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AUSTRALIAN MILITARY FORCES

161 (Indep) Recce Flt  
AFFO 4 GPO  
SYDNEY NSW 2890

18 Sep 68

In reply quote 63/68

AIRCRAFT INCIDENT REPORT

Reference: A. 161 (Indep) Recce Flt Ops 614 dated 10 Sep 68.

1. Please find attached documents relating to 161 (Indep) Recce Flt report on Sioux A1-399 as reported by the reference.

*H.A.F. Benson*  
(H.A.F. Benson)  
Maj  
OC

Annexes: A. Form 182  
B. Aircraft Captain's Report  
C. Engineering Officer's Report  
D. Officer Commanding's Report

Distribution:

AHQ Canberra  
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RESTRICTED

Form A.182  
(Revised 1965)

Cancels and supersedes RAAF Forms A.182 (Revised August 1959) and A.261.

## AIRCRAFT INCIDENT REPORT

(AFO 10/D/3)

1. OPERATING UNIT: 161 (Indep) Recce Flt COMMAND: AFW  
 2. REPORTING UNIT: 161 (Indep) Recce Flt Report No. 63/68 Signal No. OPS 614

## 3. DETAILS OF INCIDENT

Date: 10 Sep 68 Time: 1830 Hours LST.  
 Place: Luscombe Airfield Long. Lat.  
 General Weather Conditions: Pine, wind 280/15, Scattered Cloud, Light Turb

## 4. DETAILS OF FLIGHT:

Authorised by: Capt P. O'Brien Purpose: Post 'D' Test Flt  
 Stage: Start Up  Stationary  Taxiing  Take-off  In Flight  Landing  Shut down

## 5. DETAILS OF AIRCRAFT:

Type and Mk: Sioux 47G-3B-1 Number: A1-399  
 Total Airframe Hours: 1915.50 Hours since last "E" servicing: 715.50  
 In cases of engine failure:  
 No. 1  2  3  4  Type and Mark: Maker's Number:

## 6. DETAILS OF AIRCREW:

## (a) Captain:

Name: P. O'Brien Rank: Capt Number: 213821  
 Current Assessment/Instrument Rating: Cat C  
 Last Dual Check: Date: 5 Sep 68 Aircraft Type: Sioux 47G-3B-1  
 Flying Experience: (May be deleted, see instructions sub-paragraph 10)

	Total	Last 30 Days	Night*		Instrument*	
			Total	Last 30 Days	Total	Last 30 Days
Captain Hours All Types	..	..	..	..	..	..
Type quoted in para 5	Captain	..	..	..	..	..
	1st Pilot	..	..	..	..	..

\* Required only for incidents involving Night or Instrument Flying.

## (b) Other aircrew contributing to the incident: N/A

Name: Rank: No.: Nature of Duty:  
 Total Flying Experience: Experience on Type:

## 7. DETAILS OF CASUALTIES AND DAMAGE:

(a) Damage to Aircraft: Category 1  2  3  4  5 

(b) Number of Personnel Casualties: Nil

(c) Damage to Property: Nil

	Fatal	Serious	Minor
RAAF			
Other Services			
Civilian			

	Nil	Minor	Major
RAAF			
Other Services			
Civilian			

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APPENDIX 10/D/4

INSTRUCTIONS

Attachments to Aircraft Incident Report Form A.182. The following reports are to be attached as appendices to the completed Form A.182:—(AFO 10/D/3)

1. *Aircraft Captain's Report.* This is to be a brief history of the flight from briefing onwards. If the captain is unavailable (e.g., through death or injury) the senior surviving crew member is to submit the report.
2. *Authorising Officer's Report.* A brief statement of the limits of authorisation, competence of the crew, and essential points of briefing where applicable. If all the crew are unavailable, the Authorising Officer should, as far as possible, complete the details required at sub-paragraph 1 above.
3. *Air Traffic Control Officer's Report.* This report is obligatory when a major accident has occurred and in other cases where an emergency was declared or ATC, crash and rescue, or SAR facilities were involved. It is to cover all ATC aspects of the incident and the response by and function of the various emergency facilities.
4. *Medical Officer's Report.* This is obligatory when a major accident has occurred and in other incidents whenever an aeromedical aspect is suspected, or an environment system failure has occurred (e.g., oxygen, safety equipment, air conditioning systems, etc.). The report is to be submitted by the Senior Medical Officer and is to include a statement regarding the medical fitness of the crew before and after the incident, and comments on any aspects or possible consequences considered pertinent.
5. *Unit Engineer Officer's Report.* This is to be made by the officer commanding the technical flight or squadron. It is to include a brief description of the damage, the category of damage and where appropriate, the technical diagnosis of the accident.
6. *Specialist Officer's Report.* Where appropriate, reports by specialist officers such as the navigation officer, weapons officer, armament officer, signals officer, etc., are to be attached.
7. *Commanding Officer's Report.* The unit commander is to sum up the accident and detail action taken or recommended. He is to make particular comment on briefing, and on pertinent aspects raised by specialist officers.
8. *Report by the Officer Commanding Wing.* Where applicable the comments of the Officer Commanding the Wing are to be added.
9. *Remarks by the Officer Commanding the Formation.* These are to include details of any disciplinary or other action taken or intended and are to be made by the Officer Commanding the Formation personally.

**Flying Experience of Captain**

10. In the majority of special occurrences and in some minor accidents, the captain's experience may not be a significant factor, in which case this section need not be completed. Where any doubt exists on this point, and in the case of every major accident, (see AFO 10/D/1/ para 5) completion of this section is compulsory.

**Photographs**

11. Half plate photographs illustrating the incident and showing damage to aircraft and property are to be attached in all cases of major accidents, and in other cases, at the discretion of the reporting authority.

**Actioning the Report (AFO 10/D/3)**

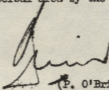
12. The reporting unit is to prepare four copies of Form A.182, attachments and forward to the formation commander within 48 hours in the case of major accidents and two working days in the case of minor accidents or special occurrences (see AFO 10/D/1). The formation commander is to add his comments, including all action taken, intended or recommended and within five working days of receipt forward one copy direct to Department of Air (DFS) one copy to operating command headquarters, one copy to Headquarters Support Command (STSO), and return one copy to the reporting unit.

**Security Classification**

13. The usual security classification for special occurrences and minor accidents is to be restricted, unless the commanding officer at his discretion considers a higher classification is warranted. All major accidents are to be classified confidential or higher.

AIRCRAFT CAPTAIN'S REPORT

1. On short finals, on completion of a Post 'D' Test Flight, two loud bumps were felt aft of the cockpit. All engine instruments were checked again, and were within limits. I elected to continue the landing. Immediately on touch-down, the aircraft was shut-down.
2. Inspection showed one fan belt broken and partially ingested in the cooling fan. The upper fan belt pulley was also loose.
3. The aircraft was recovered to the dispersal area by the duty crew



(P. O'Brien)  
Capt  
Aircraft Captain

ENGINEERING OFFICERS REPORT

Reference: A. Bell Helicopter, Spare Parts Manual Page 4 - 10.

Incident

1. I travelled with the aircraft to assist with the post 'D' service test flight. Whilst the aircraft was landing, on completion of the flight, two bumps were heard and felt throughout the cabin, the first stronger and sharper than the second. The aircraft's performance was not affected after the incident and was landed ASP. Inspection of the aircraft revealed;

- a. The cylinder head temperature had risen to 240°C.
- b. One fan belt was broken, the other thrown from the pulleys.
- c. The fan drive assembly pulley (47-620-572-3) was slightly wobbling with some noise.
- d. One cooling fan blade was bent.

Investigation

2. Subsequent close inspection, after removal of the fan drive assembly, revealed axial play of the inner race of the bearing (47-620-556-1), showing it had failed. It is considered the first strong sharp noise was the failure of this bearing, and the second the snapping of a fan belt, which became entangled in the cooling fan blades, bending one.

3. The fan drive assembly was not removed or altered at the 'D' service. The ground crew, myself and the pilot checked the fan belts for correct tension and the cooling system prior to the test flight.

4. The cylinder head temperature did not exceed limitations. However, an engine 'H' service was carried out and no significant particles were found in the engine oil.

Repair

5. The cooling fan and fan drive assembly were replaced, and the aircraft cooling system subsequently performed correctly.

Cause

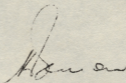
6. The incident was due to the failure of the fan drive assembly bearing.

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(M.D. Boland)  
Capt  
Engineering Officer

REPORT BY OFFICER COMMANDING

1. The incident occurred at 1830 hrs on 10 Sep 68.
2. Capt O'Brien, with the Engineer Officer as passenger, was completing a test flight on Sioux A1-399.
3. On final a bearing in the fan drive assembly failed, and the subsequent uneven rotation snapped the fan belt.
4. The aircraft continued under normal power, and the pilot completed the landing and closed the engine down.
5. The incident was caused by the failure of the fan drive assembly bearing



(H.A.F. Benson)  
Maj  
OC



10/1202 Z

# MESSAGE FORM

NUMBER .....

FOR COMM CEN/SIGNALS USE .....

PRECEDENCE - ACTION <b>PRIORITY</b>	PRECEDENCE - INFO DEFERRED	DATE - TIME GROUP <b>101050 Z</b>	MESSAGE INSTRUCTIONS
<b>From 161 (INDEX) BROCK FIA</b>			PREFIX GR
<b>To ARMY CAMBERA ARMY MELBOURNE DEPAR CAMBERA</b>			SECURITY CLASSIFICATION  <b>RESTRICTED</b>
<b>Info ARMY AIR MELBOURNE AUST FORGE VICTORIA COM RAAF V 1 ACP</b>			ORIGINATOR'S NUMBER  <b>GRS 614</b>

FOR INFO AND P (I/AW) CHEE LPS CHEE SOGAS (.) AC INTERIM MESSAGE (.)  
 ALPHA (.) BILL STOKX 477088 SERIES 1 CHEE A1-399 (.)  
 BRAVO (.) 161 (INDEX) BROCK FIA (.)  
 CHARLIE (.) ONE (.) MELBOURNE FIELD (.) TWO (.) 101030 H (.) SUP 60 (.)  
 DELTA (.) CAPT P O'BRIEN 213021 (.)  
 ECHO (.) NIL (.)  
 FOXTROT (.) ON SIGHT FINALS CHEE AT THE COMPLETION OF A POST 3D3 TEST FLIGHT CHEE A  
 TEST WAS HEARD BY THE EXTOR CHEE HE THEN NOTICED A BURNING SMOKE (.) A  
 SUCCESSFUL LANDING WAS MADE AND THE AC REPACKAGED (.) SMOKE WAS COLLECTED  
 FROM THE RECOVERY AREA (.)  
 GOLF (.) NIL (.)  
 HOTEL (.) UNDER INVESTIGATION (.)  
 JULIET (.) NOT KNOWN (.)  
 KILO (.) CAP CHEE CHEE UNDER INVESTIGATION (.)

Page 1 of 1 pages	REFERS TO MESSAGE CLASSIFIED <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	DRAFTER'S NAME	OFFICE	TELE No.									
FOR OPS USE	R	DATE	TIME	SYSTEM	OPERATOR	D	DATE	TIME	SYSTEM	OPERATOR	OPS	INDICATOR	RELEASING OFFICER'S SIGNATURE AND RANK
													<i>[Signature]</i>

RESTRICTED

Form A182  
(Revised 1965)

Cancels and supersedes RAAF Forms A182 (Revised August, 1959) and A261.

## AIRCRAFT INCIDENT REPORT

(AFO 10/D/3)

1. OPERATING UNIT: 161 (INDEP) RECCO FLT COMMAND: RAFV2. REPORTING UNIT: 161 (INDEP) RECCO FLT Report No 63/68 Signal No 018 611

## 3. DETAILS OF INCIDENT:

Date 10 SEP 68 Time 1830 Hours LST.Place WISCOMBE AIRFIELD Long \_\_\_\_\_ Lat \_\_\_\_\_General Weather Conditions FWG, WIND 20/15, SCATTERED CL,SLIGHT TURB.

## 4. DETAILS OF FLIGHT:

Authorized by CDT P O'BRIEN Purpose POST 'S' TEST FLTStage: Start Up  Stationary  Taxiing  Take-off  In Flight  Landing  Shut Down 

## 5. DETAILS OF AIRCRAFT:

Type and Mk SOUX 47G-38-1 Number A1-399

Total Airframe Hours \_\_\_\_\_ Hours since last "E" Servicing \_\_\_\_\_

In cases of engine failure:

No 1  2  3  4  Type and Mark \_\_\_\_\_ Maker's Number \_\_\_\_\_

## 6. DETAILS OF AIRCREW:

## (a) Captain:

Name P. O'BRIEN Rank CDT Number 213821Current Assessment/Instrument Rating CAT CLast Dual Check: Date 5 SEP 68 Aircraft Type SOUX 47G-38-1

Flying Experience: (May be deleted, see instructions sub-paragraph 10)

	Total	Last 30 Days	Night*		Instrument*	
			Total	Last 30 Days	Total	Last 30 Days
			Captain Hours All Types .. .. .			
Type Quoted in para 5	Captain .. .. .					
	1st Pilot .. .. .					

\* Required only for incidents involving Night or Instrument Flying.

(b) Other aircrew contributing to the incident: N/A.

Name \_\_\_\_\_ Rank \_\_\_\_\_ No \_\_\_\_\_ Nature of Duty \_\_\_\_\_

Total Flying Experience \_\_\_\_\_ Experience on Type \_\_\_\_\_

## 7. DETAILS OF CASUALTIES AND DAMAGE:

(a) Damage to Aircraft: Category 1  2  3  4  5 (b) Number of Personnel Casualties: NIL(c) Damage to Property: NIL

	Fatal	Serious	Minor
RAAF			
Other Services			
Civilian			

	Nil	Minor	Major
RAAF			
Other Services			
Civilian			

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**Security Classification**

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PU0221 (30M)

RESTRICTED

Report by Officer Commanding,

The incident occurred at 1030 LST  
on 10 Sep 68.

Capt O'Brien, with the Engineer Officer  
as passenger, was completing a test flight  
on Sioux A1-399.

On final, the bearing in the fan drive  
assembly failed, and the subsequent uneven  
rotation snapped the fan belt.

The aircraft continued under normal  
power, and the pilot <sup>completed the landing and</sup> ~~landed~~ closed  
the engine down.

~~The cause~~ The incident was ~~the~~ caused  
by the failure of the fan drive assembly  
bearing.

(M)

my

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AIRCRAFT CAPTAIN'S REPORT

On short finals, on completion of a Post 'D' Test Flight, two loud bumps were felt aft of the cockpit. All engine instruments were checked again, and were within limits. I elected to continue the landing. Immediately on touch-down, the aircraft was shut-down.

Inspection showed one fan belt broken and partially ingested in the cooling fan. The upper fan belt pulley was also loose.

The aircraft was recovered to the dispersal area by the duty crew.

Reference. Bell Helicopter, spare parts manual,  
page 4-10

ENGINEERING OFFICERS REPORT

Incident

1. I travelled with the aircraft to assist with the post 'D' service test flight. Whilst the aircraft was landing, on completion of the flight, two bumps were heard and felt throughout the cabin, the first stronger and sharper than the second. The aircraft's performance was not affected after the incident and was landed ASD. Inspection of the aircraft revealed;
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  - b. One fan belt was broken, the other thrown from the pulleys.
  - c. The fan drive assembly pulley (47-620-572-3) was slightly wobbling with some noise.
  - d. One cooling fan blade was bent.

## Investigation

2. Subsequent close inspection, after removal of the fan drive assembly, revealed axial play of the inner race of the bearing (27-620-556-1), showing it had failed. It is considered the first strong sharp noise was the failure of this bearing, and the second the snapping of a fan belt, which became entangled in the cooling fan blades, bending one.
3. The fan drive assembly was not removed or altered at the 'D' service. The ground crew, myself and the pilot checked the fan belts for correct tension, and the cooling systems prior to the test flight.
4. The cylinder head temperature did not exceed limitations. However, an engine 'H' service was carried out and no significant particles were found in the engine oil.

Repair

5. The cooling fan and fan drive assembly were replaced, and the aircraft cooling system subsequently performed correctly.

Cause

6. The incident was due to the failure of the fan drive assembly bearing.

\_\_\_\_\_  
Capt

M. D. BOGARD  
Engr aff.