



kestrel Publications



DE HAVILLAND CANADA CC-138 TWIN OTTER ROYAL CANADIAN AIR FORCE SERIAL NUMBERS & INDIVIDUAL HISTORIES



by T.F.J. Leversedge

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Overview

This publication is intended to provide a brief overview / summary of individual aircraft histories using information drawn from personal documents / records and other publicly available references identified at the end of the publication. In addition, this information has been further supplemented and / or verified against available RCAF incident / accident reports.

About the Author



Terry Leversedge was born in Moose Jaw, Saskatchewan, while his father was serving at Royal Canadian Air Force (RCAF) Station Moose Jaw. He later graduated from the Royal Military College, Kingston, with a degree in Mechanical Engineering in 1979, and then received a Masters degree in aerospace vehicle design from the Cranfield Institute of Technology in the United Kingdom. His career in military aerospace engineering encompassed a wide number of positions at both field units and within the headquarters of the RCAF, before he retired after 35 years of service at the rank of Brigadier General. Now an aviation consultant and amateur historian, he is the author of other commercially available books on Canadian military aviation subjects and has published numerous articles as the Editor-In-Chief at *Airforce* magazine, the flagship publication of the Royal Canadian Air Force Association.

Additional Information

The information in this serial as accurate and up to date as possible based upon the available public sources. It should not, however, be construed as an "official" list nor 100% accurate. Any errors of commission or omission are solely those of the author. As with all endeavours of this nature, however, the author would be pleased to hear of any additional information and / or corrections. Please provide any details to: Kestrel Publications at kestrelpubs@gmail.com

Dedication

This publication is dedicated to all those who fly and maintain these CC-138 aircraft and especially to those who gave their lives in the service of their country while flying or maintaining them.

Cover Image Notes

CC-138 #138802 in Canada's high Arctic in 2014. - (CF Photo #HS15-2014-0010-123.)



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CC-138 Twin Otter Serials

Serial #	Manufacturer	Model #	c/n	Designation	Name
13801	de Havilland Canada	DHC-6 Series 300	303	CC-138	Twin Otter

TOS: 10 November 1971 - Taken on strength

Delivered to No. 424 (T&R) Sqn, CFB Trenton, ON in July 1971. Loaned to No. 426 Sqn for pilot training. UN duties in Kashmir from 12 January 1972, replacing #13808 after it was destroyed. Later with No. 440 Sqn. Cat "C" accident suffered on 02 Aug 1982 with official details as follows:

AT LAKE HAZEN, ELLESMERE ISLAND NWT. DURING TAKE-OFF FROM A ROUGH TERRAIN LANDING STRIP THE AIRCRAFT VEERED TO THE LEFT IMMEDIATELY PRIOR TO LIFTOFF AS THE AC LEFT THE GROUND THE LH MAIN WHEEL STRUCK A BOULDER AND DEPARTED THE AC ALONG WITH APPROX 80% OF THE LOWER LH WHEEL STRUT ASSEMBLY. THE AC WAS FLOWN WITHOUT FURTHER INCIDENT TO CFS ALERT WHERE SEVERAL PASSES WERE MADE TO ALLOW GROUND PERSONNEL TO INSPECT THE DAMAGE AS WELL AS THE CONDITION OF THE NOSEWHEEL ASSEMBLY AS NEITHER WAS VISIBLE FROM WITHIN THE AIRCRAFT. DUE TO THE RUPTURED LH BRAKE HYDRAULIC LINE THE AC WAS WITHOUT HYDRAULIC FLUID FOR FLAPS OR NOSEWHEEL STEERING AND HAD ONLY VERY LIMITED BRAKING ON THE RH WHEEL ASSEMBLY. FUEL WAS REDUCED AND DUE TO THE UNCERTAINTY AS TO THE EXTENT OF WING DROP UPON LANDING, THE LH ENGINE WAS SHUT DOWN AS A PRECAUTION AGAINST ENGINE DAMAGE DUE TO PROPELLOR/GROUND CONTACT. A FLAPLESS LANDING WAS CARRIED OUT WITH THE AC PULLING TO THE LEFT ONCE WHAT REMAINED OF THE LOWER LH STRUT CONTACTED THE RUNWAY. PASSENGERS (4) AND CREW (4) WERE SAFELY EVACUATED AND THE AIRCRAFT SECURED.

In storage at Air Maintenance Development Unit at CFD Mountain View, ON when sold. To US civil register as N774A, with Scott Aircraft Services from December 1994. To Canadian register as C-FUGP, registered to 491549 Alberta Limited on 15 March 1995. Then to Exxon Mobile Canada as C-FMOL on 2 March 2001. To Provincial Air Lines on 28 November 2002. Sold to 171817 Canada Limited, operating as Arctic Sunwest Charters, from 16 June 2003. To North-Wright Airways on 14 November 2003. To Ashe Aircraft Enterprise on 6 October 2004.

SOS: 19 July 1994 - Struck off; later sold

13802	de Havilland Canada	DHC-6 Series 300	304	CC-138	Twin Otter
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TOS: 29 July 1971 - Taken on strength

With No. 440 Sqn in April 1995. Still operational in 2019, with No. 440 Sqn at Yellowknife, NWT.

SOS: In service



13803	de Havilland Canada	DHC-6 Series 300	305	CC-138	Twin Otter
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TOS: 5 August 1971 - Taken on strength

With No. 440 Sqn in April 1995. Still operational in 2019, with No. 440 Sqn at Yellowknife, NWT. On 10 March 2019, 138305 departed Tuktoyaktuk, NT with three scientists on board on a mission requiring the a/c to land on unprepared sea ice surfaces. After completing an uneventful landing on sea ice near Tuktoyaktuk for scientific research, the crew flew the aircraft to Pelly Island which is located 50 miles to the West. The crew first completed two reconnaissance patterns above the sea ice surface to assess wind and surface conditions. The crew then chose an into-wind approach for landing on the sea ice, approximately 1 mile away from the island. The a/c touched down on a smooth area of sea ice, but then bounced into the air after hitting an ice ridge perpendicular to the aircraft's heading. The a/c impacted the base of a larger ice ridge once it settled back onto the sea ice. The nose landing gear collapsed and the aircraft came to a stop shortly thereafter. The a/c suffered Cat "B" damage. To get it home, the RCAF contracted from a specialist company to airlift it back to Inuvik. With Canadian Rangers providing protection from predators, RCAF technicians removed all fuel, non-essential parts and equipment from the Twin Otter to prepare it for airlift. On March 24, a Sikorsky S-61 heavy-lift helicopter contracted through Momentum Decisive Solutions Inc. and sub-contractor VIH Helicopters successfully airlifted the Twin Otter back to Inuvik with a specialized sling.

SOS: In service

13804	de Havilland Canada	DHC-6 Series 300	306	CC-138	Twin Otter
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TOS: 1 September 1971 - Taken on strength

Delivered to No. 424 (T&R) Sqn, CFB Trenton, ON. With No. 440 Sqn at CFB Yellowknife, NWT in April 1995. Still operational in 2019, with No. 440 Sqn at Yellowknife, NWT.

SOS: In service

13805	de Havilland Canada	DHC-6 Series 300	307	CC-138	Twin Otter
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TOS: 9 September 1971 - Taken on strength

With No. 440 Sqn, CFB Namao, AB, in 1970s. Used to drop trainee SAR techs of Course No. 15 at Entrance, AB in 1976. Still with this unit in April 1995. Still operational in 2019, with No. 440 Sqn at Yellowknife, NWT.

SOS: In service

13806	de Havilland Canada	DHC-6 Series 300	308	CC-138	Twin Otter
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TOS: 17 September 1971 - Taken on strength

Operated by No. 440 Sqn at CFB Namao, AB. Withdrawn from use in August 1994. In storage at Air Maintenance Development Unit at CFD Mountain View, Ontario when sold. To US register as N776A, registered to Scott Aircraft Service in December 1994. Later to Canadian register as C-FTXQ. Registered to Beau del Leasing on 18 January 1995. To Ptarmigan Airways on 10 February 1995. To Bradley Air Services in January 1997. To Arctic Sunwest Charters on 17 July 2001.

SOS: 19 July 1994 - Struck off; later sold

13807	de Havilland Canada	DHC-6 Series 300	309	CC-138	Twin Otter
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TOS: 17 September 1971 - Taken on strength

With No. 440 Sqn at CFB Namao, AB. Used by crew from reserve unit No. 418 Sqn at time of crash. On June 14, 1986 this a/c was searching for another SAR aircraft (civilian) that had gone down looking for an overdue light plane. The aircraft flew into the side of a mountain, killing all on board: pilot Capt. Ted Kates, co-pilot Capt. Wayne Plumtree and 6 observers. According to official accident report, the crash was caused by a freak optical illusion. The colour of rocks in mountain combined with sun angle at the time of the crash made a large ledge impossible to see. The crash location was 74 kilometres (46.3 miles) west of Calgary, AB.

SOS: 5 May 1987 - Cat "A" write-off



13808	de Havilland Canada	DHC-6 Series 300	310	CC-138	Twin Otter
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TOS: 8 July 1971 - Taken on strength

Delivered to No. 424 (T&R) Sqn, CFB Trenton. Used for initial flight crew training at Trenton, with DHC instructor Don Rogers. Ferried from Trenton to Pakistan on 24 July to 9 August 1971, via Frobisher, Greenland, Iceland, UK, Lahr, Rome, Athens, Beirut, Bahrein, Karachi, Rawalpindi and Srinagar. Commenced UN operations on 11 August 1971. Operated in Pakistan for UNMOGIP (UN Military Observer Group in Pakistan), in UN colours but still displaying CF serial number. Destroyed on ground, by bomb from Indian AF Hunter of No. 20 Sqn, IAF at Islamabad-Chaklala Air Base in Pakistan on 5 December 1971. No casualties within the crew.

SOS: 12 January 1972 - Cat "A" write-off

13809	de Havilland Canada	DHC-6 Series 300	382	CC-138	Twin Otter
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TOS: 7 November 1973 - Taken on strength

Purchased as replacement for 13808. With No. 440 Sqn at CFB Namao, AB. Leased to RCMP, through Inter-Cay Financial and Investment Inc. of Toronto, from 13 May 1994. Operated in overall white finish, carried CF serial number and registration C-FSLR. Reportedly used in anti-drug surveillance flights. Declared surplus on 19 July 1994. To KSS Aviation of Papua New Guinea as P2-KSK by December 1994. To US register as N677A, registered to Scott Aircraft Services same month. To Canadian register as C-FUGT. To Ashe Aircraft Enterprises on 15 March 1995. To Bradley Air Services on 16 March 1995. Used by First Air (still registered to Bradley Air Services) as of 29 January 1999, based at Carp (Ottawa), Ontario. To Unalik Aviation on 7 June 2002. To Ken Borek Air on 25 October 2004. Sold to Maldivian Air Taxi in December 2004, registered as 8Q-MAR. Ferried to Maldives in November 2004.

SOS: 19 July 1994 - Struck off; later sold.

ADDITIONAL NOTES

In summary, the RCAF purchased a total of 9 CC-138 transports. It is referred to in CF technical documentation and files as the "CC-138 Twin Otter".

Operating Units

The following units are using or have flown CC-138 Twin Otter transports:

- No. 413 (Transport & Rescue) Squadron, Summerside, PEI
- No. 418 (Air Reserve) Squadron, Namao, AB
- No. 424 (Transport & Rescue) Squadron, Trenton, ON
- No. 426 (Transport) Squadron, Trenton, ON
- No. 440 (Transport) Squadron, Namao, AB & Yellowknife, NWT

Aircraft (or Air Vehicle) Damage Level (ADL) Categories: ¹

The RCAF's ADL is a qualitative categorization system used to determine the level of damage sustained by an aircraft / air vehicle during an occurrence. The following damage level definitions are used to reflect the degree of damage:

Cat "A" = Destroyed / missing: The aircraft has been totally destroyed, is assessed as having suffered damage beyond economical repair or is declared "missing";

NB - Aircraft totally destroyed are normally written off the inventory. Accidents with a lower ADL may also subsequently result in administrative write-off of the aircraft for reasons (primarily economic) not directly related to the original damage assessment.

Cat "B" = Very Serious: The aircraft has sustained damage to multiple major components;

¹ Drawn from: A-GA-135-001/AA-001 Manual of Flight Safety for the CF



- Cat “C”** = Serious: The aircraft has sustained damage to a major component;
Cat “D” = Minor: The aircraft has sustained damage to non-major components; and
Cat “E” = Nil: The aircraft, including the power plant, has not been damaged.

Number of CF CC-138 Twin Otter Cat “A” write-offs = 2 (~ 22% of the total fleet)

ABBREVIATIONS

AB	=	Alberta (Canada)
AF	=	Air Force
CF	=	Canadian Forces
CFB	=	Canadian Forces Base
C/N	=	Construction Number
FE	=	Flight Engineer
Flt	=	Flight
NWT	=	Northwest Territories (Canada)
ON	=	Ontario (Canada)
OTU	=	Operational Training Unit
PEI	=	Prince Edward Island (Canada)
RCAF	=	Royal Canadian Air Force
S/N	=	Serial Number
Sqn	=	Squadron
SOS	=	Struck Off Strength
T&R	=	Transport and Rescue
TOS	=	Taken On Strength
UN	=	United Nations

Current) RCAF RANKS

Aviator	-	Avr
Corporal	-	Cpl
Master Corporal	-	MCpl
Sergeant	-	Sgt
Warrant Officer	-	WO
Master Warrant Officer	-	MWO
Chief Warrant Officer	-	CWO
Officer Cadet	-	Ocdt
2nd Lieutenant	-	2nd Lt
1st Lieutenant	-	Lt
Captain	-	Capt
Major	-	Maj
Lieutenant Colonel	-	LCol
Colonel	-	Col
Brigadier General	-	BGen
Major General	-	MGen
Lieutenant General	-	LGen

REFERENCES

Government Reports:

- Canadian Forces Flight Safety Investigation Reports - <http://www.rcaf-arc.forces.gc.ca/en/flight-safety/investigation-reports.page>

Websites

- <http://www.rwrwalker.ca>

