by a test pilot in conditions simulated as far as possible to those of the accident, revealed that if

the speed had been reduced to about 90 miles per hour as soon as the starboard engine faltered, and the maximum continuous boost had been applied to the port engine, the rate of the descent would have been substantially reduced and the aircraft would probably have made the English coast. Whether the pilot's failure in this regard was due merely to lack of knowledge of this type of aircraft or to his confusion in the emergency, it is not possible to determine.

The actual ditching of the aircraft occurred at about 0949 at a position about 12 nautical miles south of Brighton, as far as can be estimated from the spot where the survivors were picked up some two hours later.

Some criticism was directed at the manner in which the ditching procedure was carried out. There was evidence that the port engine was still under full power when the aircraft struck the water and that the ditching took place at 120 miles per hour, whereas it should have been carried out at about 80 miles per hour. Moreover, it was established that the pilot took no steps to warn the passengers that ditching was imminent and to instruct them to put on their life-jackets and tighten their safety-belts. Since, however, all the passengers were able to get clear of the aircraft, which remained afloat for about ten minutes, the Court did not attach great importance to these matters as possible causes of loss of life.

None of the passengers were injured in the ditching, but the pilot received a cut over one eye and appeared somewhat dazed.

RECOMMENDATIONS - At present no regulation prescribes the height at which aircraft may fly on short sea crossings. In the case of twin-engined aircraft which at take-off weight are unable to maintain height in the event of the failure of one engine, it is considered that greater safety might be achieved if they were compelled to fly at such a height that at any stage of a flight over water they could make land if deprived of the use of one engine.

According to the present regulations, the display in the aircraft of a notice depicting the method of use of life-jackets is all that is required.

It is considered that this regulation might well be extended to provide that passengers should be briefed before take-off as to the stowage of life-jackets, their proper method of use, and the position of escape hatches.

Mention has been made, as a possible cause of the accident, of the pilot's unfamiliarity with the type of aircraft he was required to fly. To avoid such a risk in future, it is considered that operators should never put a pilot in charge of an aircraft for hire or reward, until he had done at least one "operational" flight under the supervision of one of the operator's regular pilots. Such a system would also ensure that operators gained some knowledge of the new pilot's capabilities in "operational" conditions.

It is considered essential that whenever the radio equipment is to be operated by the pilot, all the controls of such equipment should be within his easy reach. It is most undesirable that the pilot should have to enlist the co-operation for this purpose of the occupant of the seat next to him, and particularly so when that occupant happens to be a passenger.

It is considered that there should always be provided a type of microphone which can be operated by the pilot without requiring him to remove his hands from the aircraft and engine controls.

It was suggested that every aircraft flying over water should be equipped with some form of wireless telegraphy capable of working on the International Distress Frequency, and should carry a radio operator. The Court does not feel that the evidence justifies any recommendation in that regard.

Probable Cause

The probable cause of this accident was primarily the failure of the starboard engine, and, thereafter the disaster must be attributed to errors on the part of the pilot.