

Flight 1. AIRCRAFT "W". DURATION - 0049 Hours.

Pass:-

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| W/O. Willis. | Sgt. Uckles. |
| W/O. Mackie. | P/S. Miles. |
| P/S. Isabel. | P/S. Clark. |
| Sgt. Gates. | P/O. Clark. |

Difficulties began after about one hour flying through extremely unstable air. Temperature varied between 0° and +4° C and clear ice was collected at 1,000 feet. Ice became thicker as the trip progressed but was not thought to be anymore dangerous than had been the case on similar flights throughout this winter. The perspex over the cockpit became opaque and ice only partly cleared in warmer air which was experienced for odd periods of a few minutes now and then. Electrical discharges were visible at all points of the aircraft - aircrews - rivets - guns etc, to a degree never experienced before. This was reasonable in view of the fact that cloud was about 7/10 Cu-Nimbus. Eventually at 0327, there was a great flash and explosion due to the aircraft being struck by lightning. The trailing aerial was cut but feathered at the time. Net transmissions were being sent between one Cu-Nimbus cloud and the next and the aerial feathered as often as possible.

As far as could be diagnosed after this "strike" the aircraft was flying normally but the fuselage was full of snakes which appeared to have entered via the trailing aerial lead. The doors to the starboard undercarriage were seen to be hanging down and the trailing aerial net unnaturally was no longer with us. The rear gunner then reported that there was a flapping noise in his vicinity, and the engineer, shining the Aldis lamp through the Astro-dome enabled the rear gunner to observe that the fixed aerial had been "rattled" from its forward support and was flapping between the fins.

Position No.9 was then reached and the Captain considered - whether he should return to base at 1,000 feet or whether the climb should be undertaken. After talking the matter over, it was decided to climb. Returning at 1,000 feet, icing would have been serious, since we were already carrying a great deal of ice and the aircraft undoubtedly would have had to contend with similar heavy showers at 0° C, throughout the return trip. We had been briefed that the tops of Cu-Nimbus cloud would probably be up to 15,000 feet so it was decided to try and find a clear spot to climb through, and set course for base through clear air at 18,000 feet. Course was set for base and a gap was observed and the Captain climbed through this and manoeuvred to keep in clear air. The night being perfectly dark, this was difficult and at about 6,000 feet the perspex became completely opaque and further trouble began in earnest. It was now cold and it was obviously safer to climb as quickly as possible than to descend again. So the aircraft was taken to 18,600 feet assisted here and there by rising air in Cu-Nimbus cloud. To our amazement tops of the clouds were not at 15,000 feet since at 18,600 feet heavy hail was falling. Really bad turbulence was now being experienced and we were obviously flying through almost continuous Cu-Nimbus cloud. We had no navigational difficulties, since Loren position lines had been obtained at moments when the static was slightly less violent and we were able to keep on the right track. We decided to continue to position No.4 and then descend, as observations on the way out indicated much clearer air in that position. To attempt to find a suitable gap between the clouds. P/Sgt. Uckles opened the flare chute hatch, and although the temperature was well below -40° C, he gave directions which helped a great deal. Nevertheless that descent was a trip none of us is likely to forget. Upon selecting a lower R.P.M. boost, and R.P.M. fluctuated violently on all four engines. Exercising the Rev-Lever cured three of them, but the Port Outer continued to get worse, surged from 1,800-3,000, and boost from -2 to +5lbs. The aircraft proceeded to yaw violently as the revs. fell and rose. This together with the extreme turbulence made it imperative to reduce the drag on the Port Outer engine to a minimum and allow the pilot to trim the aircraft. Although it was appreciated that a descent to a higher temperature level would probably eliminate the trouble, it would have entailed flying below 1,000 feet with the danger that, had a cure not been effected, it would not have been possible to climb again on three engines. Furthermore existing showers at 1,000 feet would have laden the aircraft to the point of rendering it unairworthy. In view of this, together with the inherent need to keep the aircraft manageable, feathering was decided upon at 7,000 feet, when height was barely maintained at 120 knots.