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Our Ref: AIC 23-R13/22-2001

Safety recommendation: AIC 23-R13/22-2001

Addressed to: New Tribes Mission (PNG) Limited

Date issued: 19 April 2023

Investigation link: AIC 22-2001

Action status: Issued

Safety deficiency description

On 27 April 2022, at about 14:43 local (04:43 UTC¹) a Daher Kodiak 100 aircraft, registered P2-NTE, owned and operated by New Tribes Mission (PNG) Limited (NTML), was conducting a non-scheduled VFR² training flight from Lele Airstrip to Hoskins Airport, West New Britain Province, Papua New Guinea, when it sustained structural damage to the left tailplane about 6 nautical miles (NM) Northeast of Hoskins Airport.

At the time of the occurrence, recorded data captured a vertical descent rate of 974 feet per minute (fpm) and an airspeed of about 170 knots (kts). Recorded data including video pictures³ showed that at 14:43 the aircraft was descending through 2900 ft AMSL (2,700 ft AGL⁴) about 6NM Northeast of Hoskins when the aircraft's left upper wing-root fairing detached from the aircraft and struck the left inboard leading edge of the left horizontal Stabilizer.

The investigation found that the *NTMA Pre-flight Checklist* did not include a check of the exterior of the airframe to ensure security of inspection doors, panels, and caps, nor does it require flight crew to check on rivets and fasteners of the airframe.

The aircraft manufacturer's *Kodiak 100 Series Pilot Operating Handbook, NORMAL PROCEDURES, 4-20 AMPLIFIED PROCEDURES, PREFLIGHT INSPECTION*, dated 31 August 2009 included a paragraph:

To prevent inadvertent loss of fuel in flight, ensure the fuel tank filler caps are tightly sealed following visual checks of the fuel quantity or servicing.

While this serious incident was not fuel or fuel system related, NTMA pilots were conducting pre-flight checks following the maintenance and subsequent pre-flight inspections between 4 and 27 April 2022. A check that the

¹ The 24-hour clock, in Coordinated Universal Time (UTC), is used in this report to describe the local time as specific events occurred. Local time in the area of the serious incident, Papua New Guinea Time (Pacific/Port Moresby) is UTC + 10 hours.

² Visual Flight Rules: Those rules as prescribed by national authority for visual flight, with corresponding relaxed requirements for flight instruments (Source: The Cambridge Aerospace Dictionary)

³ The aircraft was fitted with video cameras located on the tail and wing and inside the cockpit.

⁴ Above Ground Level (AGL). All altitude data obtained from the G1000 recorded data are referenced to Hoskins Airport elevation of 213 ft

over-wing fuel tank caps were secured/sealed would have provided an opportunity to scan the upper wing panels, rivets, and screws for security.

Recommendation number AIC 23-R14/22-2001 to New Tribes Mission Aviation (PNG) Limited

The PNG Accident Investigation Commission (AIC) recommends that that New Tribes Mission Aviation (PNG) Limited (NTMA) should ensure that their relevant documents, manuals, and operational procedures are amended to include pre-flight inspection requirements for pilots to conduct visual inspections of the exterior of the airframe to ensure security of inspection doors, panels and caps, and airframe rivets and fasteners.

Action requested.

The AIC requests that New Tribes Mission Aviation (PNG) Limited note recommendation *AIC 23-R14/22-2001* and provide a response to the AIC within 90 days of the issue date and explain (including with evidence) how New Tribes Mission Aviation (PNG) Limited has addressed the safety deficiency identified in the safety recommendation.

A handwritten signature in blue ink, appearing to read 'A Bouraga', with a stylized flourish at the end.

Capt. A Bouraga, MBE

Acting Chief Commissioner

19 April 2023

New Tribes Mission Aviation (PNG) Limited response to Safety Recommendation AIC 23-R13/22-2001

On 18 July 2023, New Tribes Mission Aviation PNG Limited (NTML) responded via email providing their preventative action to address the safety deficiency identified in the AIC *Safety Recommendation AIC 23-R13/22-2001*, which was contained in an attached letter dated 17 July 2023.

The letter stated that their flight operations team has reinforced the general practice of maintaining a watch for loose or missing hardware with their pilot staff. This has continued to be a high interest item, particularly in the wake of maintenance activity which is known to have disturbed a specific area of an aircraft.

The letter also stated:

Subsequently, in the process of reviewing and publishing the “Final Draft” report it was noted: *The Daher Kodiak 100 Pre-flight Checklist did not include a check of the exterior of the airframe to ensure security of inspection doors, panels, and caps, nor does not require flight crew to perform a cursory visual check of visible rivets and fasteners on the exterior of the airframe.*

As the primary reference document for the accomplishment of pre-flight inspections is indeed the manufacturer published Pilot’s Operating Handbook, for maximum safety impact it would be the humble recommendation of our aviation department that AIC reach out directly to Daher (kodiakcare@daher.com) with these concerns and suggestions for improvement of their technical data.

On 19 July 2023, the AIC requested NTML to provide evidence of reinforcement of the general practice of maintaining a watch for loose or missing hardware with their pilot staff. A copy of NTML’s *Operational Notice*,

Subject: Loose or Missing Hardware, Attention: All flight operations staff, dated 1 July 2023, was provided to the AIC on the same day.

PNG Accident Investigation Commission assessment of New Tribes Mission Aviation (PNG) Limited response

The AIC assessed New Tribes Mission Aviation PNG Limited’s response and notes that the preventative action addresses the safety deficiency identified in *Safety Recommendation AIC 23-R13/22-2001*.

The AIC also notes NTML’s proposal for the safety deficiency identified in *Safety Recommendation AIC 23-R13/22-2001* to be reassigned to the manufacturer, Daher Kodiak as the document owner of the *Daher Kodiak 100 Pre-flight Checklist*, primary reference document to the safety recommendation. The AIC will assess NTML’s proposal to determine the next course of action.

The AIC assigned this response as a *fully satisfactory* rating.

The AIC recorded the **Status of the AIC Recommendation: CLOSED**



Capt. A Bouraga MBE
Acting Chief Commissioner

19 July 2023