

PRELIMINARY
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**NATIONAL
TRANSPORTATION
SAFETY
COMMITTEE**

Aircraft Accident Investigation Report

PT. Merpati Nusantara Airlines

CASA 212-200; PK-NCZ

**Larat Airport, Maluku
Republic of Indonesia**

03 December 2011



**NATIONAL TRANSPORTATION SAFETY COMMITTEE
MINISTRY OF TRANSPORTATION
REPUBLIC OF INDONESIA
2012**

This Preliminary Factual Report was produced by the National Transportation Safety Committee (NTSC), Transportation Building 3rd Floor, Jalan Medan Merdeka Timur No. 5, Jakarta 10110, Indonesia.

The report is based upon the initial investigation carried out by the NTSC in accordance with Annex 13 to the Convention on International Civil Aviation Organization, Aviation Act (UU No.1/2009), and Government Regulation (PP No. 3/2001).

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GLOSSARY OF ABBREVIATIONS

AFIS	:	Aerodrome Flight Information Service
AOC	:	Air Operator Certificate
ATPL	:	Air Transport Pilot License
CASR	:	Civil Aviation Safety Regulation
CPL	:	Commercial Pilot License
CSN	:	Cycles Since New
CVR	:	Cockpit Voice Recorder
DGCA	:	Directorate General Civil Aviation
FL	:	Flight Level
F/O	:	First officer or Copilot
FDR	:	Flight Data Recorder
ICAO	:	International Civil Aviation Organization
Kg	:	Kilogram(s)
MTOW	:	Maximum Take-off Weight
KNKT / NTSC	:	<i>Komite Nasional Keselamatan Transportasi /</i> National Transportation Safety Committee
PIC	:	Pilot in Command
P/N	:	Part Number
S/N	:	Serial Number
TSN	:	Time Since New
TT/TD	:	Ambient Temperature/Dew Point
TTIS	:	Total Time in Service
UTC	:	Universal Time Coordinate
VFR	:	Visual Flight Rules

INTRODUCTION

SYNOPSIS

On 3 December 2011 at 04:07 UTC a Casa 212-200 aircraft registered PK-NCZ operated by PT. Merpati Nusantara Airlines on a scheduled flight from Langur to Larat, touched down at 224 meters from runway 09, was bouncing twice to the left of runway centre line, out of the runway and stopped at 607 meters from runway 09 touch down area, and 15 meters to the left of runway edge.

There were 15 passengers, 3 children, one baby, Pilot In Command, and two First Officers, one engineer on board.

One passenger was serious injured, and one passenger minor injured.

Passengers disembarked normally from aft passenger door assisted by engineer onboard.

The right wing tip, and right aileron were severe damage.

The nose section, landing gear were severe damage.

The fuselage left side were heavy wrinkles.

1 ACTUAL INFORMATION

1.1 HISTORY OF THE FLIGHT

On 3 December 2011 at 04:07 UTC a Casa 212-200 aircraft registered PK-NCZ operated by PT. Merpati Nusantara Airlines on a scheduled flight from Langur to Larat, touched down at 224 meters from runway 09, was bouncing twice to the left of runway centre line, out of the runway and stopped at 607 meters from runway 09 touch down area as final position, and 15 meters to the left of runway edge.

The Pilot Flying was First Officer, and after second bouncing, PIC took over, and he tried to bring the aircraft to the centre line of the runway without success.

The aircraft continued rolled to the shoulder away from the runway and stopped at the final position.

This is the second landing at Larat runway on the same day.

There were 15 passengers, 3 children, one baby, Pilot In Command, two First Officers, one First Officer was Pilot Flying from Langur to Larat, one engineer on board.

One passenger was serious injured, another one passenger minor injured.

Passengers disembarked normally from aft passenger door assisted by engineer onboard.

The right wing tip, and right aileron were severe damage.

The nose section, and landing gears were severe damage.

The fuselage left side were heavy wrinkles.

There were mud or clay on the lower surface of left wing tip.

There were grass on leading edge of left elevator.

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Figure 1: Final position of the aircraft 15 meters to the left of runway edge, 607 meters from touch down area runway 09.



Figure 2: No sign of landing gears marking on the grass



Figure 3. Only one landing gear mark on the grass.

1.2 INJURIES TO PERSONS

Injuries	Flight crew	Passengers	Total in Aircraft	Others
Fatal	-	-	-	-
Serious	-	-	-	-
Minor	-	2	2	-
Nil Injuries	3	17	20	-
TOTAL	3	19	22	-

All the passengers were citizens of Indonesia and two flight crew were citizens of Malaysian.

1.3 DAMAGE TO AIRCRAFT

The aircraft was severe damage



Figure 4: Nose section was severe damage



Figure 5. Right Wing Tip and right aileron were severe damage.



Figure 6: Left side of fuselage wrinkled



Figure 7: Right Wheel tire and skid mark on it



Figure 8: Nose landing gear collapsed backward to the left of fuselage

1.4 OTHER DAMAGE

There was no other damage.

1.5 PERSONNEL INFORMATION

1.5.1 Pilot in command

Gender	: Male
Age	: 40 years
Nationality	: Indonesia
License	: ATPL 4107
Date of issue	: 27 November 2011
Valid to	: 28 Februari 2012
Aircraft type rating	: Casa 212-200, B 737-200
Medical certificate	: First Class
Date of medical	: 26 June 2011
Valid to	: 26 January 2012
Last proficiency check	: -
Total hours	: 7500 hours

Total on type : 5500 hours
Last 90 days : 125 hours
Last 30 days : 90 hours
Last 24 hours : 4 hours
This flight : 27 minutes

1.5.2 Co-pilot 1

Gender : Male
Age : 23 years
Nationality : Malaysia
License : CPL 6989
 Date of issue : 27 April 2011
 Valid to : 31 July 2012
 Aircraft type rating : Cessna 172, Casa 212
Medical certificate : First Class
 Date of medical : 13 September 2011
 Valid to : 15 March 2012
Last proficiency check : -
Total hours : 343 hours
Total on type : 72 hours 55 minutes
Last 90 days : 44 hours 15 minutes
Last 24 hours : 4 hours
This flight : 27 minutes

1.5.3 Co-pilot 2

Gender : Male
Age : 26 years
Nationality : Malaysia
License : CPL 6987
 Date of issue : 26 April 2011
 Valid to : 31 July 2012
 Aircraft type rating : Cessna 172, Casa 212
Medical certificate : First Class
 Date of medical : 17 October 2011

Valid to : 17 April 2011
Last proficiency check : -
Total hours : 307 hours
Last 90 days : 81 hours
Last 60 days : 37 hours
Last 24 hours : 4 hours
This flight : 0.45 hours

1.6 AIRCRAFT INFORMATION

1.6.1 General

Aircraft manufacturer : PT. Nurtanio
Aircraft model/type : Casa 212-200
Serial number : 79N/274
Year of manufacture : January 1986
Aircraft registration : PK-NCZ
Certificate of Registration : 1346
Valid to : 01 May 2014
Certificate of Airworthiness : 1346
Valid to : 31 December 2011
TSN : 26935 hours
CSN : 30064 cycles
MTOW : 7450 Kg
Actual Take Off Weight : -
Estimated Landing Weight : -

1.6.2 Engines

Engine type : Turbo shaft
Manufacturer : Garrett
Serial Number 1 : P37149C
Type/Model : GARRET TPE 33/-10-512C
TSN : 17267 hours
CSN : 18173 cycles
Serial Number 2 : P37657C

Type/Model : GARRET TPE 33/-10-512C
TSN : 8975 hours
CSN : 10137 cycles

1.6.3 Propeller

Type/Model : R334/4-82-F/13 (DOWTL ROTOL)
Serial Number #1 : DRG4782/83
TSN : 12959 hours
TSO : 3709 hours
Serial Number #2 : DRG6571/84
TSN : 14930 hours
TSO : 2388 hours

1.7 METEOROLOGICAL INFORMATION

Larat Airport does not provide any either information. Day light condition prevailed at the time of the accident.

Weather conditions were not a factor in this accident

1.8 AIDS TO NAVIGATION

There were no navigation aids for the approach and landing at Larat, approach and landing must be conducted under the VFR.

1.9 COMMUNICATIONS

There is no communication facilities at this airport.

1.10 AERODROME INFORMATION

Aerodrome Code : WAPO
Airport Name : Larat Airport
Airport Authority : Government
Coordinates : 00 08 00 S / 131 47 00 E

Elevation	:	82.03 ft
Runway Length	:	850 m
Runway Width	:	23 m
Azimuth	:	09 – 27

1.11 FLIGHT RECORDERS

The aircraft was equipped with a Cockpit Voice Recorder (CVR).

Cockpit Voice Recorder (CVR)

Manufacturer	:	Fairchild
Type	:	Model A100A
P / N	:	93-A100-82
S / N	:	25569

The CVR was taken to the NTSC laboratory in Jakarta. The analysis of the CVR will be covered in the final report.

1.12 WRECKAGE AND IMPACT INFORMATION

There were no wreckages, all parts were intact at the aircraft

1.13 MEDICAL AND PATHOLOGICAL INFORMATION

No relevant to this serious incident.

1.14 FIRE

There was no pre-or post- accident fire.

1.15 SURVIVAL ASPECTS

No relevant to this serious incident.

1.16 TESTS AND RESEARCH

Test and research will be considered as additional factual data indicate the requirement.

1.17 ORGANISATIONAL AND MANAGEMENT INFORMATION

Aircraft Owner : PT. Merpati Nusantara Airlines
Address : Jl. Angkasa Blok B15, Kav.2 & 3 Kemayoran
Jakarta

The owner address information is based on the aircraft Certificate of Registration.

Aircraft Operator : PT. Merpati Nusantara Airlines
Address : Jl. Angkasa Blok B15, Kav.2 & 3 Kemayoran
Jakarta

AOC Number : AOC

The operator address information is based on the Operator's Operation Specification.

1.18 ADDITIONAL INFORMATION

The investigation is continuing and will include analysis of the cockpit voice recorders, and operational documentation.

1.19 USEFUL OR EFFECTIVE INVESTIGATION TECHNIQUES

The investigation was conducted in accordance with NTSC-approved policies and procedures, and in accordance with the standards and recommended practices of Annex 13 to the Chicago Convention.

2 ANALYSIS

To be included in the final report.

3 CONCLUSION

To be included in the final report.

4 FINDINGS

1. The aircraft Casa 212-200 was in airworthy condition before the occurrence.
2. The aircraft Casa 212-200 was maintained in accordance with approved schedule of maintenance.
3. The Pilot in Command (PIC) was appropriately licensed as pilot in command and as Flight Instructor.
4. The pilot flying was under the line check program.
5. The other pilot was sitting in the observer seat as an observer.
6. The PIC did take over the flight after second bouncing skidding toward the left of runway centre line, and he tried to bring the aircraft into the centre line of the runway, without success.

5 RECOMMENDATION

According to factual information and initial finding, the National Transportation Safety Committee issued the following recommendations to address safety issues identified in this preliminary report

5.1 Recommendation to PT. Merpati Nusantara Airlines

The National Transportation Safety Committee recommends that PT. Merpati Nusantara Airlines should

- a. Review recruitment and qualification check to the *first officer* candidates
- b. Flight instructor's instructions should use the "standard flight" language that can be understood by *first officer* candidate

5.2 Recommendation to Director General of Civil Aviation

- a. Communication facilities should be established on Larat Airport
- b. There should be an AFIS officer on Larat Airport