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AIRCRAFT ACCIDENT REPORT
RAPPORT D'ACCIDENT D'AVIATION

C70064
28 May 1977

*"This accident was investigated to provide guidance toward the prevention of a recurrence. The content of this report is confined to cause-related circumstance and is published for accident prevention purposes only".*

C70064 Mitsubishi MU2-B C-GODI

DATE: 28 May 1977 1427 local time
OPERATION: Charter DAMAGE: Destroyed
PLACE: 17 mi N of Portage, Man. 50/12N 98/08W
LOCALE: Flat swampy area 800' asl
WEATHER: Cloud scattered, heavy cumulus and cumulonimbus, vis 15, temp 18°C, wind SSE 6 kts
PILOT: Airline Transport

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|---|---|---|---|---|
| TOTAL HOURS: | 3000 | ALL | 130 | ON TYPE |
| LAST 90 DAYS: | 108 | ALL | 22 | ON TYPE |

CO-PILOT: Commercial

| | | | | |
|---|---|---|---|---|
| TOTAL HOURS: | 220 | ALL | 15 | ON TYPE |
| LAST 90 DAYS: | Unknown | ALL | 15 | ON TYPE |

CASUALTIES: Crew: 2 fatal; pass: 4 fatal
OCCURRENCE: The aircraft was on initial climb-out from Winnipeg and had been cleared to 22000 feet. Thirteen minutes after take-off the crew obtained clearance to alter heading to avoid weather they were painting on their radar. During the next six minutes the crew reported severe turbulence and requested vectors out of the area. Moments later the aircraft emerged vertically at low altitude from the base of a dark cloud. The aircraft struck an island of reeds in a marshy area at high speed in a 60° nose down attitude.

The company had dispatched the aircraft and crew on the morning of May 28 from Prince Albert, Saskatchewan to Winnipeg, Manitoba on a charter flight to pick up 4 fishermen and fly them to La Ronge, Saskatchewan.

The aircraft arrived at Winnipeg at 1210 hours* after an uneventful flight and was fuelled to capacity immediately after landing. The Captain discussed the development of heavy cloud buildups to the west of Winnipeg with another pilot and appeared not to be concerned. The passengers were boarded and the aircraft was cleared for take-off at 1400 hours. Good weather conditions prevailed at Winnipeg but in the Portage area, through which the flight was to progress, thundershowers had been forecast. Cumulonimbus (CB) buildups with lightning were reported in the area north of Portage, near the route.

Winnipeg radar was showing a line of CBs to the west of Winnipeg, 50 - 75 miles long, 5 - 10 miles deep moving north at 20 mph. At 1420 hrs the Captain reported "painting a little weather here" and requested permission, which was granted, to alter heading to the north. Moments later, after reporting severe turbulence the Captain stated that he was on a southerly heading and was requesting vectors to clear the area. The aircraft was estimated to be at 17000 feet at this time. The Winnipeg Centre suggested a heading of 260° which was acknowledged at 1424 hrs. This was the last transmission heard from the aircraft before it struck the ground 3 minutes later.



* *All times in this report are Central Daylight Time.*

The aircraft Captain had 3 1/2 years commercial flying experience. He was properly certificated to act as Captain on the MU-2 and held a Class I instrument rating. The company training records were incomplete; it was noted however that he had not received any formal MU-2 training and neither had the company pilot who instructed him on the type. It was therefore not possible to determine his knowledge of correct operating procedures. At the time of the accident the Captain had only 130 hours on type, 70 of which were dual.

The co-pilot had received his Commercial licence 6 weeks earlier. He did not have a multi-engine endorsement nor an instrument rating. The company was required to operate the MU-2 with 2 qualified pilots when operating the aircraft on commercial IFR air operations.

There is no evidence that either pilot contacted the weather office for an updated weather analysis during the stopover at Winnipeg. The aircraft was estimated to have weighed 11253 lbs at take-off, 453 lbs over the maximum allowable.

The turbulence encountered during the climb-out was of such magnitude that at least one passenger, who had been wearing his seat belt, showed signs of internal injuries received prior to the crash. The estimated 17000 foot altitude of the aircraft is also consistent with the maximum intensity region associated with thunderstorm activity. The control of the aircraft under such flight conditions would be difficult even for a highly experienced crew. Should the Captain have become disoriented or incapacitated due to the severe turbulence encountered, the co-pilot would probably be unable to cope with the aircraft under such extreme conditions, aside from the question of his competence.

Technical analysis indicated that the aircraft was structurally sound and intact immediately prior to impact. The flaps were symmetrically set at 5° and both engines were intact and producing power.

No evidence was found to suggest any mechanical malfunctions of airframe, engines or components that could have contributed to the accident, nor was any damage found to indicate that a lightning strike had occurred or that hail had been encountered.

FINDINGS

The Captain did not adequately assess the forecast weather phenomena and did not take appropriate action to avoid it.

The Captain flew the aircraft into thunderstorm conditions which resulted in a loss of control.

The flight crew was not appropriately qualified on the aircraft type.