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**NATIONAL
TRANSPORTATION
SAFETY
COMMITTEE**

Aircraft Accident Investigation Report

**Alfa Flying School
PK-SDP
Cessna 172
Nirwana Indah Village, Ciputat, Tangerang
Republic of Indonesia**

7 April 2007



**NATIONAL TRANSPORTATION SAFETY COMMITTEE
MINISTRY OF TRANSPORTATION
REPUBLIC OF INDONESIA
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This Final Report was produced by the National Transportation Safety Committee (NTSC), Ministry of Transportation Building 3th Floor, Jalan Medan Merdeka Timur No. 5 Jakarta 10110, Indonesia.

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GLOSSARY OF ABBREVIATIONS

AD	Airworthiness Directive
AFM	Airplane Flight Manual
AGL	Above Ground Level
ALAR	Approach-and-landing Accident Reduction
AMSL	Above Mean Sea Level
AOC	Air Operator Certificate
ATC	Air Traffic Control
ATPL	Air Transport Pilot License
ATS	Air Traffic Service
Avsec	Aviation Security
BMKG	Badan Meterologi, Klimatologi dan Geofisika
BOM	Basic Operation Manual
°C	Degrees Celsius
CAMP	Continuous Airworthiness Maintenance Program
CASO	Civil Aviation Safety Officer
CASR	Civil Aviation Safety Regulation
CPL	Commercial Pilot License
COM	Company Operation Manual
CRM	Cockpit Recourses Management
CSN	Cycles Since New
CVR	Cockpit Voice Recorder
DFDAU	Digital Flight Data Acquisition Unit
DGCA	Directorate General of Civil Aviation
DME	Distance Measuring Equipment
EEPROM	Electrically Erasable Programmable Read Only Memory
EFIS	Electronic Flight Instrument System
EGT	Exhaust Gas Temperature
EIS	Engine Indicating System
FL	Flight Level
F/O	First officer or Co-pilot
FDR	Flight Data Recorder
FOQA	Flight Operation Quality Assurance
GPWS	Ground Proximity Warning System
hPa	Hectopascals

ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rules
IIC	Investigator in Charge
ILS	Instrument Landing System
Kg	Kilogram(s)
Km	Kilometer(s)
Kt	Knots (NM/hour)
Mm	Millimeter(s)
MTOW	Maximum Take-off Weight
NM	Nautical mile(s)
KNKT / NTSC	Komite Nasional Keselamatan Transportasi / National Transportation Safety Committee
PIC	Pilot in Command
QFE	Height above aerodrome elevation (or runway threshold elevation) based on local station pressure
QNH	Altitude above mean sea level based on local station pressure
RESA	Runway End Safety Area
RPM	Revolution Per Minute
SCT	Scattered
S/N	Serial Number
SSCVR	Solid State Cockpit Voice Recorder
SSFDR	Solid State Flight Data Recorder
TS/RA	Thunderstorm and rain
TAF	Terminal Aerodrome Forecast
TSN	Time Since New
TT/TD	Ambient Temperature/Dew Point
TTIS	Total Time in Service
UTC	Coordinated Universal Time
VFR	Visual Flight Rules
VMC	Visual Meteorological Conditions

INTRODUCTION

SYNOPSIS

On 7 April 2007, a Cessna 172 aircraft, registered PK-SDP was being operated on training at 12:45 local time (05:45 UTC/Coordinated Universal Time). There were two instructors, and one student on board.

The aircraft was departure from Halim Perdanakusuma Airport, Jakarta and the training area at Budiarto Airport, Tangerang.

During return flight to Halim Perdanakusuma Airport, Jakarta, the aircraft was lost its power and then the engine was in an idle rpm. The instructor pilot then decided to make a force landing on a football field and hit a mound.

All occupants were injured. The aircraft was substantially damaged.

The point end of the throttle lever to connected the throttle arm with the rod end and fitted by locking device as split pin.

During investigation, the carburettor found the rod end, nut and split pin were not attached in the throttle arm, indicated the engine was uncontrolled.

The Alfa Flying School had been conducted an inspection to ensure proper installation for all the aircraft related to the carburettor rod end, nut and split pin attachment in the throttle arm.

1 FACTUAL INFORMATION

1.1 History of the Flight

On 7 April 2007, a Cessna 172 aircraft, registered PK-SDP was being operated on training at 12:45 local time (05:45 UTC¹/Coordinated Universal Time). There were two instructors, and one student on board.

The aircraft was departure from Halim Perdanakusuma Airport, Jakarta and the training area at Budiarto Airport, Tangerang.

The aircraft was on touch and go training flight at Budiarto Airport, Tangerang. During return flight to Halim Perdanakusuma Airport, Jakarta, the instructor pilot reported to Halim ATC that the aircraft was lost its power and then the engine was in an idle rpm. The instructor pilot tried to push and pull the throttle lever, however it was no response. The instructor pilot then decided to make a force landing.

The aircraft made a force landing on a football field, located at south east from Budiarto Aerodrome. During ground role the aircraft hit a mound.

All occupants were injured. The aircraft was substantially damaged.

1.2 Injuries to Persons

Injuries	Flight crew	Passengers	Total in Aircraft	Others
Fatal	-	-	-	-
Serious	1	-	1	-
Minor	1	1	2	-
None	-	-	-	-
TOTAL	2	1	3	-

1.3 Damage to Aircraft

The aircraft was substantially damaged.

1.4 Other Damage

No other damage was reported.

1.5 Personnel Information

The instructors were Indonesian and held valid licenses and ratings for the operation of the aircraft.

The student was Japanese and held Indonesian student license.

¹ The 24-hour clock used in this report to describe the time of day as specific events occurred, is in Coordinated Universal Time (UTC). Local time, Western Indonesian Standard Time (WIB) is UTC + 7 hours

1.6 Aircraft Information

1.6.1 General

Registration Mark : PK-SDP
Manufacturer : Cessna
Country of Manufacturer : United States of America
Type/ Model : 172 P
Serial Number : 17275248

The aircraft was within weight and centre of gravity limits at the time of the accident.

1.7 Meteorological Information

Not relevant to this accident.

1.8 Aids to Navigation

Not relevant to this accident.

1.9 Communications

All communications between air traffic services (ATS) and the crew was normal.

1.10 Aerodrome Information

The occurrence was not on aerodrome.

1.11 Flight Recorders

The aircraft was not fitted with a flight data recorder (FDR) or cockpit voice recorder (CVR). Neither recorder was required by current Indonesian regulations.

1.12 Wreckage and Impact Information

The wreckage was located at the football field in the village, located at south east from Budiarto Aerodrome.

The aircraft damaged were engine mount was bent and broken, the windshield was break, and the nose wheel shock strut was broken.

The engine were damaged, the air filter box and the exhaust stack, and the fuel filter pipe were broken.

There was no evidence of in-flight break-up. There was also no evidence of pre- or post-impact fire.

1.13 Medical and Pathological Information

No medical or pathological investigations were conducted as a result of this accident, nor were they required.

1.14 Fire

There was no pre- or post- impact fire.

1.15 Survival Aspects

All occupants were injured. The instructors and the student were exit from the aircraft by them self and the villagers bring them to the nearest hospital.

1.16 Tests and Research

1.16.1 Carburettor Inspection



Figure 1: The carburettor ex. PK-SDP

The carburettor inspection found the bolt still attach on throttle arm, without rod end, nut and split pin (**Figure 3Figure 1**).

The rod end detached from bolt attachment, however, there was not found damaged compulsively (**Figure 2**).



Figure 2: The rod end detached from bolt attachment

1.17 Organisational and Management Information

Operator : Alfa Flying Club

Address : Halim Perdanakusuma Airport

Room No. 32 Jakarta

Aircraft Operator Certificate number: AOC/141- 004

1.18 Additional Information

The witness informed that the aircraft landed in the empty space on village, during landed the aircraft hit the mound of the football field.

He informed that the engine of the aircraft was stop while the aircraft landed.

1.19 Useful or Effective Investigation Techniques

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

2 ANALYSIS

The aircraft was on training operation, during return flight to Halim, the aircraft was lost its power. The aircraft was force landing in the football field, located at south east from Budiarto Aerodrome and hit the mound.

The aircraft was certified as being airworthy at the time the accident.

The carburettor consists of throttle and fuel air mixture arm, were moving by throttle and fuel air mixture lever from the cockpit.

The throttle arm actuates to move the throttle butterfly valve to regulate the mount of fuel air mixture into the cylinder. Thus the engine power depends on the opening of the throttle lever.

The point end of the throttle lever to connected the throttle arm with the rod end. It was fitted by locking device as split pin.

During investigation, the carburettor found the rod end, nut and split pin were not attached in the throttle arm. These conditions indicated the engine was uncontrolled. The aircraft loss of power caused the butterfly valve malfunction.

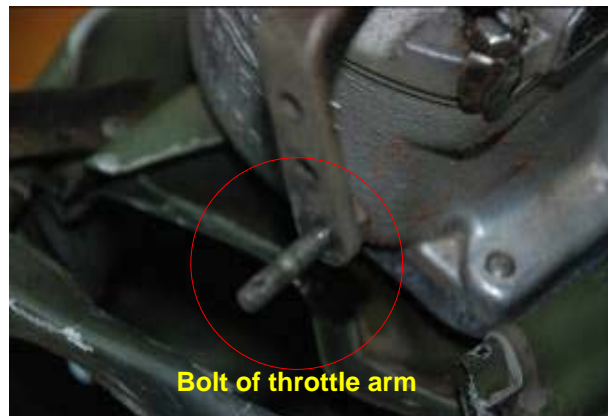


Figure 3: bolt still attach on throttle arm

3 CONCLUSIONS

3.1 Findings

- The instructor held valid licenses and ratings for the operation of the aircraft.
- The aircraft was certified as being airworthy at the time of the accident.
- The aircraft landed with the engine idle and made forced landing at the foot ball field.
- The rod end, nut and split pin were not attached in the throttle arm.
- The aircraft loss of power caused the butterfly valve malfunction.

3.2 Causes

The rod end, nut and split pin were not attached in the throttle arm, caused the butterfly valve malfunction following by engine loss power.

4 SAFETY ACTIONS AND RECOMMENDATIONS

4.1 Safety Action

At the time of writing the Draft Report, the Alfa Flying School had been conducted an inspection to all the aircraft related to the carburettor rod end, nut and split pin attachment in the throttle arm, to assure a proper installation.

4.2 Recommendations to Alfa Flying School

During investigation process the NTSC found important findings that required attention to prevent similar occurrence in the future.

The NTSC recommended to the Alfa Flying School should conduct inspection to all the aircraft related to the carburettor rod end, nut and split pin attachment in the throttle arm, to assure a proper installation.