ACCIDENT INVESTIGATION COMMISSION

FINAL REPORT

AIC 25-2001

29 June 2025

CONTRACTOR	:	Liddles Aerial Spraying Pty Ltd
OPERATOR		Ramu Agri Industries Limited
REGISTRATION	:	VH-NAB
MANUFACTURER	:	Cessna Aircraft Company
MODEL	:	T188C
CLASS/CATEGORY	:	Mainwheel failure — Loss of Directional Control
LOCATION	:	Daru Airport, Western Province
OCCURRENCE DATE	:	19 December 2025

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INTRODUCTION

Investigation AIC 25-1002

On 19 December 2025, at 08:22 local (22:22 UTC), a Cessna T188C aircraft, registered VH-NAB, was conducting a Ferry Flight from Horn Island Airport, Queensland to Gusap, Ramu, Papua New Guinea via Daru Airport, Western Province.

During the landing roll at Daru, the pilot lost directional control of the aircraft, and it veered to the right. He then heard what he described as a loud "bang" noise as he applied corrective input to regain directional control. He reported that the aircraft then veered left before coming to rest near the left edge of the runway with the nose of the aircraft pointing across the runway. The pilot, the sole occupant, was not injured.

The aircraft was owned by PROPWASH AG Pty Ltd of Tully, Queensland. Liddles Aerial Spraying Pty Ltd (LASPL) of Innisfail Queensland operated the aircraft in Australia and had contracted (hired) the aircraft and pilot to Ramu Agri Industries Ltd (RAIL) in PNG. RAIL was to be the PNG Operator of VH-NAB.

The AIC immediately commenced an investigation into the occurrence pursuant to *Section 247 of the PNG Civil Aviation Act 2000,* and a team of investigators was dispatched to the site the next day to carry out the on-site investigation activities.

The AIC classified the occurrence serious incident as it involved circumstances indicating that there was a high probability of an accident.

Pursuant to *ICAO Annex 13, Chapter 4, paragraph 4.1*, the AIC promptly informed relevant foreign authorities of the State of:

- Registry: Australia (ATSB)
- Airframe Manufacture/Design: United States of America (NTSB)

This investigation was conducted, and participation of other states was permitted, in accordance with the AIC's *Investigation Policy and Procedures Manual* which is fully aligned with *ICAO Annex 13*.

This *Final Report* has been produced in the AIC's Short Report format, by the PNG Accident Investigation Commission, P.O Box 1709, Boroko 121, NCD, Papua New Guinea. It has been authorized for public release by the Commission in accordance with paragraph 6.5 of the ICAO Annex 13. The report is available on the AIC website www.aic.gov.pg.

The report is based on the investigation carried out by the AIC under the Civil Aviation Act 2000, and *Annex 13* to the *Convention on International Civil Aviation*. It contains factual information, analysis of that information, conclusions and contributing (causal) factors, and safety actions taken to prevent future accidents and incidents. 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 occurrence, Papua New Guinea Time (Pacific/Port Moresby Time) is UTC +10 hours.

AIC investigations explore the circumstances surrounding an occurrence, and the facts relevant to understanding how and why the accident or serious incident occurred are included in the report. The report may also contain other non-contributing factors which have been identified as safety deficiencies for the purpose of improving safety.

In accordance with *ICAO Annex 13*, it is not the purpose of aircraft accident or serious incident investigation to apportion blame or liability. The sole objective of the investigation and the Final Report is the prevention of accidents and incidents.

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1 FACTUAL INFORMATION

1.1 History of Flight

Aircraft Registration	VH-NAB
Operator	Liddles Aerial Spraying Pty Ltd
Type of Operation	VFR Ferry Flight
Persons on Board	One
Location	Daru Airport, Western Province Latitude: 9° 5' 8.93"S Longitude: 143° 12' 25.08"E
Occurrence	Serious incident
Time of occurrence	08:30 local time (22:30 UTC)

Table 1: Serious incident summary

On 19 December 2025, at 08:22 local time (22:22 UTC[1]), a Cessna T188C aircraft, registered VH-NAB, owned by PROPWASH AG Pty Ltd and operated by Liddles Aerial Spraying Pty Ltd, sustained substantial damage to the right landing gear wheel assembly during landing at Daru Airport, Western Province, Papua New Guinea. The pilot, the sole occupant of the aircraft, was not injured.

Figure 1: Depiction of the occurrence site (destination) and the departure point.

[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 occurrence, Papua New Guinea Time (Pacific/Port Moresby Time) is UTC +10 hours.

The aircraft was hired by Ramu Agri Industries Ltd (RAIL) for crop spraying activities and was being ferried to be stationed at Gusap Airstrip, Usino Bundi District. The aircraft was planned to conduct a visual flight rules (VFR) ferry flight from Horn Island Airport, Australia, to RAIL at Gusap Airstrip in Madang Province through Daru Airport, Western Province, both in Papua New Guinea.

The pilot reported that shortly after refueling the aircraft at Horn Island Airport he departed for Daru Airport. He informed the investigation that during the take-off roll he felt a vibration from the landing gear but continued the flight to Daru. The flight was uneventful and nothing appeared out of the ordinary.

On arrival at Daru, the pilot conducted a normal approach and landed on runway 14. He reported that during the landing roll, he lost directional control of the aircraft, and it veered to the right. He then heard what he described as a loud "bang" noise as he applied corrective input to regain directional control. He reported that the aircraft then veered left before coming to rest near the left edge of the runway with the nose of the aircraft pointing across the runway.

The pilot was not injured, and subsequently shut down the aircraft, contacted the aircraft operator, and egressed the aircraft unaided. He observed significant damage to the right main landing gear axle, wheel and brakes.

Figure 2: Depiction of VH-NAB resting position at the occurrence site, Daru Airport.

1.2 Damage to aircraft

The aircraft sustained significant damage to the right main landing gear wheel assembly, axle and brakes. The landing gear leg and associated airframe and airframe attachment points were not damaged.

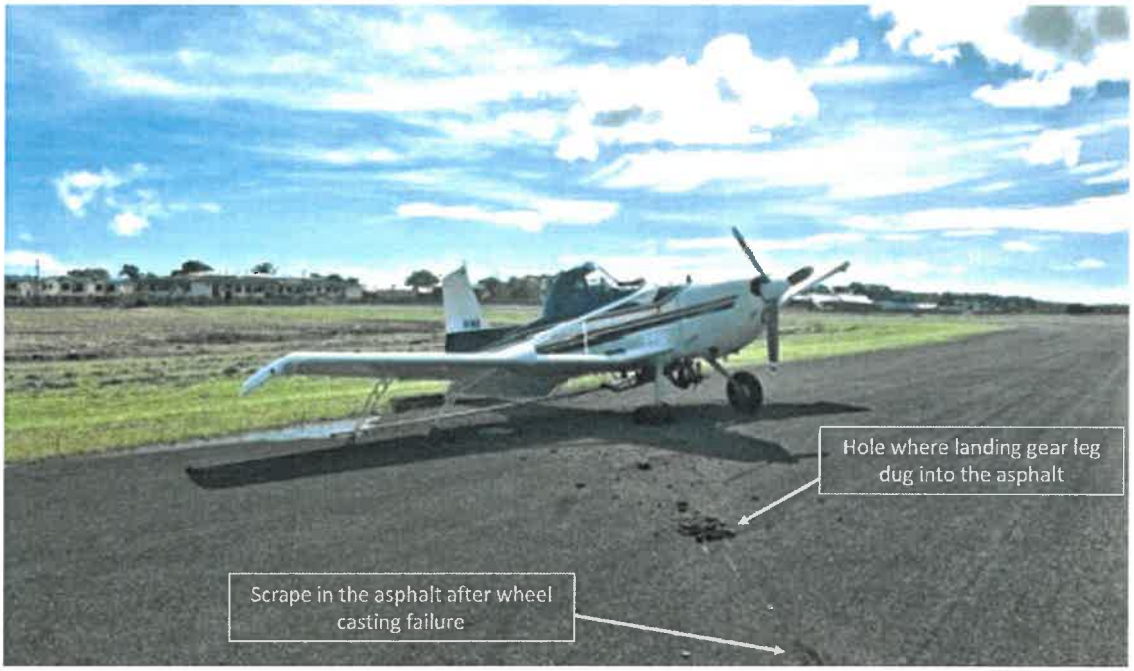


Figure 3: VH-NAB at its resting position after the occurrence at Daru Airport.

Figure 4: Damage sustained by VH-NAB

1.3 Other Damage

The right landing gear axle and leg dug into the asphalt runway surface and made a scrape and divet that lifted a small piece of asphalt, requiring minor repair to the asphalt.

1.4 Personnel Information

1.4.1 Pilot

Age	59
Gender	Male
Nationality	Australian
Position	Agricultural AG pilot
License type	CPL Aeroplane – CASA Australia Issue Date: 2 December 2015
Total flying time	~ 35,000.0 hours
Total on this type (Cessna T188C)	~ 1,000.0 hours
Medical Class	One
Issued	8 August 2025
Valid to	4 September 2026
Restrictions	1. Distance vision correction must be worn while exercising the privileges of the CPL. 2. Reading correction to be available whilst exercising the privileges of the CPL.

Table 2: Personnel information - Pilot

1.5 Aircraft Information

1.5.1 Airframe

AIRFRAME	
Aircraft manufacturer and model:	Cessna Aircraft Company
Model	T188C/A2
Serial Number	T18803891T
Year of Manufacture	1982
Nationality of State of Manufacture	USA
Nationality of State of Registration	Australia
Registration:	VH-NAB
Serial number	T18803891T
Owner	PROPWASH AG Pty Ltd
Operator	Liddles Aerial Spraying Pty Ltd
Certificate of Airworthiness number	BK1050
Certificate of Airworthiness issued	5 September 1991
Valid to	Non-terminating
Date first registered in Australia	18 January 1984
Certificate of Registration issued	2 October 2025
Total airframe hours	9,161.9 hours

Table 3: Aircraft information - Airframe

1.5.2 Engine and Propeller

ENGINE	
Engine manufacturer	Lycoming
Engine model	IO-720-A1B
Engine Serial Number	L-787-54A
PROPELLER	
Propeller manufacturer	Hartzell
Propeller Model	HC-C3YR-1RF
Propeller Serial Number	DY3425A

Table 4: Aircraft information - Engine and Propeller

The investigation determined that the engine and propeller were not contributing factors in this serious incident.

1.6 Additional information

1.6.1 Aircraft maintenance pre-purchase by PROPWASH AG Pty Ltd

Before being purchased by PROPWASH AG Pty Ltd, the aircraft was located in Wondai Queensland. On completion of the last 100 hourly maintenance inspection at Dalby on 25 November 2025, the maintenance engineering organisation issued a Maintenance Release No. A327880. The aircraft had accumulated a total of 9,148.9 hours.

During the last 100 hourly maintenance inspection, the aircraft was fitted with new tyres on both main wheels: Cleveland C163001-0601 wheel assembly. That required separating the wheel halves. The wheel halves required a spacer ring between them to ensure correct pre-loading of the wheel bearings could be attained.

1.6.2 Details of ferry flights and landing gear issues

The new owner took delivery of the aircraft at Dalby, and it was flown to Tully in North Queensland.

Before departing Tully for Papua New Guinea, the ferry pilot who is also a Licensed Aircraft Maintenance Engineer, installed a ferry (fuel) tank, and a High Frequency radio transceiver. He subsequently ferried the aircraft to the operator's nearby main base to refuel.

He stated that when he landed at the main strip there was a left crosswind, so he touched down on the left wheel first. As the right wheel touched down, he felt a bit of a shudder from the right gear that he thought may have been a slightly loose undercarriage leg. The owner informed him that the landing gear had recently been shimmed. So, the shudder was discounted.

On 19 December 2025, the ferry pilot departed Tully with a planned refueling stop at Horn Island Airport. He arrived at Horn Island about 20 minutes before last light and during the landing roll he felt a slight shimmy in the right main landing gear. He said that he and another pilot inspected the landing gear leg and were unable to see anything that could have caused the shuddering.

He reported that on the following day, as he was taxiing at Horn Island, he had to use quite a bit of left rudder to keep the aeroplane going straight, which was not normal.

At Daru Airport the wind was light and variable but with a slight left crosswind during the final approach. He touched down on the left wheel in a tail down wheeler and when the right wheel touched down the aircraft swerved rapidly to the right, so he applied left rudder and some left brake to try and keep the aircraft straight. He felt a significant shimmying shudder and was unable to maintain directional control.

He then heard what he described as a loud "bang" noise and the aircraft veered toward the left of the runway. The right mainwheel had fractured and in the area of the bearings had fragmented. The axle and bottom of the leg dug into the asphalt and the aircraft pivoted around and came to rest near the edge of the runway with the nose of the aircraft pointing across the runway.

1.6.3 Details of rectification actions at Daru

The Licensed Aircraft Maintenance Engineer (LAME) who carried out the repairs at Daru Airport on 10 January 2026, informed the AIC that the aircraft had 9161.9 hours at time of the incident.

He found that the required spacer between the wheel halves on the right wheel assembly (see *Appendix 5.1*) was missing, and the wheel bearings were dry of grease. With no wheel-half spacer, when the wheel nut was tightened to its limit there was insufficient pre-load on the wheel bearings.

The right wheel assembly halves, bearings and the brake assembly also failed due to the out of balance overload and were substantially damaged. An inspection of the left wheel revealed that it did not have a wheel spacer.

New wheel assemblies were installed (left and right main wheels) which included a wheel-half spacer. The right brake assembly and associated hoses and hardware were replaced.

The engineer replaced all the landing gear hardware, including the axle bolts and as a safety precaution he replaced the right main gear leg attach bolts.

2 ANALYSIS

The investigation found that because the wheel halves had been assembled without the required spacers, the wheel halves had not been able to be adequately tightened and there was therefore, no wheel-bearing pre-loading. That allowed the joined halves to loosen after a small number of takeoffs and landings. The vibration and subsequent wobble on the right axle accentuated to the point of bearing failure and immediate wheel casting failure. The right brake assembly also failed when the wheel fractured.

The investigation determined that because the left main-wheel spacer was not installed, the left main-wheel assembly was likely weakening in the same manner as the right main wheel and therefore was at risk of failure.

3 CONCLUSIONS

3.1 Causal (Contributing factors)

The main landing gear wheel halves had been incorrectly assembled and the spacers required to ensure correct wheel bearing pre-loading had not been installed when the tyres were last changed. The axle bearings in the right wheel assembly had not been greased before fitment to the landing gear axles.

4 SAFETY ACTIONS

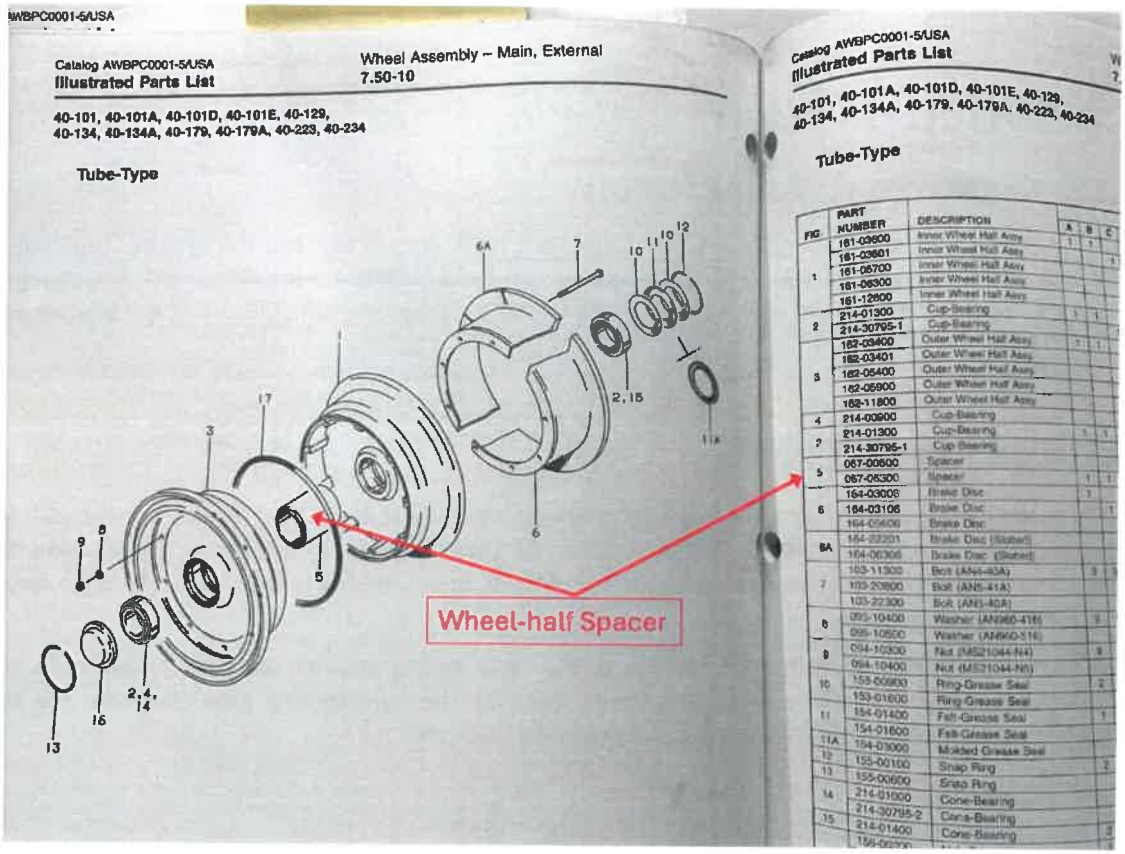
The Licensed Aircraft Maintenance Engineer contracted by Liddles Aerial Spraying Pty Ltd to repair the aircraft at Daru, informed the AIC that he had alerted the maintenance engineering organisation that assembled the wheel halves and installed the wheels about the lack of spacers for their future reference.

Even though there was no sign of damage to the right landing gear leg and attachment bolts and fittings, the engineer replaced all attachment bolts on the right landing gear assembly. He also replaced the left main-wheel assembly as a proactive measure.

5 APPENDIX

5.1 Cleveland C163001-0601 main wheel assembly

Cleveland C163001-0601 main wheel assembly showing spacer required for pre-loading the wheel bearings.



This Final Report is released by;

Accident Investigation Commission

Ministry of Civil Aviation

Papua New Guinea

26 June 2026

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