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Our Ref: AIC 25-R01/24-1002

Safety recommendation: AIC 25-R01/24-1002

Addressed to: Kobio Aviation Limited

Date issued: 25 April 2025

Investigation link: AIC 24-1002

Action status: Issued

Introduction

On 19 October 2024 at 16:05 local time (06:05 UTC), the AIC was notified by NiuSky Pacific about an occurrence that had occurred on the same day at 15:00 local time (05:00 UTC). The occurrence involved a De Havilland Aircraft of Canada Ltd DHC-6-300 Twin Otter aircraft registered P2-KAL, owned by ASHE Aircraft Enterprises Limited, and operated by Kobio Aviation Limited.

The AIC immediately began gathering information pertinent to the occurrence and commenced an investigation into the occurrence.

Occurrence

On 19 October 2024, at 15:00 local time (05:00 UTC), a De Havilland Aircraft of Canada Ltd DHC-6-300 Twin Otter aircraft registered P2-KAL, owned by ASHE Aircraft Enterprises Limited, and operated by Kobio Aviation Limited, was conducting a VFR charter flight from Kairik Airport, Enga Province to Mt. Hagen Airport, Western Highlands Province, Papua New Guinea, when, during the take-off roll, it experienced a runway excursion and rolled into a drainage ditch which runs along the left side of the runway and impacted the embankment.

Safety deficiency description

The operator's *Standard Operating Procedures (SOP) Manual*, Chapter 3, Section 3.4 (*Cockpit Scan*), contains the First Officer's Take-off Scan and Calls Procedure, which includes the following:

CAPTAIN	FIRST OFFICER
<p>After completion of the Line up Checklist Call</p> <p>► Call “YOUR CONTROLS”</p> <p>Note: The First Officer shall have directional control of the aircraft via input to the rudder pedals from this point. The Captain shall loosely guard the nose wheel tiller to ensure directional control is maintained.</p> <p>• Sets TKOF Power (allowing for ram effect)</p> <p>► Replace the First Officers hands on the Power Levers, and advance the Power Levers to take-off power, and call “AUTOFEATHER ARMED” when arm light illuminated.</p>	<p>► Respond “MY CONTROLS”</p> <p>► “TORQUE PSI”</p> <p>► “ROTATE KTS”</p> <p>► Calls “SET POWER”</p> <p>• Place both hands on the control wheel and assume directional control via the rudder pedals.</p>

According to the Manufacturer’s *Pilot Operating Handbook (POH)* and *Aircraft Flight Manual (AFM)* for the DHC-6 Series 300 (Twin Otter) and variants, Revision 53, dated 10 September 2010, Section 4 *Normal Procedures*, Subsection 4.10 (1) and (2) *Take-off*, the following are specified:

1. Line up on the runway and slowly roll forward a short distance to ensure the nose wheel is centred. Then stop and apply brakes.
2. Advance the power levers until 85% NG is reached. Pause for at least 5 seconds at this setting, allowing all engine indications—particularly T5 temperatures—to stabilise.

Section 10 *Take-off*, Subsection 10.5.1 *Directional Control During Take-off*, further states:

“The nose wheel must be confirmed to be centred in the straight-ahead position prior to commencing the take-off roll. After manoeuvring into take-off position on the runway, centre the nose wheel using the tiller, then allow the aircraft to roll forward approximately 3 meters (10 feet) to confirm proper alignment.”

The investigation found that the operator’s *SOP Manual*, Chapter 3, Section 3.4 (*Cockpit Scan*), the First Officer’s Take-off Scan and Calls Procedure, does not fully align with key steps outlined in Section 4 (Normal Procedures) and Section 10 (Safety and Operational Tips) of the Aircraft Manufacturer’s Manual. Specifically, the operator’s Procedure omits the following:

- *The required 3-meter roll check to verify nose wheel alignment*
- *The 85% NG engine stabilization step with a 5-second brake hold for T5 temperature monitoring*
- *Explicit prohibition of tiller use during the take-off roll*

These omissions reduced the available safety margins for directional control during take-off roll.

Recommendation number AIC 25-R01/24-1002 to Kobio Aviation Limited

The PNG Accident Investigation Commission recommends that Kobio Aviation Limited,

- a) *revise its SOP Manual to fully align with the manufacturer’s prescribed take-off and directional control procedures, as outlined in Subsections 4.10 and 10.5 of the AFM/POH, including:*
 - 1) *3 m forward roll, then stop and apply brakes to verify nosewheel alignment*
 - 2) *Advancing power levers to 85% NG, followed by a 5-second pause at this setting, allowing all engine indications—particularly T5 temperatures—to stabilize.*
 - 3) *Explicit prohibition of tiller uses during take-off roll*
- b) *ensure that the flight crew are trained, checked, and assessed in these procedures*

Action requested

The AIC requests that Kobio Aviation Limited note recommendation AIC 25-R01/24-1002 and provide a response to the AIC within 90 days of the issue date and explain (including with evidence) how Kobio Aviation Limited has addressed the safety deficiency identified in the safety recommendation.



Maryanne J. Wal

Chief Commissioner

28 July 2025

Kobio Aviation Limited response to Safety Recommendation AIC 25-R01/24-1002

On 4 August 2025, Kobio Aviation Limited provided a response to Safety Recommendation AIC 25-R01/24-1002, via email, accompanied by evidence demonstrating preventive actions taken to address the identified safety deficiencies:

1. Documentation Updates

A copy of the changes or amendments made to the Operator's SOP Manual, Section 3 'Normal and Abnormal Procedures' was provided.

- **SOP Manual – Section 3: Normal and Abnormal Procedures (DHC-6)**
 - **CAPTAINS TAKEOFF SCANS AND CALLS**
 - **CAPTAIN:**
 - Roll forward 3M then stop, verify nosewheel centred
 - Initially set 20 lbs PSI (to ensure bleed air valves closing)

2. Training and Compliance

- Part B of the recommendation requires that the flight crew be trained, checked, and assessed on these procedures.
- The AIC notes that the procedure added to the SOP manual is not new; it is already included in the Aircraft Flight Manual (AFM) and the manufacturer-approved procedures (normal, abnormal, emergency). The pilots were trained and checked on these AFM procedures during type-rating and recurrent training. However, at the time of the accident, the operator's SOPs did not contain this procedure.
- For procedures already covered in type training, incorporating them into the SOP is treated as documentation alignment rather than introducing a new procedure.

AIC Assessment of Kobio Aviation Limited Response

The AIC has assessed the response provided by Kobio Aviation Limited and notes that the corrective actions taken fully address the safety deficiencies identified in Safety Recommendation AIC 25-R01/24-1002.

The AIC has assigned this response a *satisfactory* rating.

The status of the Safety Recommendation has been recorded as: **CLOSED**



Maryanne J. Wal
Chief Commissioner

31 October 2025