

# CAMPBELL HELICOPTERS LTD.

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December 10, 1996

## Preamble

This Operations Manual is issued under the authority of the President of Campbell Helicopters Ltd.

This Operations Manual has been compiled for the use and guidance of operations personnel in the execution of their duties. It contains information and instructions on the manner in which flight operations shall be conducted by the “Commercial Air Services Standards”.

The Operations Manual applies to the operation of all company aircraft registered in Canada, regardless of the Country in which they are operating.

For Company aircraft that are operating in another Country, all references to Canadian laws, rules, regulation and Government authorities shall be understood to mean the laws, rules, regulations and Government authorities of that Country. Notwithstanding the above, the more stringent regulations of those of the Country, this Operations Manual or the Canadian Aviation Regulations shall apply.

The standards, practices, procedures and specifications contained in this Manual reflect the operating policies of the company.

This Manual shall be distributed to all operations personnel, who shall familiarize themselves with its contents, and apply the detailed procedures.

All amendments, after approval by Transport Canada, shall be promptly inserted into the Manual by the individual or organization shown on the distribution list, as the holder of the Manual, that person shall be responsible for the safe custody, maintenance and conscientious amendment of the Manual.

All personnel concerned with the conduct of flight operations are to be currently informed of and are to apply the procedures contained in this Manual.

Where reference in this Manual is made to the “Air Operator”, the “Company” and/or the “Operator”, it shall be taken to mean Campbell Helicopters Ltd..

The Operations Manager is responsible for the development, maintenance, distribution and amendment of this Operations Manual.

## TABLE OF CONTENTS

### PREFACE

PREAMBLE .....	i
TABLE OF CONTENTS .....	ii
MANUAL AMENDMENT PROCEDURES .....	vi
RECORD OF AMENDMENTS .....	vii
LIST OF EFFECTIVE PAGES .....	viii
OPERATIONS LIBRARY .....	x

### SECTION 1 – INTRODUCTION

1.1 INTRODUCTION TO CAMPBELL HELICOPTERS .....	Page 1-1
1.2 COMPANY OPERATING CERTIFICATE.....	Page 1-2

### SECTION 2 - COMPANY ORGANIZATION

2.1 COMPANY MANAGEMENT STRUCTURE .....	Page 2-1
2.2 DUTIES AND RESPONSIBILITIES .....	Page 2-1
2.2.1 Operations Manager .....	Page 2-1
2.2.2 Chief Pilot .....	Page 2-2
2.2.3 Training Pilot .....	Page 2-3
2.2.4 Pilot-in-Command .....	Page 2-3
2.2.5 Person Responsible Maintenance .....	Page 2-3

### SECTION 3 - CONTROL OF FLIGHT OPERATIONS

3.1 TYPE "D" OPERATIONAL CONTROL SYSTEM .....	Page 3-1
3.1.1 Requirement.....	Page 3-1
3.1.2 Responsibility and Authority .....	Page 3-1
3.1.3 Information Centres .....	Page 3-1
3.1.4 Communications .....	Page 3-1
3.2 FLIGHT FOLLOWING .....	Page 3-1
3.2.1 Definition .....	Page 3-1
3.2.2 Requirements .....	Page 3-1
3.2.3 Disposition / Retention of Flight Itineraries & Flight Plans .....	Page 3-2
3.2.4 Flight Following Procedures .....	Page 3-2
3.3 DISSEMINATION OF OPERATIONAL INFORMATION .....	Page 3-3
3.3.1 Bulletin and Directives .....	Page 3-3
3.3.2 Incorporation into this Manual.....	Page 3-3

**SECTION 4 - FLIGHT OPERATIONS**

<b>4.0</b>	WEATHER MINIMA.....	Page 4-1
<b>4.1</b>	VFR .....	Page 4-1
	4.1.1 Minimum Altitude and Distances - Day VFR .....	Page 4-1
	4.1.2 Flight Operations in Reduced Visibility .....	Page 4-2
<b>4.2</b>	VFR OVER-THE-TOP .....	Page 4-2
<b>4.3</b>	IFR AND NIGHT VFR FLIGHT .....	Page 4-2
<b>4.4</b>	FUEL AND OIL REQUIREMENTS .....	Page 4-3
<b>4.5</b>	WEIGHT AND BALANCE SYSTEM.....	Page 4-3
	4.5.1 Responsibility .....	Page 4-3
	4.5.2 Operational Empty Weight.....	Page 4-3
	4.5.3 Cargo weight .....	Page 4-3
	4.5.4 Passenger weight .....	Page 4-3
	4.5.4.1 Actual Weights .....	Page 4-4
	4.5.5 Fuel weight .....	Page 4-4
	4.5.6 Calculation .....	Page 4-4
	4.5.7 Training .....	Page 4-4
<b>4.6</b>	CARGO AND CARRY-ON BAGGAGE .....	Page 4-4
<b>4.7</b>	CHECKLISTS AND FLIGHT MANUALS .....	Page 4-5
<b>4.8</b>	MAINTENANCE DISCREPANCY REPORTING .....	Page 4-5
<b>4.9</b>	FLIGHT IN HAZARDOUS CONDITIONS.....	Page 4-5
	4.9.1 Actions on Encountering Adverse Weather Conditions .....	Page 4-5
<b>4.10</b>	OPERATION IN HIGH DENSITY ALTITUDES .....	Page 4-6
<b>4.11</b>	ICE, FROST AND SNOW CRITICAL SURFACE CONTAMINATION .....	Page 4-6
<b>4.12</b>	AIRCRAFT REFUELLING .....	Page 4-6
	4.12.1 Fuel Contamination Precautions.....	Page 4-6
	4.12.2 Bonding Requirement .....	Page 4-7
	4.12.3 Fuelling with Passengers Onboard .....	Page 4-7
	4.12.4 Hot Refuelling .....	Page 4-7
<b>4.13</b>	PILOT QUALIFICATIONS AND PROFICIENCY CHECKS.....	Page 4-8
	4.13.1 Licences .....	Page 4-8
	4.13.2 Pilot Proficiency Checks.....	Page 4-8
<b>4.14</b>	FLIGHT AND DUTY TIME LIMITATIONS AND REST REQUIREMENTS .....	Page 4-9
	4.14.1 Limitations .....	Page 4-9
	4.14.2 Monitoring System .....	Page 4-9
<b>4.15</b>	OPERATIONS SPECIFICATIONS.....	Page 4-9
	4.15.1 Hover Exit.....	Page 4-9
	4.15.2 Over Water Operations.....	Page 4-9
	4.15.3 Helicopter Class "D" External Loads .....	Page 4-10
<b>4.16</b>	AERIAL WORK OPERATIONS.....	Page 4-10
	4.16.1 Definitions.....	Page 4-10
	4.16.2 Aerial Work Conducted .....	Page 4-10
	4.16.3 Carriage of Persons Other Than Flight Crew .....	Page 4-10

	4.16.4 Briefing of Persons Other Than Flight Crew .....	Page 4-11
<b>4.17</b>	PASSENGER BRIEFING .....	Page 4-11
<b>4.18</b>	PASSENGER AND CABIN SAFETY PROCEDURES .....	Page 4-11
	4.18.1 MOVEMENT TO AND FROM THE HELICOPTER .....	Page 4-11
	4.18.2 CABIN SAFETY .....	Page 4-11
	4.18.3 PORTABLE ELECTRONIC DEVICES .....	Page 4-12
<b>4.19</b>	RESETTING OF TRIPPED CIRCUIT BREAKERS .....	Page 4-12
	4.19.1 General .....	Page 4-13
	4.19.2 Resetting CBs on the Ground.....	Page 4-13
	4.19.3 Resetting CBs In-flight .....	Page 4-13
	Annex "A" Passenger Safety Briefing .....	Page 4A-1
	Annex "B" Individual Safety Briefing .....	Page 4B-1
	Annex "C" Briefing of Persons Other Than Flight Crew .....	Page 4C-1
	Annex "D" Flight Time, Duty Time, Rest Period Limitations .....	Page 4D-1
	Annex "E" Hover Exit.....	Page 4E-1
	Annex "F" Over Water Operations – Land Aircraft .....	Page 4F-1
	Annex "G" External Load Operations .....	Page 4G-1
	Annex "H" Weight & Balance Form.....	Page 4H-1
	Annex "I" Helicopter Class "D" External Loads .....	Page 4I-7

## SECTION 5 - EMERGENCY PROCEDURES AND EQUIPMENT

<b>5.1</b>	ACCIDENT/INCIDENT REPORTING .....	Page 5-1
<b>5.2</b>	REPORTING OVERDUE AIRCRAFT.....	Page 5-1
	5.2.1. Definition .....	Page 5-1
	5.2.2. Notification .....	Page 5-1
<b>5.3</b>	EMERGENCY SURVIVAL EQUIPMENT .....	Page 5-2
	5.3.1. Flights over land .....	Page 5-2
	5.3.2. Flights over water.....	Page 5-3
	5.3.3. First Aid Kit .....	Page 5-3
	5.3.4. Fire Extinguisher .....	Page 5-3
	5.3.1. Inspections .....	Page 5-3
<b>5.4</b>	ELT OPERATING PROCEDURES .....	Page 5-3
<b>5.5</b>	EMERGENCY LANDING OR DITCHING .....	Page 5-3
<b>5.6</b>	EVACUATION.....	Page 5-4
	Annex "A" Company Accident / Incident Report .....	Page 5A-1
	Annex "B" Definitions of Reportable Aviation Occurrence / Accident / Incident .....	Page 5B-1
	Annex "C" Aircraft Overdue or Aircraft Accident .....	Page 5C-1
	Annex "D" Land Survival Equipment.....	Page 5D-1
	Annex "E" Water Survival Equipment.....	Page 5E-1
	Annex "F" Emergency Equipment Inspection Log.....	Page 5F-1

**SECTION 6 - TRAINING PROGRAM**

<b>6.1</b>	TRAINING PROGRAM .....	Page 6-1
	6.1.1. Pilot Training .....	Page 6-1
	6.1.2. Other Operations Staff Training .....	Page 6-1
<b>6.2</b>	TRAINING RECORDS .....	Page 6-1
<b>6.3</b>	TRAINING AND QUALIFICATION OF TRAINING PERSONNEL .....	Page 6-1
<b>6.4</b>	TRAINING PROGRAM STANDARDS .....	Page 6-2
<b>6.5</b>	TRANSPORTABILITY OF PILOT PROFICIENCY CHECK .....	Page 6-3
<b>6.6</b>	COMPANY INDOCTRINATION TRAINING .....	Page 6-3
<b>6.7</b>	TECHNICAL GROUND TRAINING .....	Page 6-4
<b>6.8</b>	EMERGENCY PROCEDURES TRAINING .....	Page 6-5
<b>6.9</b>	SURFACE CONTAMINATION TRAINING .....	Page 6-6
<b>6.10</b>	SURVIVAL EQUIPMENT TRAINING .....	Page 6-6
<b>6.11</b>	AIRCRAFT SERVICING / GROUND HANDLING FOR PILOTS .....	Page 6-6
<b>6.12</b>	RESETTING OF TRIPPED CIRCUIT BREAKERS .....	Page 6-7
<b>6.13</b>	AERIAL WORK TRAINING .....	Page 6-7
<b>6.14</b>	EXTERNAL LOAD TRAINING - Class B and C External Loads .....	Page 6-8
<b>6.15</b>	EXTERNAL LOAD TRAINING - Class D External Load .....	Page 6-8
	6.15.1 Training for Pilots .....	Page 6-8
	6.15.2 Training for Spotters .....	Page 6-10
	6.15.3 Training for Technicians .....	Page 6-10
<b>6.16</b>	LOW VISIBILITY TRAINING .....	Page 6-11
	6.16.1 Ground Training .....	Page 6-12
	6.16.2 Flight Training .....	Page 6-14
<b>6.17</b>	PERSONS ASSIGNED ON BOARD DUTIES .....	Page 6-14
<b>6.18</b>	REGAINING QUALIFICATION TRAINING .....	Page 6-15
<b>6.19</b>	FLIGHT FOLLOWER TRAINING .....	Page 6-15
	6.19.1 Flight Training .....	Page 6-15
<b>6.20</b>	CRM TRAINING .....	Page 6-16
<b>6.30</b>	FLIGHT TRAINING .....	Page 6-16
	6.30.1 Single-engine Aircraft .....	Page 6-16
	6.30.2 Multi-engine Aircraft .....	Page 6-17
	Annex "A" Pilot Training Records .....	Page 6A1-2
	Annex "B" PPC Recommendation .....	Page 6B-1
	Annex "C" Training Trip Assessment Form .....	Page 6C-1
	Annex "D" Emergency Procedures Training - Practical .....	Page 6D-1

**SECTION 7 - COMPANY FORMS AND DIRECTIVES****SECTION 8 – DANGEROUS GOODS**

See Section 8 for full Table of Contents

## MANUAL AMENDMENT PROCEDURES

Manual amendments will be promulgated as required by the Operations Manager. After approval by Transport Canada, they will be issued to each manual holder. Each amended page shall record the appropriate amendment number and date in the lower right hand corner.

When the manual is amended, two copies of the "List of Effective Pages" (LEP) along with one copy of the amendment and amendment instructions will be forwarded to Transport Canada. Any Operations Manual amendments affecting Section 8 are to be submitted separately to the Transport Canada Dangerous Goods representative.

When the LEP has been date stamped by Transport Canada, copies of the amended pages and LEP will be issued to each manual holder along with the amendment instructions.

It is the responsibility of the manual holder to insert, in a timely manner all amendments, and to ensure all manual pages are consistent with the LEP. Where the manual is issued to an aircraft, the Operations Manager will ensure that the manual is appropriately amended. Any discrepancy between the LEP and the actual manual pages will be brought to the attention of the Operations Manager immediately.

Manual Copy	Manual Holder	Address	Telephone Number	Fax Number
Master Copy	Operations Manager	PO Box 2008 Abbotsford Stn A Abbotsford, BC V2T 3T8	(604) 852-1122	(604) 852-4982
Copy #1	Transport Canada Commercial and Business Aviation	Suite 620 800 Burrard Street Vancouver, BC V6Z 2J8	(604) 666-5657	(604) 666-0682
Copy #2	Chief Pilot	PO Box 2008 Abbotsford Stn A Abbotsford, BC V2T 3T8	(604) 852-1122	(604) 852-4982
Copy #3	Person Responsible Maintenance	PO Box 2008 Abbotsford Stn A Abbotsford, BC V2T 3T8	(604) 852-1122	(604) 852-4982
TRAINING MANUALS				
Copy #4	Training	PO Box 2008		
Copy #5	Training	Abbotsford Stn A		
Copy #6	Training	Abbotsford, BC V2T 3T8		
Copy #7	Training			

### AIRCRAFT MANUALS

One copy assigned to each company aircraft

**RECORD OF AMENDMENTS**

No.	Date of Amendment	Date Entered	Entered By	No.	Date of Amendment	Date Entered	Entered By
#1	19 Feb 98	20 Mar 98	Jan Elbe	#26	1 Nov 09	5 Nov 09	Bill Snedden
#2	15 Jan 99	26 Mar 99	Jan Elbe	#27	1 Dec 09	24 Mar 10	Bill Snedden
#3	27 May 99	25 Jun 99	Jan Elbe	#28	1 Apr 10	21 Apr 10	Bill Snedden
#4	20 Sep 99	25 Feb 00	Jan Elbe	#29	27 Apr 10	4 May 10	Bill Snedden
#5	8 May 00	22 Sep 00	Jan Elbe	#30	15 Apr 11	28 April 11	Bill Richardson
#6	30 Nov 00	30 Nov 00	Jan Elbe	#31	1 May 12	1 May 12	Ed Clapp
#7	15 Jan 01	30 Jan 01	Jan Elbe	#32	22 Feb 13	10 Apr 13	Ed Clapp
#8	1 Aug 01	31 Oct 01	Jan Elbe	#33	1 June 16	15 June 16	T Bridgman
#9	15 Nov 01	19 Mar 02	Jan Elbe	#34	30 Mar 18	15 May 19	T Bridgman
#10	22 Jan 02	19 Mar 02	Jan Elbe	#35	10 Dec 18		
#11	14 May 02	3 Dec 02	Jan Elbe				
#12	15 Aug 02	3 Dec 02	Jan Elbe				
#13	15 Feb 03	15 Jul 03	Jan Elbe				
#14	24 Aug 04	6 Oct 04	Jan Elbe				
#15	15 Feb 05	26 Mar 05	Jan Elbe				
#16	28 Feb 06	28 Mar 06	Jan Elbe				
#17	8 Apr 06	8 Apr 06	Jan Elbe				
#18	1 Feb 07	13 Feb 07	Bill Snedden				
#19	1 May 07	1 May 07	Bill Snedden				
#20	15 May 07	15 May 07	Bill Snedden				
#21	1 Oct 07	5 Oct 07	Bill Snedden				
#22	9 Nov 07	29 Nov 07	Bill Snedden				
#23	1 Mar 08	10 Mar 08	Bill Snedden				
#24	15 May 08	30 May 08	Bill Snedden				
#25	1 Feb 09	9 Apr 09	Bill Snedden				



**LIST OF EFFECTIVE PAGES**

Page No.	Amendment No./Date	Page No.	Amendment No./Date
<b>PREAMBLE</b>		<b>SECTION 4 - ANNEXES</b>	
		Annex "A" - Page 4A -1	Amendment No. 34 – 30 March 2018
Preamble Cover page	Amendment No.33 – 1 June 2016	Annex "A" - Page 4A - 2	Amendment No. 34 – 30 March 2018
Preamble Page i	Amendment No.22 – 9 Nov 2007	Annex "B" - Page 4B - 1	Amendment No. 28 – 1 Apr 2010
Preamble Page ii	Amendment No. 33– 1 June 2016	Annex "B" - Page 4B - 2	Amendment No. 28 – 1 Apr 2010
Preamble Page iii	Amendment No. 34 – 30 March 2018	Annex "C" - Page 4C - 1	Amendment No. 28 – 1 Apr 2010
Preamble Page iv	Amendment No. 34 – 30 March 2018	Annex "D" - Page 4D - 1	Amendment No. 28 – 1 Apr 2010
Preamble Page v	Amendment No. 35 – 10 Dec 2018	Annex "D" - Page 4D - 2	Amendment No. 34 – 30 March 2018
Preamble Page vi	Amendment No. 33 – 1 June 2016	Annex "D" - Page 4D - 3	Amendment No. 34 – 30 March 2018
Preamble Page vii	Amendment No. 35 – 10 Dec 2018	Annex "D" - Page 4D App 1-1	Amendment No. 34 – 30 March 2018
Preamble Page viii	Amendment No. 35 – 10 Dec 2018	Annex "E" - Page 4E - 1	Amendment No. 34 – 30 March 2018
Preamble Page ix	Amendment No. 35 – 10 Dec 2018	Annex "E" - Page 4E - 2	Amendment No. 34 – 30 March 2018
Preamble Page x	Amendment No. 34 – 30 March 2018	Annex "E" - Page 4E - 3	Amendment No. 34 – 30 March 2018
		Annex "F" - Page 4F - 1	Amendment No. 34 – 30 March 2018
		Annex "F" - Page 4F - 2	Amendment No. 34 – 30 March 2018
		Annex "F" - Page 4F - 3	Amendment No. 34 – 30 March 2018
<b>SECTION 1</b>		Annex "G" - Page 4G - 1	Amendment No. 28 – 1 Apr 2010
Section 1 - Page 1-1	Amendment No. 34 – 30 March 2018	Annex "G" - Page 4G - 2	Amendment No. 28 – 1 Apr 2010
Section 1 - Page 1-2	Amendment No. 34 – 30 March 2018	Annex "H" - Page 4H - 1	Amendment No. 34 – 30 March 2018
<b>SECTION 2</b>		Annex "H" - Page 4H - 2	Amendment No. 28 – 1 Apr 2010
Section 2 - Page 2-1	Amendment No. 33 – 1 June 2016	Annex "H" - Page 4H - 3	Amendment No. 28 – 1 Apr 2010
Section 2 - Page 2-2	Amendment No. 30 – 15 Apr 2011	Annex "H" - Page 4H - 4	Amendment No. 28 – 1 Apr 2010
Section 2 - Page 2-3	Amendment No. 34 – 30 March 2018	Annex "H" - Page 4H - 5	Amendment No. 28 – 1 Apr 2010
Section 2 - Page 2-4	Amendment No. 34 – 30 March 2018	Annex "H" - Page 4H - 6	Amendment No. 28 – 1 Apr 2010
Section 2 – Page 2-5	Amendment No. 34 – 30 March 2018	Annex "I" - Page 4I - 1	Amendment No. 34 – 30 March 2018
		Annex "I" - Page 4I - 2	Amendment No. 34 – 30 March 2018
<b>SECTION 3</b>		Annex "I" - Page 4I - 3	Amendment No. 34 – 30 March 2018
Section 3 - Page 3-1	Amendment No. 30 – 15 Apr 2011	Annex "I" - Page 4I - 4	Amendment No. 34 – 30 March 2018
Section 3 - Page 3-2	Amendment No. 30 – 15 Apr 20 11	Annex "I" - Page 4I - 5	Amendment No. 34 – 30 March 2018
Section 3 - Page 3-3	Amendment No. 30 – 15 Apr 2011	Annex "I" - Page 4I - 6	Amendment No. 34 – 30 March 2018
		Annex "I" - Page 4I App 1-1	Amendment No. 28 – 1 April 2010
<b>SECTION 4</b>			
Section 4 - Page 4 -1	Amendment No. 28 – 1 Apr 2010		
Section 4 - Page 4 -2	Amendment No. 34 – 30 March 2018		
Section 4 - Page 4 - 3	Amendment No. 34 – 30 March 2018		
Section 4 - Page 4 - 4	Amendment No. 34 – 30 March 2018		
Section 4 - Page 4 - 5	Amendment No. 34 – 30 March 2018		
Section 4 - Page 4 - 6	Amendment No. 34 – 30 March 2018		
Section 4 - Page 4 - 7	Amendment No. 34 – 30 March 2018		
Section 4 - Page 4 - 8	Amendment No. 34 – 30 March 2018		
Section 4 - Page 4 - 9	Amendment No. 34 – 30 March 2018		
Section 4 - Page 4 -10	Amendment No. 34 – 30 March 2018		
Section 4 - Page 4 -11	Amendment No. 34 – 30 March 2018		
Section 4- Page 4 -12	Amendment No. 34 – 30 March 2018		
Section 4- Page 4 -13	Amendment No. 34 – 30 March 2018		
Section 4- Page 4 -14	Amendment No. 34 – 30 March 2018		

**LIST OF EFFECTIVE PAGES**

Page No.	Amendment No./Date	Page No.	Amendment No./Date
<b>SECTION 5</b>		<b>SECTION 7</b>	
Section 5 - Page 5 - 1	Amendment No. 24 – 15 May 2008	NO LEP REQUIRED	FOR THIS SECTION
Section 5 - Page 5 - 2	Amendment No. 24 – 15 May 2008		
Section 5 - Page 5 - 3	Amendment No. 34 – 30 March 2018		
Section 5 - Page 5 - 4	Amendment No. 34 – 30 March 2018	<b>SECTION 8</b>	
Annex "A" - Page 5A - 1	Amendment No. 24 – 15 May 2008	( Take note that that this SECTION 8 TDG is treated individually and has its own LEP and instructions page. This SECTION does not Follow the amendment # of the rest of this manual)	
Annex "A" - Page 5A - 2	Amendment No. 24 – 15 May 2008		
Annex "B" - Page 5B - 1	Amendment No. 33 – 1 June 2016		
Annex "B" - Page 5B - 2	Amendment No. 24 – 15 May 2008		
Annex "C" - Page 5C - 1	Amendment No. 24 – 15 May 2008		
Annex "C" - Page 5C - 2	Amendment No. 24 – 15 May 2008		
Annex "C" - Page 5C - 3	Amendment No. 34 – 30 March 2018		
Annex "D" - Page 5D - 1	Amendment No. 34 – 30 March 2018		
Annex "E" - Page 5E - 1	Amendment No. 24 – 15 May 2008		
<b>SECTION 6</b>			
Section 6 - Page 6 - 1	Amendment No. 30 – 15 Apr 2011		
Section 6 - Page 6 - 2	Amendment No. 30 – 15 Apr 2011		
Section 6 - Page 6 - 3	Amendment No. 30 – 15 Apr 2011		
Section 6 - Page 6 - 4	Amendment No. 30 – 15 Apr 2011		
Section 6 - Page 6 - 5	Amendment No. 30 – 15 Apr 2011		
Section 6 - Page 6 - 6	Amendment No. 30 – 15 Apr 2011		
Section 6 - Page 6 - 7	Amendment No. 30 – 15 Apr 2011		
Section 6 - Page 6 - 8	Amendment No. 34 – 30 March 2018		
Section 6 - Page 6 - 9	Amendment No. 34 – 30 March 2018		
Section 6 - Page 6 - 10	Amendment No. 34 – 30 March 2018		
Section 6 - Page 6 - 11	Amendment No. 34 – 30 March 2018		
Section 6 - Page 6 - 12	Amendment No. 34 – 30 March 2018		
Section 6 - Page 6 - 13	Amendment No. 34 – 30 March 2018		
Section 6 - Page 6 - 14	Amendment No. 34 – 30 March 2018		
Section 6 - Page 6 - 15	Amendment No. 34 – 30 March 2018		
Section 6 - Page 6 - 16	Amendment No. 35 – 10 Dec 2018		
Section 6 - Page 6 - 17	Amendment No. 35 – 10 Dec 2018		
Section 6 - Page 6-18	Amendment No. 35 – 10 Dec 2018		
Annex "A" - Page 6A - 1	Amendment No. 35 – 10 Dec 2018		
Annex "A" - Page 6A - 2	Amendment No. 35 – 10 Dec 2018		
Annex "B" - Page 6B - 1	Amendment No. 34 – 30 March 2018		
Annex "C" - Page 6C - 1	Amendment No. 34 – 30 March 2018		
Annex "C" - Page 6C - 2	Amendment No. 34 – 30 March 2018		
Annex "C" - Page 6C - 3	Amendment No. 34 – 30 March 2018		
Annex "C" - Page 6C - 4	Amendment No. 34 – 30 March 2018		
Annex "D" - Page 6D - 1	Amendment No. 34 – 30 March 2018		

**OPERATIONS LIBRARY – (hard or soft copy)**

Transport Canada (Aviation) Publications

Canadian Aviation Regulations (CARs) Part 1 - General

All Subparts

Canadian Aviation Regulations (CARs) Part VI - General Operating and Flight Rules

Subpart 600 - General Provisions

Subpart 601 - Airspace

Subpart 602 - Operating and Flight Rules

Subpart 605 - Aircraft Requirements

Subpart 606 - Miscellaneous

Canadian Aviation Regulations (CARs) Part VII - Commercial Air Services

Subpart 700 - General

Subpart 702 - Aerial Work Operations

Subpart 703 - Air Taxi Operations

Subpart 706 - Aircraft Maintenance Requirements for Air Operators

Commercial Air Service Standards (CASS)

Subpart 722 - Aircraft in Aerial Work Operations

Subpart 723 - Helicopters in Air Taxi Operations

Subpart 726 - Air Operator Maintenance

Aeronautical Information Manual Canada (AIM)

Canada Flight Supplement (CFS)

**Company Manuals**

Company Maintenance Control Manual

Company Operations Manual

**Other Manuals**

Bell 212 - Aircraft Flight Manual



**CAMPBELL HELICOPTERS LTD.**

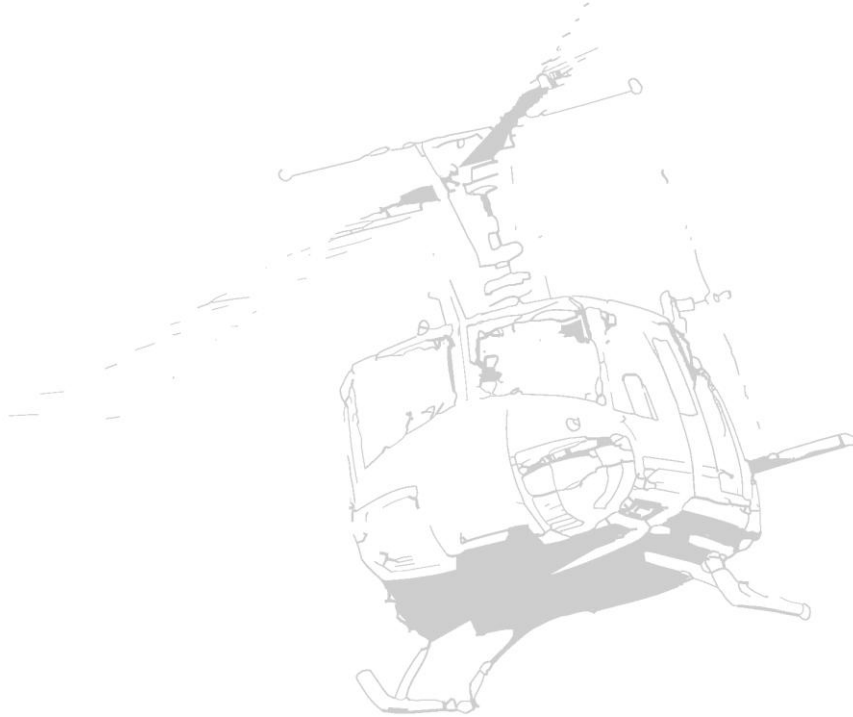
**SECTION 1 - INTRODUCTION**

## 1.1 INTRODUCTION TO CAMPBELL HELICOPTERS

Campbell Helicopters Ltd. operates a day VFR Aerial Work (CARs 702) and Air Taxi (CARs 703) service utilizing Bell 212 helicopters, from a base at the Abbotsford International Airport, Abbotsford, BC.

This Operations Manual is for the guidance and instruction of all Operations Personnel. This document outlines the authority by which operations are to be conducted. Copies of the Operating Certificates clearly indicate what services Campbell Helicopters is authorized to conduct and the Operations Manual is designed to ensure compliance with them.

Campbell Helicopters Ltd. Carries out maintenance and repairs through its own Approved Maintenance Organization (AMO) number 148-92 at their base in Abbotsford.



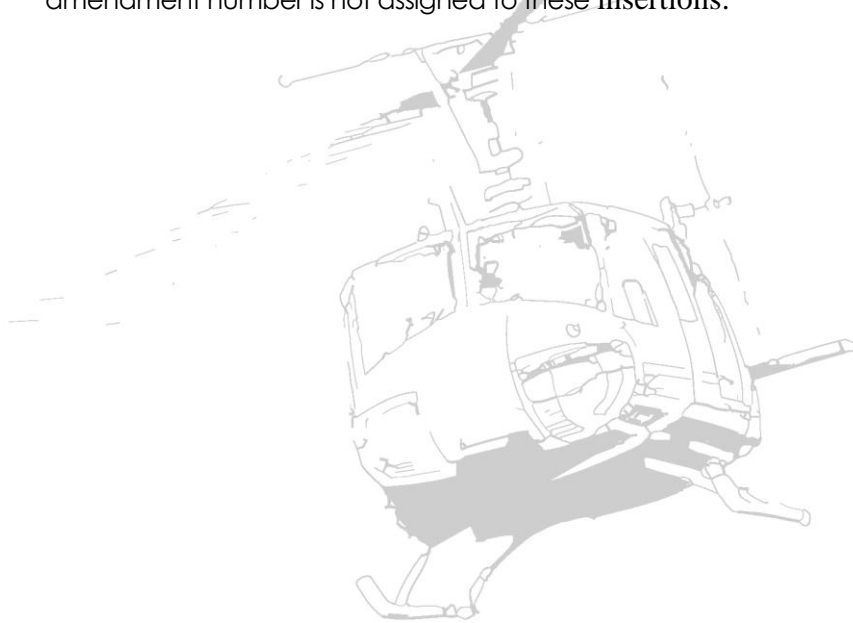
## 1.2 OPERATING CERTIFICATE

A copy of Campbell Helicopter Ltd's Operating Certificate is enclosed in this section.

The Air Operator Certificate and all Special Authorizations issued to the Air Operator shall be reproduced and placed in this Chapter to inform the staff involved in this operation what services are authorized and all conditions\restrictions that may be attached to them.

To simplify the amendment process of this Chapter when an Air Operator Certificate is reissued, the following steps shall be followed:

- (a) Transport Canada will place a copy of the amended Air Operator Certificate in their copy of the Company Operations Manual; therefore there is no need for the company to return a copy as an amendment to this manual; and
- (b) When received, the company will duplicate the reissued document and forward to all manual holders for insertion. Amendment instructions to manual holders should refer to the amended document/s by date of issue and indicate that an amendment number is not assigned to these **insertions**.



**AIR OPERATOR CERTIFICATE  
CERTIFICAT D'EXPLOITATION AÉRIENNE**

	<b>CANADA</b>	 Transport Canada <span style="margin-left: 20px;">Transports Canada</span>
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AOC No. / CEA n° :  <b>6649</b>	Legal Name / Dénomination sociale : <b>CAMPBELL HELICOPTERS LTD.</b>
Expiry Date / Date d'expiration :  <b>Valid until suspended, cancelled or revoked</b>  <b>Valide jusqu'à suspendu, annulé ou révoqué</b>	Operator address / Adresse de l'exploitant : <b>BOX 2008, ABBOTSFORD STATION A ABBOTSFORD, BRITISH COLUMBIA V2T 3T8 CANADA</b>  Telephone / Téléphone : <b>(604) 852-1122</b> Fax / Télécopieur : <b>(604) 852-4982</b> E-mail / Courriel : <b>campbellheli@telus.net</b>

Operational Points of Contact / Points de contact opérationnels :

**Contact details, at which operational management can be contacted without undue delay are listed in the Operations Manual Chapter Preamble, Section pg. vi.**

**Les coordonnées permettant de joindre sans délai excessif le service de gestion de l'exploitation figurent dans le chapitre Preamble, section pg. vi du manuel d'exploitation.**

This document certifies that **CAMPBELL HELICOPTERS LTD.** is authorized to perform the air operations as defined in the attached operations specifications, in accordance with the approved Operations Manual, *Canadian Aviation Regulations, Commercial Air Service Standards* and any special conditions attached.

Le présent document atteste que **CAMPBELL HELICOPTERS LTD.** a reçu l'autorisation d'effectuer les opérations de transport aérien indiquées dans les spécifications d'exploitation ci-jointes, conformément au Manuel d'exploitation, au *Règlement de l'aviation canadien, aux Normes de service aérien commercial* et si applicable aux conditions spéciales ci-jointes.


Date of Issue / Date de délivrance :  <b>2015-12-24</b>	Name and Signature / Nom et signature : <b>SHONA HIROTA</b> Title / Fonction : <b>Technical Team Lead, Flight Operations / Chef d'équipe technique, Opérations aériennes</b>    <hr/> <b>On behalf of the Minister of Transport - Au nom du ministre des Transports</b>
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I hereby certify that the attached document is a true copy of the **CAMPBELL HELICOPTERS LTD.** Air Operator Certificate (AOC) and associated operations specifications. Transport Canada Civil Aviation last revised this document in Ottawa, Ontario Canada on **December 24, 2015.**

Je certifie que le document ci-joint est une copie conforme du certificat d'exploitation aérienne (CEA) de **CAMPBELL HELICOPTERS LTD.** et des spécifications d'exploitation associées. Transports Canada Aviation civile a effectué la dernière révision du présent document, à Ottawa, Ontario Canada le **24 décembre 2015.**

Dated at Ottawa, Ontario Canada on **November 1, 2016**, on behalf of the Minister of Transport.

Fait à Ottawa, Ontario Canada, le **1 novembre 2016**, au nom du ministre des Transports.


  
  


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**On behalf of the Minister of Transport - Au nom du ministre des Transports**

This certificate supersedes and replaces the certificate currently in force, where applicable.  
Ce certificat annule et remplace le certificat présentement en vigueur, le cas échéant.



OPERATIONS SPECIFICATIONS SPÉCIFICATIONS D'EXPLOITATION					
subject to the approved conditions in the Operations Manual / sous réserve des conditions approuvées figurant dans le Manuel d'exploitation					
Issuing Authority Contact Details / Coordonnées de l'autorité de délivrance					
Telephone / Téléphone :	604-504-4664	Fax / Télécopieur :	855-618-6288	E-mail / Courriel :	shona.hirota@tc.gc.ca
AOC No. / CEA n° :	Legal Name / Dénomination sociale : <b>CAMPBELL HELICOPTERS LTD.</b>		Date of Issue / Date de délivrance :	 On behalf of the Minister of Transport Au nom du ministre des Transports	
CAR Rule / Règle du RAC :		703			
Aircraft / Aéronef :		BELL HELICOPTER UNITED STATES : B212 - BELL 212 NO SERIES EXISTS			
Type(s) of Operation / Type(s) d'exploitation :		AIR TRANSPORT SERVICE : / SERVICE DE TRANSPORT AÉRIEN : CARGO / FRET PASSENGER / PASSAGER			
Type(s) of Service / Type(s) de service :		DOMESTIC / INTÉRIEUR NON-SCHEDULED INTERNATIONAL / INTERNATIONAL À LA DEMANDE			
Type(s) of Aerial Work / Type(s) de travail aérien :					
Area(s) of Operation / Zone(s) d'exploitation :		NORTH AMERICA / AMÉRIQUE DU NORD			
Special Limitation(s) / Restriction(s) spéciale(s) :		DAY VFR / VFR DE JOUR			

SPECIAL AUTHORIZATIONS AUTORISATIONS SPÉCIALES	CAR RAC	SPECIFIC APPROVALS APPROBATIONS PARTICULIÈRES	REMARKS OBSERVATIONS
<b><u>DANGEROUS GOODS / MARCHANDISES DANGEREUSES</u></b>			
DANGEROUS GOODS (DG) MARCHANDISES DANGEREUSES (MD)	703.08(g) (x)	Yes Oui	
<b><u>FLIGHT CREW AUTHORIZATIONS / AUTORISATIONS D'ÉQUIPAGE DE CONDUITE</u></b>			
INCREASE IN FLIGHT DUTY TIME AUGMENTATION DU TEMPS DE SERVICE DE VOL	700.16(7) (a)		
INCREASE IN FLIGHT TIME AUGMENTATION DU TEMPS DE VOL	700.15(2) (a)		
TIME FREE FROM DUTY PÉRIODE SANS SERVICE	700.19(2) (a)		
<b><u>OTHER(S) / AUTRE(S)</u></b>			
AIRCRAFT OPERATING OVER WATER - HELICOPTERS UTILISATION D'UN AÉRONEF AU- DESSUS D'UN PLAN D'EAU	703.23		ALL AIRCRAFT TOUS LES AÉRONEFS
DAY VFR FLIGHT MINIMUM FLIGHT VISIBILITY - UNCONTROLLED AIRSPACE - HELICOPTERS VISIBILITÉ EN VOL MINIMAL EN VOL	703.28(2) (a)		ALL AIRCRAFT TOUS LES AÉRONEFS  CONDITIONS ATTACHED CONDITIONS ATTACHÉES
This Operations Specification supersedes the previous ID No: 2 and Revision: 1 dated 2015-12-23 Cette spécification d'exploitation annule et remplace le N° d'ID précédent: 2 et révision: 1 en date du 2015-12-23			
ID No. / N° d'ID: 2    Revision No. / N° de révision: 2			



SPECIAL AUTHORIZATIONS AUTORISATIONS SPÉCIALES	CAR RAC	SPECIFIC APPROVALS APPROBATIONS PARTICULIÈRES	REMARKS OBSERVATIONS
VFR DE JOUR - ESPACE AÉRIEN NON CONTRÔLE - HÉLICOPTÈRES			
<p><b>This Operations Specification supersedes the previous ID No: 2 and Revision: 1 dated 2015-12-23</b>  <b>Cette spécification d'exploitation annule et remplace le N° d'ID précédent: 2 et révision: 1 en date du 2015-12-23</b></p>			
<p><b>ID No. / N° d'ID: 2    Revision No. / N° de révision: 2</b></p>			



AOC No. / CEA n° : 6649

Legal Name / Dénomination sociale : CAMPBELL HELICOPTERS LTD.

OTHER(S) / AUTRE(S)

DAY VFR FLIGHT MINIMUM FLIGHT VISIBILITY - UNCONTROLLED AIRSPACE - HELICOPTERS - 703.28(2)(a)

VISIBILITÉ EN VOL MINIMAL EN VOL VFR DE JOUR - ESPACE AÉRIEN NON CONTRÔLE - HÉLICOPTÈRES - 703.28(2)(a)

**AUTHORIZATION**

This authorization is issued pursuant to paragraph 703.28(2)(a) of the *Canadian Aviation Regulations*.

Day VFR flight in uncontrolled airspace with flight visibility of less than one mile is authorized.

This authorization is valid if the air operator has trained the pilot in compliance with the requirements of section 723.28 of the *Commercial Air Service Standards*.


**AUTORISATION**

Cette autorisation est délivrée en vertu de l'alinéa 703.28(2)a) du *Règlement de l'aviation canadien*.

Un vol VFR de jour dans l'espace aérien non contrôlé est autorisé dans le cas où la visibilité en vol est inférieure à un mille.

Cette autorisation est valide si l'exploitant aérien a entraîné le pilote conformément aux exigences de l'article 723.28 des *Normes de service aérien commercial*.



OPERATIONS SPECIFICATIONS SPÉCIFICATIONS D'EXPLOITATION					
subject to the approved conditions in the Operations Manual / sous réserve des conditions approuvées figurant dans le Manuel d'exploitation					
Issuing Authority Contact Details / Coordonnées de l'autorité de délivrance					
Telephone / Téléphone :	604-504-4664	Fax / Télécopieur :	855-618-6288	E-mail / Courriel :	shona.hirota@tc.gc.ca
AOC No. / CEA n° :	Legal Name / Dénomination sociale : <b>CAMPBELL HELICOPTERS LTD.</b>		Date of Issue / Date de délivrance :	 On behalf of the Minister of Transport Au nom du ministre des Transports	
6649		2016-11-01			
CAR Rule / Règle du RAC :	702				
Aircraft / Aéronef :	BELL HELICOPTER UNITED STATES : B212 - BELL 212 NO SERIES EXISTS				
Type(s) of Operation / Type(s) d'exploitation :	AERIAL WORK / TRAVAIL AÉRIEN				
Type(s) of Service / Type(s) de service :	AERIAL WORK CAR 702 / RAC 702 TRAVAIL AÉRIEN				
Type(s) of Aerial Work / Type(s) de travail aérien :	AERIAL ADVERTISING / PUBLICITÉ AÉRIENNE AERIAL CONSTRUCTION / CONSTRUCTION A MOYEN D'AÉRONEFS AERIAL HARVESTING / RÉCOLTE AÉRIENNE AERIAL INSPECTION AND SURVEILLANCE / INSPECTION ET SURVEILLANCE AÉRIENNE AERIAL MAPPING / CARTOGRAPHIE AÉRIENNE AERIAL PHOTOGRAPHY / PHOTOGRAPHIE AÉRIENNE AERIAL SPRAYING / PULVÉRISATION AÉRIENNE AERIAL SURVEYING / LÈVE TOPOGRAPHIQUE AÉRIEN EXTERNAL LOAD / CHARGE EXTERNE FIRE FIGHTING / LUTTE CONTRE INCENDIE FOREST FIRE MANAGEMENT / GESTION DES INCENDIES DE FORÊT HELI-LOGGING / HÉLIDÉBARDAGE WILDLIFE MANAGEMENT / GESTION DE LA FAUNE				
Area(s) of Operation / Zone(s) d'exploitation :	NORTH AMERICA / AMÉRIQUE DU NORD				
Special Limitation(s) / Restriction(s) spéciale(s) :	DAY VFR / VFR DE JOUR				

SPECIAL AUTHORIZATIONS AUTORISATIONS SPÉCIALES	CAR RAC	SPECIFIC APPROVALS APPROBATIONS PARTICULIÈRES	REMARKS OBSERVATIONS
<b><u>DANGEROUS GOODS / MARCHANDISES DANGEREUSES</u></b>			
DANGEROUS GOODS (DG) MARCHANDISES DANGEREUSES (MD)	702.08(g) (xii)	Yes Oui	
<b><u>FLIGHT CREW AUTHORIZATIONS / AUTORISATIONS D'ÉQUIPAGE DE CONDUITE</u></b>			
INCREASE IN FLIGHT DUTY TIME AUGMENTATION DU TEMPS DE SERVICE DE VOL	700.16(7) (a)		
INCREASE IN FLIGHT TIME AUGMENTATION DU TEMPS DE VOL	700.15(2) (a)		
TIME FREE FROM DUTY PÉRIODE SANS SERVICE	700.19(2) (a)		
<b><u>NAFTA / NAFTA</u></b>			
NAFTA - SPECIALTY AIR SERVICES	702.01	Valid U.S.A. and Mexico	ALL AIRCRAFT
This Operations Specification supersedes the previous ID No: 1 and Revision: 1 dated 2015-12-23 Cette spécification d'exploitation annule et remplace le N° d'ID précédent: 1 et révision: 1 en date du 2015-12-23			
ID No. / N° d'ID: 1    Revision No. / N° de révision: 2			

SPECIAL AUTHORIZATIONS AUTORISATIONS SPÉCIALES	CAR RAC	SPECIFIC APPROVALS APPROBATIONS PARTICULIÈRES	REMARKS OBSERVATIONS
(AERIAL WORK) OPERATIONS (056)  ALENA - OPÉRATIONS DE SERVICES AÉRIENS SPÉCIALISÉS (TRAVAIL AÉRIEN) (056)		July 05, 2015 to July 05, 2016 CANADIAN AVIATION REGULATIONS 702.08 (g) (vii)	TOUS LES AÉRONEFS  Bell 212 (BH12) - C-GFDV, C-FMPZ, C-FBEP, C-FJUU, C-FJUT, C-GOGR, C-FRWF, C-GUWX, C-GFQN Authorized Pilots: CORNTHWAITTE, SHAWN WILLIAM.....- CH798595 DEUTSCHLANDER, ERWIN MARTIN.....- CH790784 JENNINGS, DWAYNE HARLEM.....- CH369330 McGREER, STEPHEN CHARLES.....- AH133224 NEILY, GREGORY SPENCE.....- AH76140 REDMAN, MICHAEL BRUCE.....- AH266110 Other Authorized Personnel: BARRAS, BRANDON ARTHUR.....- 510150 HARRINGTON, MARK NATHANIEL JAMES.....- 795229 KAMENJAS, NAZIF.....- 502280 MCGUIRE, RONALD ROBERT.....- 425459 WEBB, JERRY.....- 255466  CONDITIONS ATTACHED CONDITIONS ATTACHÉES
<b>OTHER(S) / AUTRE(S)</b>			
AIRCRAFT OPERATING OVER WATER - HELICOPTERS  UTILISATION D'UN AÉRONEF AU- DESSUS D'UN PLAN D'EAU	702.20		ALL AIRCRAFT TOUS LES AÉRONEFS
CARRIAGE OF PERSONS  TRANSPORT DES PERSONNES	702.16(a)		ALL AIRCRAFT TOUS LES AÉRONEFS
DAY VFR FLIGHT MINIMUM FLIGHT VISIBILITY - UNCONTROLLED AIRSPACE - HELICOPTERS  VISIBILITÉ EN VOL MINIMAL EN VOL VFR DE JOUR - ESPACE AÉRIEN NON CONTRÔLE - HÉLICOPTÈRES	702.17(2) (a)		ALL AIRCRAFT TOUS LES AÉRONEFS  CONDITIONS ATTACHED CONDITIONS ATTACHÉES
ENTERING OR LEAVING A HELICOPTER IN FLIGHT  ENTRER DANS UN HÉLICOPTÈRE OU LE QUITTER EN VOL	702.19		ALL AIRCRAFT TOUS LES AÉRONEFS
HELICOPTER CLASS D EXTERNAL LOADS (LIMITED) - SINGLE ENGINE HELICOPTER AND/OR MULTI- ENGINE HELICOPTER (NOT CAPABLE OF HOVERING ONE ENGINE INOPERATIVE)  CHARGES EXTERNES DE CLASSE D HÉLICOPTÈRE (LIMITÉ) - HÉLICOPTÈRE MONOMOTEUR ET/OU MULTI-MOTEUR HÉLICOPTÈRE(PAS CAPABLE DE VOL STATIONNAIRE AVEC UN MOTEUR INOPÉRANT)	702.21(2)		ALL AIRCRAFT TOUS LES AÉRONEFS
<b>This Operations Specification supersedes the previous ID No: 1 and Revision: 1 dated 2015-12-23 Cette spécification d'exploitation annule et remplace le N° d'ID précédent: 1 et révision: 1 en date du 2015-12-23</b>			
<b>ID No. / N° d'ID: 1    Revision No. / N° de révision: 2</b>			



AOO No. / CEA n° : 6649

Legal Name / Dénomination sociale : CAMPBELL HELICOPTERS LTD.  
NAFTA

NAFTA - SPECIALTY AIR SERVICES (AERIAL WORK) OPERATIONS (056) - 702.01

ALENA - OPÉRATIONS DE SERVICES AÉRIENS SPÉCIALISÉS (TRAVAIL AÉRIEN) (056) - 702.01

**CONDITIONS**

This authorization is issued subject to the following conditions:

- (a) prior to commencement of operations in the United States of America or Mexico, the air operator must acquire a certificate of authorization from the foreign Civil Aviation Authority (CAA);
- (b) a thorough inspection of the aircraft and special equipment shall be made prior to each days operations;
- (c) other than flight crew members, the following persons may be carried on board the aircraft:
  - (i) the person is a flight crew member trainee, is a person undergoing training for essential duties during flight or is an air operator employee aircraft maintenance technician;
  - (ii) the person is a fire fighter or fire control officer being carried within a forest fire area;
  - (iii) the person is being carried to an aerial work site, performs an essential function in connection with the aerial work operation and is necessary to accomplish the aerial work operation;
  - (iv) during helicopter external load operations, persons not essential during flight are carried only in conjunction with a Class D load which complies with subsection 702.21(1) of the *Canadian Aviation Regulations*, except for crew members undergoing training, or fire fighters carried only in conjunction with a Class B load consisting of equipment necessary to fight fires within a forest fire area; and
  - (v) persons are safety briefed in accordance with section 722.23 of the Aerial Work Standard.
- (d) the Transport Canada, Civil Aviation regional office must be notified of any changes to the list of aircraft or of the pilot names listed in this operations specification which will be amended and a copy of which shall be provided by the air operator to the appropriate CAA of the country where the operations are carried out;
- (e) liability insurance must be carried on board the aircraft prior to operations in the United States of America or Mexico;
- (f) prior to commencement of operations in Mexico the air operator must comply with its survival equipment requirements;
- (g) this authorization will be renewed upon application to the appropriate Transport Canada, Civil Aviation regional office;
- (h) this authorization and the operating authority issued by the foreign CAA, must be carried on board the aircraft while operating specialty air services operations; and
- (i) this authorization may be canceled by the Minister in writing where he is of the opinion that it is no longer in the public interest or that it is likely to affect aviation safety or on the date on which any of the conditions set out in this authorization is breached.

**CONDITIONS**

La présente autorisation est accordée sous réserve des conditions suivantes:

- a) avant le début des opérations aux États-Unis de l'Amérique ou du Mexique, l'exploitant aérien doit se procurer un certificat d'autorisation de l'autorité de l'aviation civile(AAC);
- b) avant le début des opérations de chaque jour une inspection complète de l'aéronef et de l'équipement doit être effectuée;
- c) autre que les membres d'équipage de conduite, les personnes suivantes peuvent être transportées à bord de l'aéronef:
  - (i) cette personne est un membre d'équipage de conduite en formation, reçoit une formation pour assumer des tâches essentielles en vol ou est un technicien d'entretien d'aéronef employé par l'exploitant aérien;
  - (ii) cette personne est pompier ou agent de lutte contre les incendies et elle est transportée dans la zone d'un incendie de forêt;
  - (iii) cette personne est transportée vers un chantier de travaux aériens, assume des fonctions essentielles reliées aux travaux aériens, et sa présence est nécessaire à l'exécution desdits travaux;
  - (iv) pendant le transport de charges externes par hélicoptère, les personnes non essentielles pendant le vol ne sont transportées seulement que sur un appareil dont la configuration est approuvée pour le transport de charges externes de classe D selon le paragraphe 702.21(1) du *Règlement de l'aviation canadien*, sauf s'il s'agit de membres d'équipage en cours de formation ou de pompiers transportés uniquement avec une charge de classe B composée de l'équipement nécessaire à combattre les incendies dans la zone d'un incendie de forêt; et
  - (v) cette personne a reçu les exposés de sécurité conformément à l'article 722.23 des Normes régissant l'utilisation d'aéronefs pour effectuer des travaux aériens;
- d) le bureau régional de Transports Canada, Aviation civile doit être avisé de tous changements à la liste d'aéronefs ou de pilotes inscrits à la spécification d'exploitation qui sera modifiée et une copie de laquelle sera présentée par l'exploitant aérien à la AAC du pays approprié ou les opérations sont effectuées;
- e) avant le début des opérations aux États-Unis de l'Amérique ou du Mexique une attestation d'assurance responsabilité doit être transportée à bord de l'aéronef;
- f) avant le début des opérations au Mexique l'exploitant aérien doit se conformer aux exigences en matière d'équipement de survie;
- g) lorsqu'une demande est présentée auprès du bureau approprié régional de Transports Canada, Aviation civile cette autorisation sera renouvelée;
- h) lors de l'exploitation de services aériens spécialisés on doit transporter à bord de l'aéronef cette autorisation et l'autorisation délivrée par la AAC étrangère;
- i) cette autorisation peut être annulée par écrit par le ministre s'il estime que son application n'est plus dans l'intérêt public et que la sécurité aérienne risque d'être compromise et à la date à laquelle toute condition énoncée à la présente autorisation cesse d'être respectée.



AOE No. / CEA n° : 6649

Legal Name / Dénomination sociale : CAMPBELL HELICOPTERS LTD.

OTHER(S) / AUTRE(S)

DAY VFR FLIGHT MINIMUM FLIGHT VISIBILITY - UNCONTROLLED AIRSPACE - HELICOPTERS - 702.17(2)(a)

VISIBILITÉ EN VOL MINIMAL EN VOL VFR DE JOUR - ESPACE AÉRIEN NON CONTRÔLE - HÉLICOPTÈRES - 702.17(2)(a)

**AUTHORIZATION**

This authorization is issued pursuant to paragraph 702.17(2)(a) of the *Canadian Aviation Regulations*.

Day VFR flight within uncontrolled airspace with flight visibility of less than one mile is authorized.

This authorization is valid if the air operator has trained the pilot in compliance with the requirements of section 722.17 of the *Commercial Air Service Standards*

**AUTORISATION**

La présente autorisation est délivrée en vertu de l'alinéa 702.17 (2)a du *Règlement de l'aviation canadien*.

Un vol VFR de jour dans l'espace aérien non contrôlé est autorisé dans le cas où la visibilité en vol est inférieure à un mille.

La présente autorisation est valide si l'exploitant aérien a entraîné le pilote conformément aux exigences de l'article 722.17 des *Normes de service aérien commercial*.



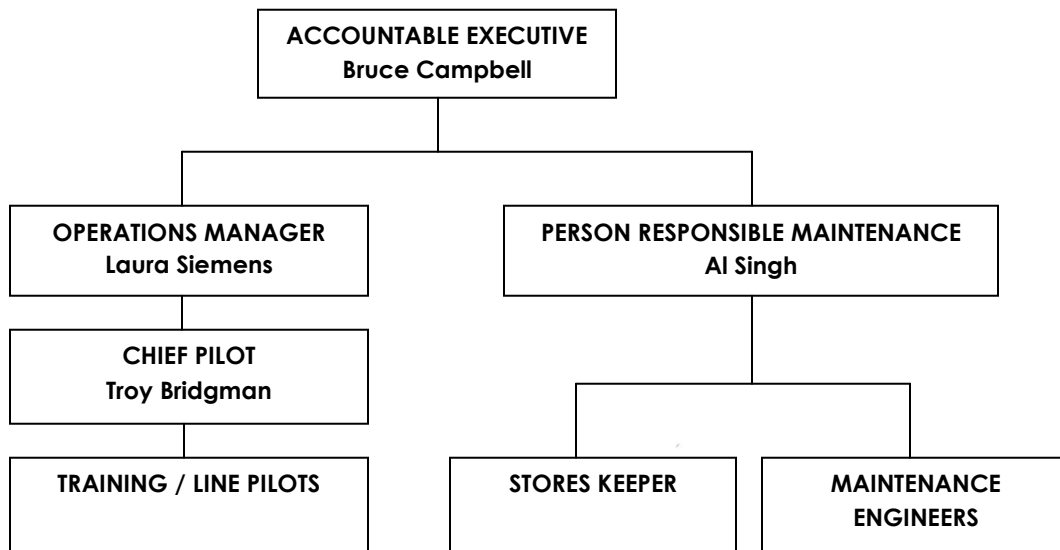
<b>BASES AND SCHEDULED POINTS / BASES ET POINTS RÉGULIERS</b>		
<b>subject to the approved conditions in the Operations Manual / sous réserve des conditions approuvées figurant dans le Manuel d'exploitation</b>		
AOC No. / CEA n° :  <b>6649</b>	Legal Name / Dénomination sociale : <b>CAMPBELL HELICOPTERS LTD.</b>	
<b>BASES AND SCHEDULED POINTS BASES ET POINTS RÉGULIERS</b>	<b>ISSUED DÉLIVRÉE</b>	<b>AIRCRAFT AÉRONEFS AUTORISÉS</b>
<b><u>MAIN BASE / BASE PRINCIPALE</u></b>		
CYXX - ABBOTSFORD	2015-12-23	ALL / TOUS



**CAMPBELL HELICOPTERS LTD.**  
**SECTION 2 – COMPANY ORGANIZATION**



## 2.1 COMPANY MANAGEMENT STRUCTURE



## 2.2 DUTIES AND RESPONSIBILITIES

### 2.2.1 Operations Manager

The Operations Manager is responsible for the direction of safe flight operations. In particular, the responsibilities of the position include:

- a) control of operations and operational standards of all helicopters operated;
- b) the identification of operations coordination functions which impact on operational control (e.g. Maintenance, crew scheduling, load control, equipment scheduling);
- c) supervision, organization, manning and efficiency of the following:
  - i) cabin safety;
  - ii) crew scheduling and rostering;
  - iii) training program; and
  - iv) flight safety.
- d) the contents of the air operator's Company Operations Manual;
- e) the supervision of and the production and amendment of the Company Operations Manual;
- f) liaison with the regulatory authority on all matters concerning flight operations including any variation to the Air Operator Certificate;

- g) liaison with any external agencies which may affect air operator operations;
- h) ensuring that the air operator's operations are conducted in accordance with current regulations, standards and air operators policy;
- i) ensuring that crew scheduling complies with flight and duty time regulations;
- j) ensuring that all crew members are kept informed of any changes to the regulations and standards;
- k) the receipt and action of any aeronautical information affecting the safety of flight;
- l) the dissemination of helicopter safety information, both internal and external;
- m) qualifications of flight crew; and
- n) maintenance of current operations library.

In the Operations Manager's absence, all responsibilities for operational duties shall be delegated to the Chief Pilot.

### **2.2.2 Chief Pilot**

The Chief Pilot shall report to the Operations Manager and is responsible for the professional standards of the flight crews.

The responsibilities shall include all items listed in the Canadian Aviation Regulations, Standards Respecting the Use of Helicopters in Day/VFR Aerial Work and Air Taxi service, Cass 722.07(2)(b)(ii) and 723.07(2)(b)(ii).

- a) Recruitment and assessment of suitability of initial hire pilots;
- b) Supervision and development of company pilots;
- c) Production and amendment of the Company Operations Manual;
- d) Implementing and maintaining records for the pilot training program;
- e) Reviewing all company aviation accidents, incidents and occurrences and making recommendations to the Operations Manager regarding corrective action;
- f) Issuing directives to pilots;
- g) Receiving and processing flight crew reports; and
- h) Assuming any responsibilities delegated by the Operations Manager.

In the absence of the Chief Pilot, all Chief Pilot responsibilities will be delegated to the Company Training Pilot.

### 2.2.3 Training Pilot

The Training Pilot shall be qualified in accordance with CASS723.115(4). He is responsible, together with the Chief Pilot, for the establishment and promulgation of the standards and piloting techniques with which flight crew will be expected to comply during flight operations and which flight crew will be required to demonstrate during initial and recurrent checks, in accordance with all Regulation, Standards and this manual. In particular the Training Pilot is responsible for:

- a) conducting ground and flight training of all flight crew in accordance with the approved training program;
- b) supervision of the standards and identifying problems which may require the provision of extra training or changes in operational procedures;
- c) maintaining the Air Operator's training records;
- d) liaison with crew scheduling concerning training details (when applicable); and
- e) any responsibilities assigned by the Chief Pilot.

### 2.2.4 Pilot-in-Command (PIC)

The pilot-in-command is responsible to the Chief Pilot and will ensure the safe conduct of a flight.

The pilot-in-command will ensure that each flight is conducted in accordance with all regulations and the company operations manual

The PIC shall be responsible for the operation and safety of the aircraft he/she commands and for the safety of all persons onboard during flight time. For this purpose he/she will have final authority for the disposition of the aircraft during the time in which he/she is in command.

#### 2.2.4.1 Pilot-in-Command – Pre-Flight

*Before the flight the Pilot-in-Command shall:*

Familiarize himself/ herself thoroughly, on the basis of the latest available information, with:

- (a) The planned route, all applicable NOTAMS where available and he/she shall complete an operational flight plan and/or flight plan/flight itinerary as applicable;
- (b) The aerodromes planned for normal or emergency use;
- (c) The reported and forecast winds for the route;
- (d) The reported and forecast meteorological conditions for the route, destination and alternate aerodromes or landing sites; and

- (e) The navigation and radio aids to be used (if available).

Satisfy himself/herself that:

- (a) The aircraft equipment including emergency, survival and safety equipment required for the flight is installed;
- (b) The maps, charts and navigation equipment required for the flight are readily available in the aircraft;
- (c) The aircraft is airworthy, has been released for service and pre-flight inspection has been conducted in accordance with the Flight Manual;
- (d) The required documents and manuals are onboard
- (e) The load carried is secured to prevent shifting in flight, and the weight and balance is calculated and is within the permissible range;
- (f) The gross weight of the aircraft is such that its performance can meet the requirements for the conditions expected to be encountered on the flight;
- (g) The fuel and oil is adequate to fly to the aerodrome or landing site to which the flight is planned and thereafter for a period of 20 minutes at normal cruise speed;
- (h) The presence of dangerous goods on board is documented and the conditions governing their carriage are observed;
- (i) Brief passengers in accordance the requirements outlined in Section 4;
- (j) All doors are secured; and
- (k) The company pre-flight checks have been correctly carried out.

#### **2.2.4.2 Pilot-in-Command – In Flight**

*Throughout the flight, the PIC shall ensure that:*

- (a) The aircraft is operated in accordance with all applicable orders and regulations, however, should an emergency arise endangering the safety of the aircraft or persons, the PIC shall take such action as he/she judges necessary and advise, without delay, the appropriate authority of the action taken;
- (b) The checks devised for use in the various phases of flight are carried out;
- (c) The relevant instructions and limitations described in the Operations Manual, the Aircraft Flight Manual and the Certificate of Airworthiness for the operation of the aircraft are observed;

- (d) Air Traffic Control communication requirements are met, reporting procedures are complied with and reports of hazardous conditions encountered are passed to the appropriate agency;
- (e) At least one qualified pilot is at the controls at all times with seat belt fastened throughout the flight;
- (f) A continuous watch is maintained with enroute facilities (when possible); and
- (g) FSS or appropriate agency is informed of any departure from, or change to, the flight plan or flight itinerary.

### 2.2.4.3 Pilot-in-Command – Post Flight

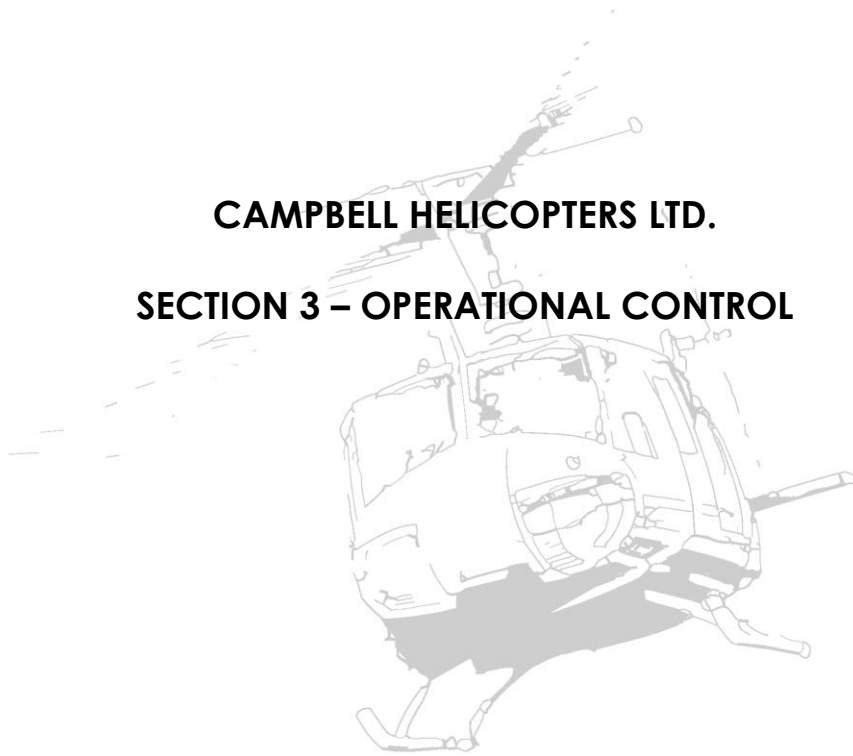
*After each flight, the Pilot-in-Command shall ensure that:*

- (a) All known or suspected defects of the aircraft shall be communicated to the engineering staff and are recorded in the Aircraft Journey Logbook as per the approved in the Maintenance Control Manual;
- (b) The aircraft journey log book is completed in accordance with the CASS;
- (c) All company documents as may be required are completed and submitted;
- (d) The aircraft is properly shut-down, protected from the elements and secured; and
- (e) The flight plan, flight itinerary or operational flight plan is closed.

### 2.2.5 Person Responsible Maintenance (PRM)

The Person Responsible Maintenance is responsible to the President for the co-ordination of the maintenance functions. He will ensure that these activities are accomplished in accordance with the policies and procedures defined in the Maintenance Control Manual (CARs 706.03). He shall have the authority and responsibility to remove aircraft from operational status according to CARs 706.03(1)(C), because of non-compliance with the requirements of the CARs or because the operation of the aircraft could have an adverse effect on the safety of the aircraft, other aircraft, persons, animals or property.

**CAMPBELL HELICOPTERS LTD.**  
**SECTION 3 – OPERATIONAL CONTROL**



### 3.1 TYPE “D” OPERATIONAL CONTROL SYSTEM

#### 3.1.1 Requirement

Operations conducted under Subpart 702, Subpart 703 require a Type D operational control system with CASS 723.16.

#### 3.1.2 Responsibility and Authority

“Operational control”, in respect of a flight, means the exercise of authority over the initiation, continuation, diversion, or termination of the flight.

Operational control is delegated to the Pilot-in-Command of a flight by the Operations Manager, who retains responsibility for the day-to-day conduct of flight operations.

#### 3.1.3 Information Centers

Current information on the location of Campbell Helicopters aircraft will be maintained at the main base, a sub-base, or where appropriate, the location from which flight following is being carried out or a temporary base of operations. The information will be readily available to the Operations Manager.

#### 3.1.4 Communications

Each helicopter shall be equipped with serviceable and functioning communications equipment that permits the Pilot-in-Command to communicate with a ground radio station for the purpose of flight following. Such a ground station may be operated by the government, the air operator or a private agency.

### 3.2 FLIGHT FOLLOWING

#### 3.2.1 Definition

Flight Following is the monitoring of a flight's progress and the notification of appropriate company and Search-and-Rescue authorities if the flight is overdue or missing.

#### 3.2.2 Requirements

Each flight shall be conducted under a VFR Flight Plan or Flight Itinerary. A Flight Itinerary may be filed with a Flight Service Station, a company-designated flight-follower, or a responsible person. Any company employee who has not received training as a flight follower in accordance with this manual shall not be used as a company-designated flight-follower, (but may be used as a “responsible person” for the purposes of filing a flight itinerary if desired).

“Responsible person” means an individual who has agreed with the person who has filed a flight itinerary, to notify an alerting agency (e.g. air traffic control unit, a flight service station, a community aerodrome radio station, or a Rescue Co-ordination Centre), if the aircraft is overdue.

### 3.2.3 Disposition and Retention of Flight Itineraries and Flight Plans

A copy of the Flight Plan or Flight Itinerary will be left at the point of departure.

A flight itinerary may be on a Transport Canada form (AIM RAC 3.16), any other form which provides space for the same information (listed on the back of CFS), or on a wallboard, as in section 3.2.4.

Unless the flight originates and terminates on the same day at the same airport, then a written copy of the Flight itinerary or Flight Plan must be retained by the company.

The Flight Itineraries and Plans will be retained for six month or until Transport Canada audit has been completed on the Company. When an audit has been completed, Flight Itineraries and Flight Plans up to the audit date or after six months may be destroyed. Flight Itineraries and Flight Plans from the date of audit forward must be kept until the next audit, or for six months, whichever comes first.

### 3.2.4 Flight Follower Procedures

Flight Itinerary or Flight Plan filed with a Flight Service Station - the pilot-in-command will:

- a) advise FSS of any pertinent changes to the flight itinerary as soon as possible;
- b) advise FSS when the flight has been completed;

Flight Itinerary filed with a company flight-follower - the pilot-in-command will either:

- a) complete a Company Flight Itinerary; or
- b) mark the route, ETD, ETA, fuel load, and SAR Time on the wall board map, and check that the flight follower has all the other details required on the company flight itinerary form on file; and
- c) advise the flight-follower of any pertinent changes to the flight itinerary as soon as possible;
- d) advise the flight-follower when the flight has been completed.

Flight Itinerary filed with a responsible person - the pilot-in-command will:

- a) designate a responsible person as a flight-follower and list that on the Company Flight Itinerary;
- b) provide the person with, and brief the person on, the following documents:
  - i) the completed Company Flight Itinerary;
  - ii) a map marked with the intended route;
  - iii) the Campbell Helicopters Missing or Overdue Aircraft Checklist (see Section 5 - Annex "B")



- c) advise the person of the details of the intended flight; in particular, the estimated time of arrival and SAR time;
- d) advise the person of any pertinent changes to the flight itinerary as soon as possible;
- e) advise the person when the flight has been completed.

### 3.3 DISSEMINATION OF OPERATIONAL INFORMATION

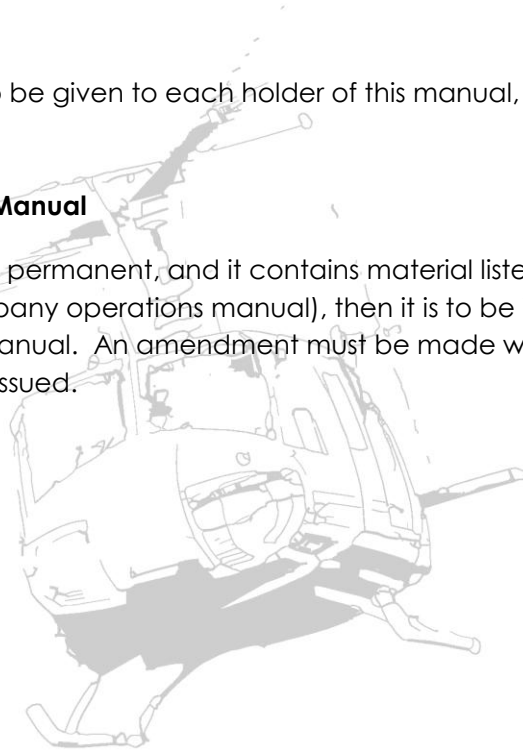
#### 3.3.1 Bulletins and Directives

The Operations Manager will disseminate operational information to pilots and other personnel through the use of company directives and bulletins. These directives and bulletins will be retained at all bases of operations. Each pilot, and any other person concerned with operations, is to acknowledge that they have read and understood the directive or bulletin.

Bulletins and directives will also be given to each holder of this manual, and are to be inserted in Section 7.

#### 3.3.2 Incorporation into this Manual

If a bulletin or directive is to be permanent, and it contains material listed in CASS 722.82 or 723.105 (contents of a company operations manual), then it is to be incorporated into the next amendment to this manual. An amendment must be made within one year of the directive or bulletin being issued.





**CAMPBELL HELICOPTERS LTD.**  
**SECTION 4 - FLIGHT OPERATIONS**

## 4.0 WEATHER MINIMA

### 4.1 VFR

All Campbell Helicopters operations shall be conducted under VFR or, when authorized by an Air Traffic Control unit, Special VFR, except when qualified to fly in lower visibility in accordance with 4.1.2 below.

VFR weather limits for a helicopter, by day, are that the helicopter is operated with visual reference to the surface;

Controlled airspace:

- a) flight visibility is not less than three miles;
- b) the distance from cloud is not less than 500 feet vertically and one mile horizontally; and
- c) within a control zone,
  - (i) when reported, ground visibility is not less than three miles, and
  - (ii) except when taking off or landing, the distance of the helicopter from the surface is not less than 500 feet.

Uncontrolled airspace:

- a) flight visibility is not less than one mile, and
  - (i) at or above 1,000 feet AGL the distance of the helicopter from cloud is not less than 500 feet vertically and 2,000 feet horizontally; or
  - (ii) at less than 1,000 feet AGL the helicopter is operated clear of cloud.

Special VFR weather limits for a helicopter are that the helicopter is operated clear of cloud and with visual reference to the surface at all times, with a flight visibility of not less than one-half mile. Authorization for SVFR must be requested and obtained from the appropriate air traffic control unit.

#### 4.1.1 Minimum Altitudes and Distances – Day VFR

An aircraft shall be deemed to be operated over a built-up area or over an open-air assembly of persons where that built-up area or an open-air assembly of persons is within a horizontal distance of 500 feet from a helicopter. Except where conducting a take-off, approach or landing, no person shall operate an aircraft;

- a) over a built-up area or over an open-air assembly of persons unless the aircraft is operated at an altitude from which, in the event of an emergency necessitating an immediate landing, it would be possible to land the aircraft without creating a hazard to persons or property on the

surface, and, in any case, at an altitude that is not lower than 1,000 feet above the highest obstacle located within a horizontal distance of 500 feet from the helicopter;

- b) in circumstances other than those referred to in paragraph a), at a distance less than 500 feet from any person, vessel, vehicle or structure; and
- c) where the aircraft is operated within a control zone and except when taking off or landing, the distance of the helicopter from the surface is not less than 500 feet.

#### 4.1.2 Flight Operations in Reduced Visibility

Campbell Helicopters Ltd. may operate a helicopter in Day VFR flight within uncontrolled airspace at less than 1000 feet AGL when the visibility is one half mile or greater.

Prior to undertaking any flight, especially when reduced visibility conditions are anticipated, company pilots will familiarize themselves thoroughly, with the weather, the route, terrain, obstacles, possible diversion routes, alternates and fuel requirements, providing the following conditions are met:

- a) Pilots have achieved at least 1000 hours of pilot-in-command experience in helicopters;
- b) Helicopters will be operated at a reduced air speed that will provide the pilot-in-command adequate opportunity to see and avoid obstacles. Minimum safe flying speed for each helicopter type Campbell Helicopters Ltd. operates shall be in accordance with the Height/Velocity diagram in the approved RFM for the applicable type, but in any case not less than 40kts.
- c) Pilots will receive initially and every three years thereafter, a Pilot Decision Making course which will include the following topics:
  - (i) The decision making process, including modules on factors which affect good judgment;
  - (ii) Human performance factors, including modules on physical, psychological and, physiological phenomena and limitations; and
  - (iii) Human error countermeasures and good airmanship.
- d) Pilots will have received initial and recurrent flight training for operations in reduced visibility as detailed in Section **6.20** of this Company Operations Manual.

## 4.2 VFR OVER-THE-TOP

VFR over-the-top flights are prohibited.

## 4.3 IFR AND NIGHT VFR FLIGHT

IFR and night VFR flights are prohibited.

## 4.4 FUEL AND OIL REQUIREMENTS

All flights will be operated in accordance with fuel and oil requirements as described in the CARs 602.88. Requirements are also found in AIM, RAC 3.13.

All Campbell Helicopters aircraft will carry sufficient fuel to fly to the destination to which the flight is planned and thereafter for a period of twenty minutes at normal cruising speed.

In addition every aircraft must carry enough fuel to provide for:

- a) meteorological conditions:
  - (i) wind;
  - (ii) reduced visibility (reduced airspeed);
- b) ATC routing and traffic delays; and
- c) conditions that may delay the landing of the helicopter.

## 4.5 WEIGHT AND BALANCE SYSTEM

### 4.5.1 Responsibility

The pilot-in-command will ensure that the aircraft is operated within weight and balance limitations as set out in the aircraft flight manual. The pilot-in-command will also personally check that floor loading limits in the aircraft flight manual are not exceeded, and that cargo is properly restrained.

### 4.5.2 Operational Empty Weight

The Operations Manual assigned to each aircraft, has an additional section added that will contain the operational empty weight and center of gravity for that aircraft in each configuration. The operational empty weight will include "all oils full" and "un-useable fuel"

### 4.5.3 Cargo Weight

Use actual cargo weights determined by weighing, from labels or placards, or when unavailable by estimation.

#### 4.5.4 Passenger weight

Whenever possible, actual passenger weights shall also be used, however, in those cases where actual passenger weights are not available, the following weights can be used as a guide:

	Summer (Mar 15 - Oct 14)	Winter (Oct 15 - Mar 14)
<b>Male</b>	200 pounds	206 pounds
<b>Female</b>	165 pounds	171 pounds
<b>Children (2-11 yrs)</b>	75 pounds	75 pounds
<b>Infants*</b>	30 pounds	30 pounds

\* Add where infants exceed 10% of Adults

**NOTE 1:** On any flight identified as carrying a number of passenger whose weights, including carry-on baggage, will exceed the company-approved standard weights, or the average weights published in the AIP, the actual weight of such passengers are to be used. The actual weights are to be obtained as described in **4.5.4.1**.

**NOTE 2:** Where no-carry-on baggage is permitted or involved, the AIM average weights for males and females may be reduced by 13 lbs or 5.9 kg.

##### 4.5.4.1 Actual Weights

Actual weights are best determined by weighing each passenger, including exterior clothing and carry-on baggage. Where weight scales are not available, and company approved standard weights or AIM average weights are not appropriate, passenger weights may be determined by:

- a) asking each passenger for their weight;
- b) adding on an allowance for clothing\*; and
- c) adding on 13 lbs or 5.9 kg per passenger, except infants, if carry-on baggage is permitted.

\* Clothing is not normally worn during personal weight measurements. An allowance of at least 8 lbs or 3.6 kg in summer, or 14 lbs or 6.4 kg in winter is to be used.

#### 4.5.5 Liquid weights

For volume to weight calculations at 15°C use:

	AvGas	Jet "A"	Water
<b>lbs/liter</b>	1.6	1.9	2.2
<b>lbs/US gal</b>	6.0	7.2	8.31
<b>lbs/Imp gal</b>	6.8	8.4	10.0

#### 4.5.6 Calculation

The weight and balance will either be calculated on the company weight and balance form or with a software program prior to take-off. The worst case sample weight and balance calculation for the actual type can be used (located in Annex H) instead an actual weight and balance, providing the weight and configuration falls within the same

parameters. Actual cargo weights shall be used at all times for Weight and Balance calculations.

#### **4.5.7 Training**

Each pilot will receive annual training, including a full weight and balance calculation.

### **4.6 CARGO AND CARRY-ON BAGGAGE**

The pilot-in-command is responsible for ensuring that all equipment or cargo will be restrained by a safety belt, net or other tie-down so as to prevent it from shifting during take-off, landing and in-flight turbulence.

At least one unobstructed emergency or normal exit must be available for use by persons on board the aircraft.

Carry-on baggage must be placed so as to prevent it from shifting during take-off and landing and in-flight turbulence.

### **4.7 CHECKLISTS AND FLIGHT MANUALS**

The pilot-in-command will be familiar with the aircraft flight manual information and performance data for the intended flight and shall operate the aircraft in accordance with the limitations set out in the flight manual.

Normal and emergency checklists as described in CAR 602.60 must be carried on board each aircraft.

Aircraft checklists shall be available to the pilot and should be used in Aerial Work and Air Taxi operations.

### **4.8 MAINTENANCE DISCREPANCY REPORTING**

The Maintenance Engineer, assigned to the aircraft, will ensure that all scheduled inspections are carried out in accordance with the company maintenance control manual.

The pilot-in-command will ensure that the aircraft is serviceable for flight by:

- a) reviewing the aircraft journey log book;
- b) performing a pre-flight check;
- c) as necessary, consulting the Maintenance Engineer, assigned to the aircraft.

The pilot-in-command will record all unserviceabilities in the aircraft journey log book as soon as possible (i.e. after landing). The pilot-in-command will, as soon as possible, advise the Maintenance Engineer, assigned to the aircraft, of all aircraft unserviceabilities. The Maintenance Engineer will then arrange for the aircraft repairs

## 4.9 FLIGHT IN HAZARDOUS CONDITIONS

Flight in icing, thunderstorms and whiteout conditions is prohibited.

Company aircraft **are not equipped and are not authorized** to operate in icing conditions. Pilots shall not commence a flight when icing conditions are reported to exist or are forecast to be encountered during the flight unless;

- (a) current weather reports or pilot reports or briefing information relied upon by the pilot-in-command indicate that the forecast icing conditions that would otherwise prohibit the flight will not be encountered during the flight because of changed weather conditions since the forecast was issued no longer exist. (CAR 605.30)

### 4.9.1 Actions on Encountering Adverse Weather Conditions

**Icing** – The best course of action upon encountering icing conditions is to reverse course or look for warmer air by descending or going to ground.

If icing conditions are encountered en route the aircraft shall leave the icing area immediately. If this is not possible the aircraft shall be landed at the nearest suitable landing area.

**Thunderstorms** – The best course of action is to alter course to avoid the area or go to ground to await the thunderstorm's passage. Anticipate severe wind shear, rapid temperature change, lightning, heavy rain, hail, and scud roll. If thunderstorms are encountered enroute and cannot be circumnavigated, the aircraft shall return to the point of departure or land at the nearest suitable landing area.

**Whiteout** – Characterized by overcast sky conditions (flat light), poor depth definition, and no perception of aircraft movement. Should an aircraft inadvertently enter these conditions the pilot shall transition to instruments, reverse course if possible, and attempt to identify a discernible surface feature that can assist with depth perception.

## 4.10 OPERATION IN HIGH DENSITY ALTITUDES

Pilots must consult the performance charts in the aircraft flight manual when conducting operations at high density altitudes.

Pilots must be aware that increases in temperature and/or altitude will result in a deterioration of aircraft performance.

## 4.11 ICE, FROST AND SNOW CRITICAL SURFACE CONTAMINATION

"Critical surfaces" means the rotors, horizontal stabilizers, vertical stabilizers or any other stabilizing surface of any helicopter the company operates.



No pilot shall conduct or attempt to conduct a take-off in an aircraft that has frost, ice or snow adhering to any of its critical surfaces.

During winter operation and transition periods (spring or fall) or if it is reasonable to expect that frost, ice or snow is adhering to any critical surface of the helicopter the pilot-in-command must perform an inspection of the aircraft prior to take-off. Special attention must be given to main rotor blades and horizontal stabilizer if any frost, ice or snow adheres to them. If so, the frost, ice or snow can usually be removed by sweeping the affected surfaces with a soft broom. Should sweeping be ineffective, the blade and fuselage covers have to be reinstalled and the frost, ice or snow have to be melted off by applying heat with the ground heater inside the covers.

Campbell Helicopters does not utilize de-icing fluid, because of environmental and disposal concerns.

#### 4.12 AIRCRAFT REFUELING

*Prior to loading fuel the PIC or authorized personnel shall ensure that:*

- a) Fuel nozzles and filters are clean and fuel is filtered at least once before entering the aircraft fuel tanks.
- b) Covers and taps are kept closed when the facility (tanks, drums etc.) is not in use;
- c) Care is taken to prevent blown dust, dirt, sand and other contaminants from entering the fuel tanks and fuelling system;
- d) The fuel is tested for water with water finding paste (allowing sufficient time for the paste to react with the fuel sample); or inspected by taking a sample of the fuel in a clean glass jar and carrying out a visual inspection for water. "Clear and bright" indicates fuel is free of water or sediments, "cloudy and hazy" indicates further investigation to possible fuel contamination; and
- e) Drums were sealed prior to use, have been stored properly.
- f) No smoking within 50 feet of refuelling operations
- g) Fire extinguishers should be readily available upwind of the refuelling operations
- h) Personal protective equipment such as gloves, eyewear, and non-combustible clothing should be worn

#### 4.12.1 Fuel Contamination Precautions

Campbell Helicopters operations frequently require refueling the aircraft from remote fuel caches or drums. To assure that no water, sediments or other contaminants enter the aircraft fuel tanks, Campbell Helicopters is utilizing filters on their portable refueling systems (gas-motor or electric pump) that do not allow water to pass and have a three micron filtering capacity. Since water and other contaminants settle to the bottom of the fuel drum, the suction pipe is cut at a forty-five degree angle, to avoid pumping the last two inches out of the fuel drum.

#### 4.12.2 Bonding Requirements

The aircraft and fueling equipment through which fuel passes all require bonding. The hose nozzle must be bonded to the aircraft before the tank cap is removed. All funnels or filters used in fueling are to be bonded together with the aircraft.

Grounding of the fuel service vehicle and bonding of the service and hose nozzle to the aircraft, before fueling begins, should safely dissipate any static or stray electricity that has built up in the aircraft or service vehicle.

Each portable refueling system is equipped with grounding wires from aircraft to nozzle, from nozzle to pump and from pump to ground.

#### 4.12.3 Fueling with Passengers Onboard

Passengers are not permitted to be enplaning, onboard, or deplaning during fueling operations.

#### 4.12.4 Hot Refueling

Refueling, with engines running and rotors turning (hot refueling), may be conducted under the following conditions:

- a) the pilot is at the controls of the helicopter;
- b) there are no passengers on board the aircraft or embarking or disembarking;
- c) electrical power supplies are not being connected or disconnected, and any equipment likely to produce sparks or arcs are not being used;
- d) no smoking in the helicopter or in the vicinity of the helicopter;
- e) fueling is suspended when there are lightning discharges within 8 km of the helicopter;
- f) combustion heaters in the helicopter or in the vicinity of the helicopter are not operated; and

- g) known high energy equipment such as high frequency (HF) radios are not operated, unless in accordance with the approved flight manual where the manual contains procedures for the use of this equipment during fueling.

## 4.13 PILOT QUALIFICATIONS AND PILOT PROFICIENCY CHECKS

### 4.13.1 Licenses

Each pilot shall hold, at least, a valid Canadian Commercial Pilot License (helicopter) endorsed for the appropriate type, have a valid medical certificate and hold a valid radiotelephone operator's restricted certificate (aeronautical).

### 4.13.2 Pilot Proficiency Checks

Each pilot will conduct a Pilot Proficiency Check (PPC) annually.

A separate PPC for every multi-engine helicopter type operated by Campbell Helicopters is required. To act as pilot-in-command on a multi-engine helicopter the minimum flight time as a pilot is 1000 hours PIC.

A "PPC Recommendation" form confirming the required training (as Specified in Section 6 of this Manual and Sections 702.76, 703.98 of the CARs) has been received, shall be completed and presented to the Approved Check Pilot prior to the PPC and subsequently filed on the candidates training file.

The PPC shall be recorded in the Competency Record portion of the pilot's "Transport Canada Aviation Document"

### 4.13.3 Currency

Before acting as a pilot-in-command (PIC) of a Company aircraft where a passenger is carried on board the aircraft, the pilot must have completed five take-offs and five landings on a helicopter within six months preceding the flight and have at least five hours on type in the PIC seat (CAR 401.05(2)). The five hours on type as PIC requirement may be reduced by one hour for each take-off and landing carried out, up to a maximum of 50% of the total time required.

## 4.14 FLIGHT AND DUTY TIME LIMITATIONS AND REST REQUIREMENTS

### 4.14.1 Limitations

Flight time and flight duty limitations and rest requirements are governed by CARs 700.14 to 700.23 and the accompanying standards. The company has three relevant Special Authorizations:

- a) Special Authorization authorizes an increase in flight time, subject to the conditions in CASS 720.15;

- b) Special Authorization authorizes an increase in duty time, subject to the conditions in CASS 720.16; and
- c) Special Authorization authorizes an decrease in time free from duty time, subject to the conditions in CASS 720.16.

The limitations to these special authorizations are found in Annex D.

#### 4.14.2 Monitoring System

The pilot will maintain an up to date “Flight Time/Duty Time/Rest Period Record” showing days off and duty times, rest periods and a running total of flight times. This may be a manual form or preferably done with a software program.

Each Pilot will submit a completed “Flight Time/Duty Time/Rest Period Record”, to the Operations Dept for processing, at the end of each month that the pilot is employed by the Company.

When it appears that any of the limits may be exceeded, the pilot will immediately, by any means available, inform the Operations Manager and provide a copy of the monthly report completed to date. Until the situation changes, the pilot will continue to provide an update of flight time/duty time and rest period by a means and frequency determined by the Operations Manager. The company will not assign a pilot to any duty that would cause any of the limits to be exceeded.

### 4.15 SPECIAL AUTHORIZATIONS

Campbell Helicopters has the following Special Authorizations requiring detailed instructions, which are found in the annexes to this section.

#### 4.15.1 Hover Exit /Entry

Special Authorization – entering or leaving an aircraft in flight other than by hoisting or by static line (Hover Exit Operations) applicable to Aerial Work (Annex “E”).

#### 4.15.2 Over Water Operations

Special Authorizations – over water operations of a land aircraft beyond a point where the land aircraft could reach shore in the event of an engine failure, applicable to Aerial Work and Air Taxi (Annex “F”).

#### 4.15.3 Helicopter Class D External Loads

Special Authorization – Class D External Loads, to be conducted for the provision of “human external cargo”, applicable to Aerial Work (Annex “I”).

#### 4.15.4 Carriage of Persons

Special Authorization authorizes Campbell Helicopters to carry persons other than flight crew members and persons essential in flight, during Aerial Work Operations, if:

- a) the person is a flight crew member trainee, is a person undergoing training for essential duties during flight or is an air operator employee aircraft maintenance technician;
- b) the person is a fire fighter or fire control officer being carried within a forest fire area;
- c) the person is being carried to an aerial work site, performs an essential function in connection with the aerial work operation and is necessary to accomplish the aerial work operation;
- d) during helicopter external load operations, persons not essential during flight are carried only in conjunction with a Class D load which complies with subsection 702.21 (1), except for crew members undergoing training;
- e) aircraft equipment requirements comply with CAR Subpart 5, Division II Aircraft Equipment Requirements for aircraft seats, restraint system requirements and shoulder harness requirements, as applicable; and
- f) persons are safety briefed in accordance with Annex C this section.

### 4.16 AERIAL WORK OPERATIONS

#### 4.16.1 Definitions

"Helicopter CLASS A external load" - means an external load that cannot move freely, cannot be jettisoned, and does not extend below the landing gear.

"Helicopter CLASS B external load" - means an external load that can be jettisoned and that is not in contact with land, water or any other surface.

"Helicopter CLASS C external load" - means an external load that can be jettisoned and that remains in contact with land, water or any other surface.

"Helicopter CLASS D external load" - means an external load with a person carried externally or any external load other than Class A, B or C external load.

#### 4.16.2 Aerial Work Conducted

Campbell Helicopters conducts the following aerial work operations as detailed in the noted Annexes to this section:

- a) Slinging (Class B and C external loads) - Annex "G".
- b) Class D external loads - Annex "I".

#### 4.16.3 Briefing of Persons other than Flight Crew

For aerial work operations the pilot-in-command shall ensure that persons, other than flight crew members, who are carried on board the aircraft, are given a safety briefing in accordance with Annex "C".

### 4.17 PASSENGER BRIEFING

The pilot-in-command shall ensure that passengers are given a safety briefing in accordance with Annex "A".

The normal safety briefing may be inadequate if a passenger has physical, sensory or comprehension limitations, or if a passenger is responsible for another person on board the aircraft. In such cases, the pilot-in-command shall ensure that the passenger is given, prior to take-off, an individual safety briefing that is appropriate to the passenger's needs, and is in accordance with Annex "B".

The pilot-in-command shall ensure that each passenger who is seated next to an emergency exit is made aware of how to operate that exit.

### 4.18 PASSENGER AND CABIN SAFETY PROCEDURES

#### 4.18.1 Movement to and from the helicopter

The pilot-in-command will ensure the safe movement of passengers to and from the helicopter. The pilot-in-command will ensure that:

- a) wherever possible, locating the helicopter in a way that avoids passenger exposure to hazardous conditions;
- b) alerting passengers to hazardous conditions;
- c) guiding, and where necessary escorting passengers along a safe route to and/or from the helicopter;
- d) prohibiting smoking; and
- e) prohibiting the use of "Walkman" or similar entertainment system headsets

that decrease awareness of other traffic or limit reception of audible direction or warning signals.

### 4.18.2 Cabin Safety

The pilot-in -command will ensure that:

- a) all passengers are seated and secured with a safety belt or restraint system which is properly adjusted and securely fastened;
- b) any passenger who is responsible for an infant for which no child restraint system is provided, holds the infant securely in the passenger's arms;
- c) any person who is using a child restraint system, is properly secured; and
- d) seats located at emergency exits are not occupied by passengers whose presence in those seats could adversely affect the safety of passengers or crew members during an emergency evacuation.

### 4.18.3 Portable Electronic Devices

Pilot must authorize use of any portable electronic devices using radio frequencies.

- a) Electronic devices such as hearing aid, pacemaker, electronic watch and certified equipment installed by the air operator are authorized without restriction.
- b) Use of any other electronic device must be authorized by the pilot.

The following electronic devices are permitted without restriction:

- a) Hearing aids;
- b) Heart pacemakers;
- c) Electronic watches; and
- d) Properly certified operator equipment such as operator provided passenger air/ground telephone equipment operated in accordance with all other safety requirements.

## 4.19 RESETTING OF TRIPPED CIRCUIT BREAKERS

The Rotor craft Flight Manual (RFM) and the Maintenance Manual (MM) procedures and limitations shall be the basis for Circuit Breaker (CB) resetting procedures.

### 4.19.1 General

There is a latent danger in resetting a CB tripped by an unknown cause because the tripped condition is a signal that something may be wrong in the related circuit. Until it is determined what has caused a trip to occur, crew members have no way of knowing the consequences of resetting a tripped CB.

#### 4.19.2 Resetting CBs On the Ground

A CB tripped by an unknown cause may only be reset on the ground after maintenance has determined the cause of the trip and has determined that the CB may be safely reset. A CB may be cycled (tripped, pulled or reset) where it is required to be performed within approved procedures of the Rotorcraft Flight Manual and/or maintenance inspection criteria or as part of an approved trouble-shooting procedure, unless doing so is specifically prohibited.

Resetting a CB tripped by an unknown cause should normally be a maintenance function conducted on the ground.

#### 4.19.3 Resetting CBs In-Flight

A tripped CB shall not be reset in flight unless doing so is consistent with explicit procedures specified in the approved operating manual, SOPs, checklists and RFM used by the crew members or unless, in the judgment of the pilot-in-command, resetting the CB is necessary for the safe completion of the flight. Crew members should limit resetting of CBs to one in-flight reset where this action is required.

No attempt should be made to reset a CB if it trips a second time.

#### 4.19.4 CB associated with Fuel Pump Circuit

A CB associated with fuel pump circuit or fuel quantity indicating system special caution is appropriate where fuel pumps and/or (FQIS) are involved, because of the possibility that arcing might lead to the ignition of fuel or fuel vapors.

The resetting of fuel boost pump and/or the fuel quantity indicator CBs in-flight is not recommended unless authorized by the aircraft manufacturer, and then only when authorized by the pilot-in-command.

The resetting of fuel boost pump and/or FQI CBs on the ground, without first identifying the source of the electrical fault is not recommended.



## Annex “A” - PASSENGER SAFETY BRIEFING

A briefing must be given prior to each flight. Where the same group of passengers is with the aircraft for the entire day, one briefing per day is sufficient.

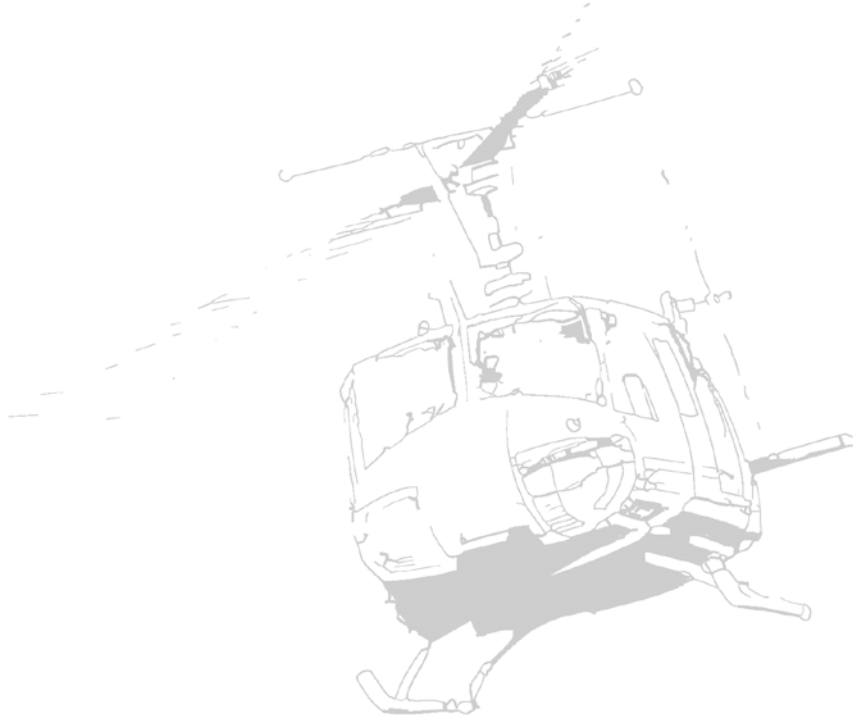
The Bell 212 is considered to a wide bodied helicopter (CASS 723.39(x)) which means a helicopter having an interior cabin width of 2m (6'7") or more.

**This requires a specific briefing on actions in the event of a rollover and the use of the under seat frame as a ladder for egress.**

The Campbell Helicopters standard Passenger Safety Briefing shall consist of an oral briefing by the pilot on the following:

1. Prior to take-off:
  - a) stowage of carry-on baggage;
  - b) seat belt requirement and operation;
  - c) normal & emergency exit location and exit procedures;
  - d) safety Feature Cards (use and location);
  - e) the requirement to obey crew instructions;
  - f) location and operation of ELT, fire extinguisher, first aid kit and survival equipment;
  - g) location and use of life preservers, including demonstration (if applicable);
  - h) water ditching and evacuation procedures (if applicable see Annex F for further briefings);
  - i) location, operation and deployment of life rafts (if applicable);
  - j) in case of a roll-over accident demonstrate the use of the under seat frame of the transverse cabin seats as a ladder for egress;
  - k) any special instructions related to emergency evacuation if the helicopter is configured with external fixtures. (e.g. ski racks);
  - l) smoking policy - no smoking;
  - m) restrictions regarding the use of electronic devices, including earbuds & headphones;
  - o) use of portable electronic devices;
  - p) rotors turning embarking & disembarking procedures
2. After take-off, if not included in the pre-take-off briefing, the advisability of using safety belts or safety harnesses during flight.

3. In-flight because of turbulence:
  - a) when the use of seat belts is required; and
  - b) the requirement to stow carry-on baggage.
4. Prior to disembarking of passengers:
  - a) the safest direction and most hazard-free route for passenger movement away from the helicopter, and any dangers associated with the helicopter, such as pitot tube locations, tail rotor and main rotor; and
  - b) where no additional passengers have boarded the flight for subsequent take-offs on the same day, the pre take-off and after take-off briefing may be omitted provided a crew member has verified that all carry-on baggage is properly stowed, and safety belts or harnesses are properly fastened.



**Annex "B" - INDIVIDUAL SAFETY BRIEFING**

The individual safety briefing shall include:

- a) any information contained in the standard safety briefing and the safety features card that the passenger would not be able to receive during the normal conduct of that safety briefing; and
- b) additional information applicable to the needs of that person as follows:
  - i) the most appropriate brace position for that passenger in consideration of his or her condition, injury, stature, and/or seat orientation and pitch;
  - ii) the location to place any service animal that accompanies the passenger; and:

For a **mobility restricted person** who needs assistance in moving expeditiously to an exit during an emergency:

- a) a determination of what assistance the person would require to get to an exit;
- b) the route to the most appropriate exit;
- c) the most appropriate time to begin moving to that exit; and
- d) a determination of the most appropriate manner of assisting the passenger;

For a **visually impaired person**:

- a) detailed information of and facilitating a tactile familiarization with the equipment that he or she may be required to use;
- b) advising the person where to stow his or her cane if applicable;
- c) the number of rows of seats between his or her seat and his or her closest exit and alternate exit;
- d) an explanation of the features of the exits; and
- e) if requested, facilitating a tactile familiarization with the exit;

For a **comprehension restricted person**, while using the safety features card, pointing out the exits to use, and any equipment that he or she may be required to use;

For a **hearing impaired person**:

- a) while using the safety features card, pointing out the emergency exits and other equipment that the person may be required to use.
- b) communicating detailed information by: pointing, face-to-face communication permitting speech reading, pen and paper, through an interpreter or through their attendant;

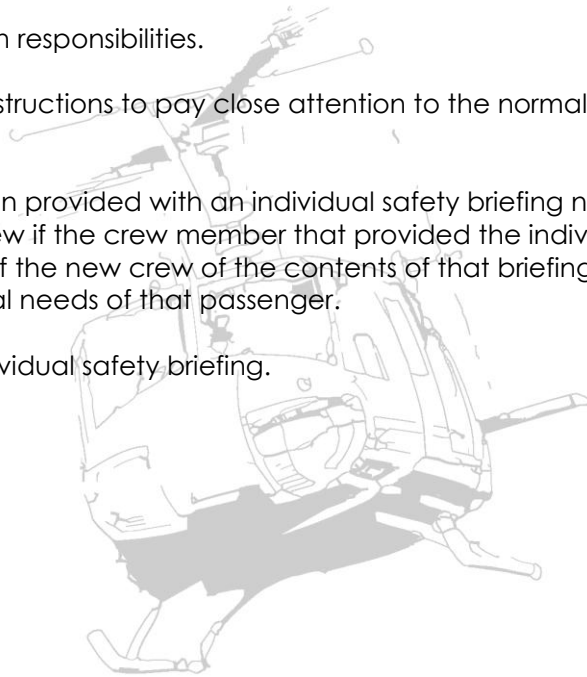
For a **passenger who is responsible for another person on board**, information pertinent to the needs of the other person as applicable:

- a) in the case of an infant:
  - i. seat belt instructions;
  - ii. method of holding the infant for take-off and landing;
  - iii. instructions pertaining to the use of a child restraint system;
  - iv. recommended brace position;
- b) in the case of any other person:
  - i. instructions pertaining to the use of a child restraint system; and
  - ii. evacuation responsibilities.

For an **unaccompanied minor**, instructions to pay close attention to the normal safety briefing and to follow all instructions.

**Notes:** A passenger that has been provided with an individual safety briefing need not be re-briefed following a change in crew if the crew member that provided the individual safety briefing has advised a member of the new crew of the contents of that briefing, including any information respecting the special needs of that passenger.

A passenger may decline an individual safety briefing.



## Annex “C” - BRIEFING OF PERSONS OTHER THAN FLIGHT CREW

During Aerial Work operations, the pilot will brief persons carried on board the aircraft, other than flight crew members, unless the pilot-in-command has ensured that the person has completed a currently valid training program covering the safety requirements for the aircraft.

Where no additional persons have embarked for subsequent take-offs on the same day, the take-off briefing may be omitted provided a crew member has verified that all carry-on baggage and cargo is properly stowed, safety belts and harnesses are properly fastened and seats properly positioned

The pilot will give an oral briefing including:

- a) prior to boarding, procedures for embarking and disembarking when engines are running and when rotors are running;
- b) when and how carry-on baggage and cargo is to be loaded, secured and unloaded;
- c) fastening, unfastening and use of safety belts and safety harnesses, specifying when they must be fastened;
- d) the proper positioning of seats for take-off and landing;
- e) the location of normal and emergency exits, how they are marked and how they operate;
- f) the requirement to obey flight crew instructions;
- g) the location, access to and use of emergency equipment, including the emergency locator transmitter, fire extinguisher, life preservers, life rafts, survival equipment and first aid kit;
- h) aircraft evacuation procedures, water ditching procedures, procedures if the aircraft configured with external fixtures; and
- i) where applicable to wide-body helicopters, the method of egress in event of a rollover accident by use of under the seat frame of the transverse cabin seats as a ladder of egress.

## Annex “D” - FLIGHT TIME, FLIGHT DUTY TIME AND REST PERIOD LIMITATIONS

Campbell Helicopters will record the flight time, flight duty time and rest periods of its flight crew members.

### Standard Flight Time Limitations

No pilot shall accept an assignment that will cause their total flight time to exceed the following:

- a) 1,200 hours in any 365 consecutive days;
- b) 300 hours in any 90 consecutive days;
- c) 120 hours in any 30 consecutive days; and
- d) 60 hours in any 7 consecutive days.

### Standard Flight Duty Time Limitations

Company pilots will not work more than 14 consecutive hours in 24 consecutive hours.

### Minimum Rest Period

Each Pilot shall have a minimum rest period between flight duty times.

A “minimum rest period” means a period of time in which a pilot is free from all duty, is uninterrupted by the operator, is provided with an opportunity to obtain not less than eight consecutive hours of sleep in suitable accommodation, plus travel time to and from the rest facility, and time for personal hygiene and meals.

A pilot shall use the rest periods to obtain the necessary rest and shall be adequately rested prior to reporting for flight duty.

### Standard Requirements for Days Off

Each pilot will have at least one period free from duty of 24 hours three times within each 30 consecutive days and 13 times within each 90 consecutive days.

A pilot that is on call will have at least one period free from duty of at least 36 consecutive hours within each seven consecutive days, or one period of at least three consecutive calendar days within each 17 consecutive days. The air operator will notify a pilot on call of the commencement and duration of the pilot’s time free from duty.

### Unforeseen Operational Circumstances

Flights shall be planned to be completed within the maximum flight time and maximum flight duty time taking into account the time necessary for pre-flight and post-flight duties, the flight or series of flights, forecast weather, turn-around times and the nature of the operation.

“Unforeseen Operational Circumstances” means an event that is beyond the control of the air operator, such as unforecast adverse weather, equipment malfunctions, ATC delays etc...

Flight Duty Time may be extended by up to three hours for Unforeseen Operational Circumstances if the pilot in command, after consultation with other flight members (if any) considers it safe to do so.

When Flight or Duty Time are about to be or immediately after being extended the pilot will report the circumstances and details of the extension to the Operations Manager. The Operations Manager will then ensure that the pilot's rest period, following the day extended is increased by the amount of the duty day extension.

The Operation Manager shall notify the Minister as soon as practicable and retain the notification from the pilot, in the pilot's records until completion of the next Department of Transport audit.

### **Special Authorization Increase in Flight Time Limitations (CARs 700.15 and CASS 720.15)**

Flight time limitations can be increased where the flight is not conducting a scheduled passenger service or heli-logging. For any 6 non-overlapping periods of 30 consecutive days within a 365 consecutive day period, the maximum flight time in any aircraft shall not exceed:

- a) 60 hours in any 7 consecutive days;
- b) 150 hours in any 30 consecutive days;
- c) 210 hours in any 42 consecutive days;
- d) 450 hours in any 90 consecutive days;
- e) 900 hours within any 180 consecutive days; and
- f) 1,200 hours in any 365 consecutive days.

Note: the accumulated 30, 42 and 90 consecutive day flight times may be reset to zero if the flight crew member is provided with at least 5 consecutive days free from all duty. For heli-logging operations, the maximum flight time in all flying shall not exceed:

- a) 120 hours in any 30 consecutive days for single-pilot helicopters;
- b) 150 hours in any 30 consecutive days for helicopters operated by two pilots; and
- c) 1,200 hours in any 365 consecutive days.

“Heli-logging” means the removal and carriage of logs and shake blocks by helicopter external load means.

**Special Authorization Increase in Flight Duty Time Limitations  
(CARs 700.16, CASS 720.16)**

Flight duty time limitations can be increased where the flight is not conducting a scheduled passenger service or heli-logging. For the six non-overlapping periods of 30 consecutive days referred to above, the maximum flight duty time may be extended to 15 consecutive hours if:

- a) the minimum rest period is increased by one hour; or
- b) the maximum flight time does not exceed eight hours in the 24 consecutive hours following the 15 hours flight duty time.

**Aerial application:**

Where the flight is conducted under Subpart 2 in aerial application operations, the maximum flight duty time may be extended for a split flight duty assignment provided that:

- a) the total flight duty time shall not exceed 12 hours in 24 consecutive hours;
- b) rest periods that allow a total of at least 10 hours opportunity to sleep in 24 consecutive shall be taken in suitable accommodation;
- c) one of these rest periods shall allow at least six consecutive hours opportunity to sleep between 22:00 and 06:00 local time;
- d) flight time shall not exceed eight hours in any 24 consecutive hours; and
- e) the pilot shall receive at least five periods of 24 consecutive hours free from duty within each 30 consecutive days.

**Special Authorization Decrease in Time Free from Duty  
(CAR 700.19, CASS 720.19)**

The number of rest periods required may be altered where the flight is not conducting a scheduled passenger service or heli-logging. The 24 consecutive hours three times within each 30 consecutive days may be replaced by:

- a) following at least five consecutive periods of 24 consecutive hours free from duty, a pilot may be assigned duty for up to 42 consecutive days; and
- b) the pilot shall receive at least five consecutive periods of 24 consecutive hours free from duty following any assignment that exceeds 30 consecutive days.



## CAMPBELL HELICOPTERS LTD. FLIGHT TIME / DUTY TIME / DAYS OFF RECORD INSTRUCTIONS FOR USE

Pilots shall complete all columns daily.

The time recorded is “FLIGHT TIME”(not necessarily the time charged on flight reports).Flight time is the total time from the moment the aircraft first moves under its own for the purpose of taking off until the moment it comes to rest at the end of the flight, i.e.:

- wheeled A/C would include taxi time plus air time;
- skid A/C would calculate flight time from the moment the A/C leaves the surface of the earth until the A/C touches the surface of the earth at the next point of landing (Air Time).

Add the Year Total from previous day (C1) to Daily Hours on present day (A) then subtract total hours in the “365 Day Previous” column (B) to give Year Total (C).

**EXAMPLE:**       $(C = C1 + A - B)$   
                           $(211.6 = 209.0 + 5.0 - 2.4)$

Repeat above for 7,30 and 90 day columns.

**EXAMPLE 7 DAY:**       $(E = E1 + A - D)$   
                                   $(47.0=48.0+5.0-6.0)$

**EXAMPLE 30 DAY:**       $(G=G1+A-F)$   
                                   $(23.0=20.0+5.0-2.0)$

**EXAMPLE 90 DAY:**       $(I=I1+A-H)$   
                                   $(203.0=204.0+5.0-6.0)$

		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)				
Date	Day	Daily Hours	Day Prev. Year	365 Day Prev.	Year Total	Day	7 Day Prev.	7 Day Total	Day	30 Day Prev.	30 Day Total	Day	90 Day Prev.	90 day Total	Start Time	Finish Time	Hours Worked	DaysOff (5) Last 42	Days Off (13) Last 90
<b>Totals Forward</b>					209.0	48.0			20.0			204.0							
1	92	5.0	91	2.4	211.6	85	6.0	47.0	62	2.0	23.0	2	6.0	203.0					
2	93	4.0	92	0.0	215.6	86	2.0	49.0	63	4.0	23.0	3		107.0					
3	94	6.0	93	7.0	214.6	87	5.0	50.0	64	2.0	27.0	4							
4	95		94		214.6	88			65	5.0	22.0	5							
5	96		95		214.6	89			66		22.0	6							

Columns (J), (K) and (L) are used to record the daily duty time.  
 Column (M) is used to record the number of days off for the previous 42 consecutive days.  
 Column (N) is used to record the number of days off for the previous 90 consecutive days.

**Annex “E” - ENTERING OR LEAVING A HELICOPTER IN FLIGHT - (HOVER EXIT / ENTRY)****GENERAL**

Special Authorization, allows the loading and unloading of passengers while the helicopter maintains a stabilized hover other than by hoisting or by static line.

At the pilot’s discretion, these procedures may be used when no suitable alternative is available to complete the transportation of persons or equipment to an intended destination.

When a person is entering or leaving the helicopter without the full weight of the helicopter on the ground, these procedures will apply.

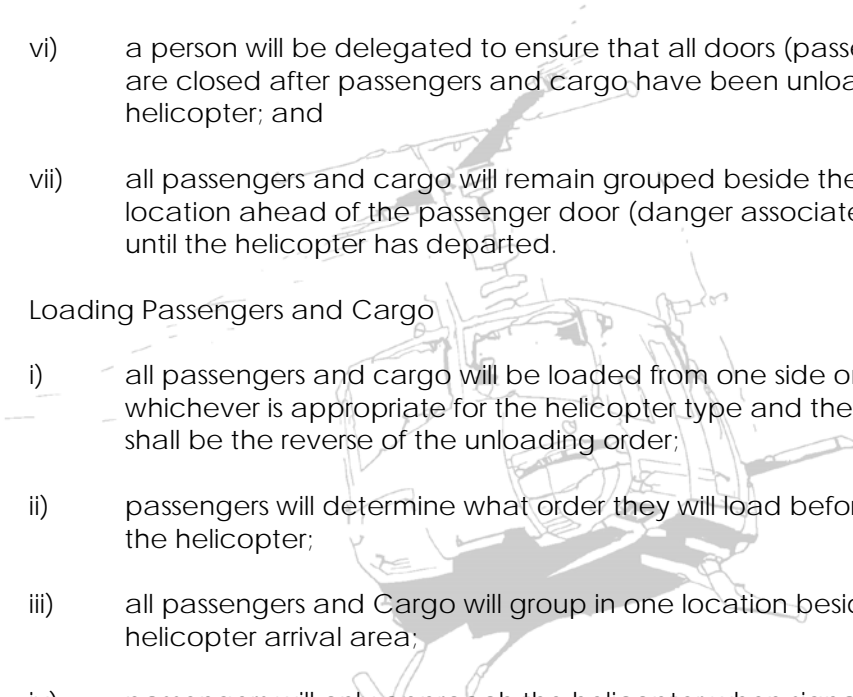
**LIMITATIONS**

The following limitations apply when conducting hover exits:

- a) the helicopter shall be operated at a stabilized low hover under day VFR conditions;
- b) the person must be able to enter directly from or alight directly onto the supporting surface;
- c) the weight and balance has been calculated covering the C of G extremes. A sample weight and balance for all types of aircraft Campbell Helicopters Ltd. operates are found in Section 4 - Annex “H” and may be used in place of an individual weight and balance calculation if the weights and person loading/unloading sequence is similar. Otherwise, the longitudinal and lateral center of gravity shall be calculated for embarking and disembarking operations, including all stages in the sequence of loading or unloading. The center of gravity shall not exceed the limitations of the aircraft flight manual;
- d) the operating weight shall be calculated and shall not exceed the applicable weight/altitude temperature (WAT) performance charts for the helicopter type and configuration at the operating altitude;
- e) persons to be embarked or disembarked must have been instructed on related hazards and techniques.
- f) crew members shall be properly trained in these procedures; and
- g) any equipment or cargo to be loaded or unloaded shall be secured to prevent shifting in flight except during loading and unloading. Cargo or equipment shall not be loaded or unloaded from a baggage compartment remote from the main cabin unless the applicable center of gravity calculation is completed and cargo handlers have been instructed on procedures.

## NORMAL PROCEDURES

All passengers will be briefed by the Pilot prior to using these procedures as follows:

- a) Unloading Passengers and Cargo
    - i) unbuckle seat belts as instructed by the pilot;
    - ii) re-buckle the seat belts;
    - iii) only one person will leave the helicopter at a time;
    - iv) provide the order of unloading of passengers and cargo;
    - v) passenger and cargo weight must be gently transferred from the helicopter to the ground;
    - vi) a person will be delegated to ensure that all doors (passenger and cargo) are closed after passengers and cargo have been unloaded from the helicopter; and
    - vii) all passengers and cargo will remain grouped beside the helicopter in a location ahead of the passenger door (danger associated with tail rotor) until the helicopter has departed.
  - b) Loading Passengers and Cargo
    - i) all passengers and cargo will be loaded from one side only, left or right, whichever is appropriate for the helicopter type and the order of loading shall be the reverse of the unloading order;
    - ii) passengers will determine what order they will load before the arrival of the helicopter;
    - iii) all passengers and Cargo will group in one location beside the intended helicopter arrival area;
    - iv) passengers will only approach the helicopter when signaled;
    - v) only one person will enter the helicopter at a time;
    - vi) each passenger must gently transfer their weight from the ground to the helicopter;
    - vii) seat belts must be immediately fastened once passengers are seated; and
    - viii) close all doors.
- 

## BRIEFING

The pilot will ensure that persons required to enter or leave the aircraft in the hover have been briefed, before starting the operation, on:

- a) embarking and disembarking procedures as described above;
- b) hazards; and
- c) normal safety briefing as in Annex A or C as appropriate.

## INSTRUCTIONS OF PERSONS TO BE EMBARKED OR DISEMBARKED

Persons who have never received training on these procedures must receive instruction, before the operation commences, by a pilot, on entering and leaving the helicopter while in the hover. These instructions will include:

- a) Effects on C of G when persons enter or leave a helicopter in the hover;
- b) Procedures to be used (as above); and
- c) In a safe and supervised training environment, practice at entering and leaving a helicopter in a two foot hover, three times.

## PILOT TRAINING

A pilot will receive the following training prior to using these procedures for the first time, and annually thereafter:

- a) Ground Training
  - i) C of G limits - best and worst case scenarios and passenger and cargo positions;
  - ii) Effects of wind on stability;
  - iii) Dynamic roll over and instruction on related hazards and techniques; and
  - iv) Passenger Briefing.
- b) Flight Training - The Pilot will practice with persons entering and leaving the helicopter with:
  - i) One skid in contact with the surface;
  - ii) Toes of the helicopter in contact with the surface; and,
  - iii) Helicopter at a two foot hover over level ground.

## **Annex "F" - OVER-WATER OPERATIONS**

### **GENERAL**

Special Authorization allows the operation, on air taxi operations, of a land aircraft over water operations beyond gliding distance from shore for any single engine helicopter. Special Authorization allows the same on aerial work operation.

### **LIMITATIONS**

#### Flotation Kit

The helicopters will be equipped with an approved emergency flotation kit operated in accordance with the relevant aircraft Flight Manual Supplement for over-water operations except when:

- i conducting forest fire water bucketing operations; or
- ii fish planting operations.

When en route over water with pop-out floats installed, to ensure adequate time to activate the floats, the helicopter shall not be flown below 500 feet AGL.

#### Life Preservers

Life preservers shall be carried and stowed so that they are within reach of each person carried when seated with his or her seat belt fastened.

#### Flight Following

The pilot must file a flight plan or flight itinerary and flights over water more than 15 minutes at normal cruising speed from shore or from a suitable aerodrome shall be capable of direct flight following radio communications.

#### Life Rafts

If the distance from shore is more than 25 miles, or distance that can be covered in 15 minutes at cruising speed, whichever is the lesser, then life rafts must be carried.

The life rafts must be:

- a) capable of accommodating all persons on board;
- b) stowed so that they are easily accessible for use in the event of a ditching;
- c) installed in conspicuously marked locations near an exit; and
- d) equipped with an attached survival kit, sufficient for the survival on water of each person on board the aircraft, given the geographical area, the season of the year and anticipated seasonal climatic variations, that provides a means for:
  - i) providing shelter;
  - ii) providing or purifying water; and
  - iii) visually signaling distress.

#### Immersion Suits

If life rafts are required, as above, and the water temperature is 10°C or less then helicopter passenger transportation suit systems (immersion suits) must be worn.

#### Briefing

When over-water operations are to be conducted all passengers will be briefed on ditching and water ditching evacuation procedures.

### **DITCHING AND EVACUATION**

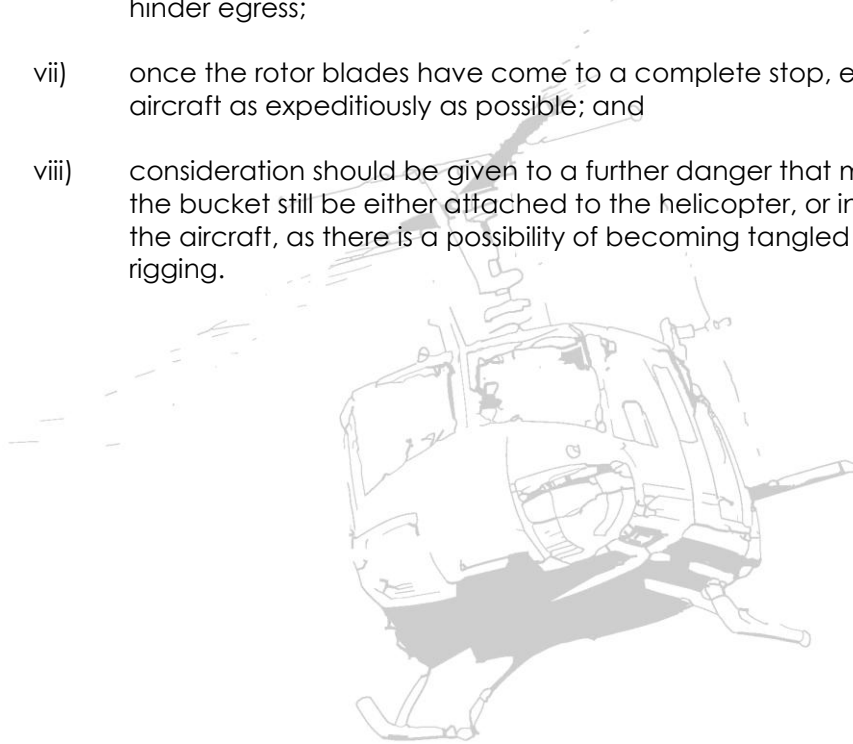
The pilot shall ensure that all persons carried are thoroughly familiar with ditching and evacuation procedures, in accordance with the briefing procedures contained in this Operations Manual.

Passengers are to follow the directions of the pilot.

Emergency procedures for ditching and water evacuation shall be conducted in accordance with the appropriate ROTOR CRAFT Flight Manual. In the absence of Flight Manual direction, the pilot shall conduct ditching procedures in accordance with the following:

- a) if time and circumstances permit, jettison the water bucket, or fish planting bucket.
- b) allow the helicopter to contact the water in as level an attitude as possible.
- c) after water contact and for as long as possible, the helicopter should be held in a level attitude, whilst the fuselage starts to sink. The following points should be taken into consideration:
  - i) both the pilot and observer doors should be unlatched (or jettisoned, if possible) but only after water contact;

- ii) keep collective up after touching the water to slow down the blades as much as possible. In order to prevent blade skipping on the water surface, collective should be lowered just prior to the blades touching the water;
- iii) keep seatbelts fastened, as directional control will be lost once the tail rotor strikes the water;
- iv) if there is a tendency for the aircraft to roll to the left this should be corrected promptly by initiating a roll to the opposite side (this should only be done if necessary);
- v) remain seated until blades have stopped and/or the fuselage has completely submerged;
- vi) life vests are not to be inflated whilst still inside the cabin, as this will only hinder egress;
- vii) once the rotor blades have come to a complete stop, evacuate the aircraft as expeditiously as possible; and
- viii) consideration should be given to a further danger that may arise should the bucket still be either attached to the helicopter, or in close vicinity to the aircraft, as there is a possibility of becoming tangled in the bucket rigging.



## Annex “G” - EXTERNAL LOAD OPERATIONS

### GENERAL

This Annex refers to “Helicopter Class B and C external” operations, commonly referred to as slinging.

Definitions:

“**Helicopter Class B external load**”- means an external load that can be jettisoned and is not in contact with land, water or any other surface; (i.e. normal slinging and vertical reference long line slinging)

“**Helicopter Class C external load**”- means an external load that can be jettisoned and remains in contact with land, water or any other surface during the Rotor craft operation. (i.e. pulling sock line)

“**Passenger**”- means a person, other than a crew member, who is carried on board an aircraft.

### LIMITATIONS:

Slinging operations will take place in Day VFR conditions only. Operations will be conducted in accordance with aircraft flight manuals and related equipment specifications as applicable.

Slinging operations will not be conducted over built-up areas unless proper authority has been obtained from civic authorities and Transport Canada, and all safety related measures are in place.

The carriage of passengers (i.e. anyone who is not assigned to duty in the aircraft during flight time and essential to the operation) is prohibited.

### NORMAL PROCEDURES:

While slinging is a normal helicopter operation, the following inspections and/or procedures shall be adhered to:

- a) the PIC will ensure that the hook, aircraft and all related slinging equipment has been prepared, inspected and found serviceable and suitable for the ensuing operation;
- b) only those persons essential to the operation shall be aboard the aircraft or in the slinging area;
- c) all personnel involved in the operation shall be briefed on the operation, with briefings to include a review of:
  - i) communications systems to be used (radio, hand signals etc.);
  - ii) emergency procedures for both the helicopter and ground personnel;



- iii) helicopter departure and approach paths for both pick -up and drop areas (providing this can be established before hand);
- iv) load composition, weights, rigging methods and hook-up procedures;
- v) any other restrictions/procedures that may be pertinent or specific to the operation.
- vi) special attention must given to low density loads (i.e. bulky and light);

NOTE: Light and bulky loads will tend to be much more unstable in flight than high density loads and may develop oscillation both laterally and fore and aft. This instability increases with speed and loads of this nature should always be flown with utmost caution.

Stability will be improved by a greater number of attachment points. The attachment points should be as far above the load C of G as possible and as far apart as practical from the center of balance.

A safe cruise speed with any load is at least five knots below the onset of any noticeable oscillation.

- d) All sling load operations will be conducted in a safe, professional manner commensurate with commonly accepted slinging practices. Safety of personnel is of prime importance.

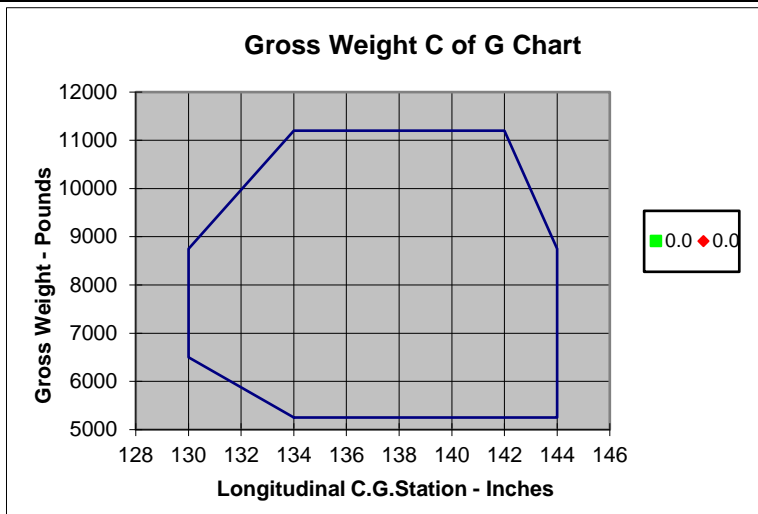
## EMERGENCY PROCEDURES

The safety of personnel is paramount when handling any emergency situation.

- a) the manner in which an emergency is handled will be dictated by the nature of the emergency;
- b) all aircraft related emergencies will be handled in accordance with the aircraft flight manual; and
- c) emergencies arising from slinging operations will be dealt with to ensure safety of personnel and aircraft.

Bell 212 - Generic Weight and Balance

CONFIGURATION	LONGITUDINAL		MOMENT	LATERAL	
	WEIGHT	ARM		ARM	MOMENT
<b>EMPTY WEIGHT</b>					
Pilot		47.0		22.00	
Copilot		47.0		-22.00	
4-Man Seat left outside		87.0		-23.00	
4-Man Seat left inside		87.0		-8.00	
4-Man Seat right outside		87.0		8.00	
4-Man Seat right inside		87.0		23.00	
5-Man Seat left outside		117.0		-34.00	
5-Man Seat left inside		117.0		-19.00	
5-Man Seat center		117.0		0.00	
5-Man Seat right inside		117.0		19.00	
5-Man Seat right outside		117.0		34.00	
2-Man Seat right forward		139.0		26.00	
2-Man Seat right aft		156.0		26.00	
2-Man Seat left forward		139.0		-26.00	
2-Man Seat left aft		156.0		-26.00	
Right Skid (Deplaning)		100.0		60.00	
Left Skid (Deplaning)		100.0		-60.00	
Ski-Basket		119.5		67.50	
Baggage Compartment		265.0		0.00	
Cargo Hook		138.0		0.00	
Fuel				0.00	
Forward C of G					
Fuel (Data from fuel loading table)					
Take-off Weight & Aft C of G					

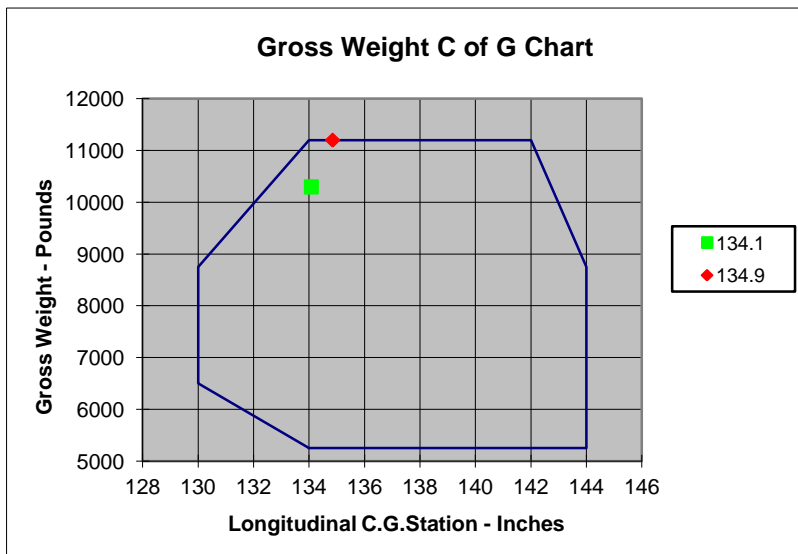


Lateral CG Limits  
6.5" to -4.7"

Add survival kit  
Add refuelling gear

Bell 212 - Schedule "A" - Fire Fighting

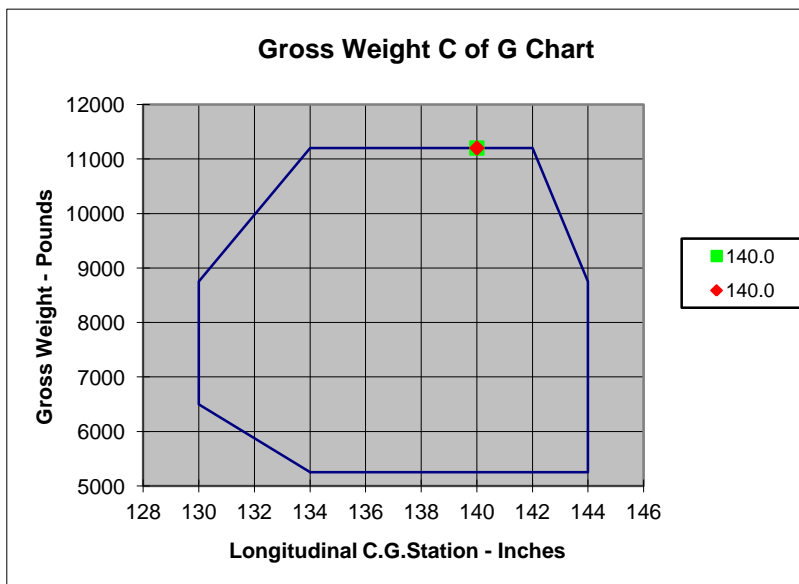
CONFIGURATION	LONGITUDINAL			LATERAL	
	WEIGHT	ARM	MOMENT	ARM	MOMENT
<b>EMPTY WEIGHT</b>	6600.0	144.2	951720.0	0.00	0
Pilot	200.0	47.0	9400.0	22.00	4400
Copilot	180.0	47.0	8460.0	-22.00	-3960
4-Man Seat left outside	250.0	87.0	21750.0	-23.00	-5750
4-Man Seat left inside	250.0	87.0	21750.0	-8.00	-2000
4-Man Seat right outside	250.0	87.0	21750.0	8.00	2000
4-Man Seat right inside	250.0	87.0	21750.0	23.00	5750
5-Man Seat left outside	200.0	117.0	23400.0	-34.00	-6800
5-Man Seat left inside	200.0	117.0	23400.0	-19.00	-3800
5-Man Seat center	200.0	117.0	23400.0	0.00	0
5-Man Seat right inside	200.0	117.0	23400.0	19.00	3800
5-Man Seat right outside	200.0	117.0	23400.0	34.00	6800
2-Man Seat right forward	250.0	139.0	34750.0	26.00	6500
2-Man Seat right aft	250.0	156.0	39000.0	26.00	6500
2-Man Seat left forward	120.0	139.0	16680.0	-26.00	-3120
2-Man Seat left aft	0.0	156.0	0.0	-26.00	0
Right Skid (Deplaning)		100.0	0.0	60.00	0
Left Skid (Deplaning)		100.0	0.0	-60.00	0
Baggage Compartment	200.0	265.0	53000.0	0.00	0
Cargo Hook		138.0	0.0	0.00	0
Fuel Max Fwd ( 494.0 lbs. )	494.0	128.0	63232.0	0.00	0
Forward C of G	10294.0	134.1	1380242.0	1.00	10320
Fuel (Data from fuel loading table)	906.0		130126.3		
Take-off Weight & Aft C of G	11200.0	134.9	1510368.3	0.92	10320



Lateral CG Limits  
6.5" to -4.7"

Bell 212 - Schedule "B" - Sling Load

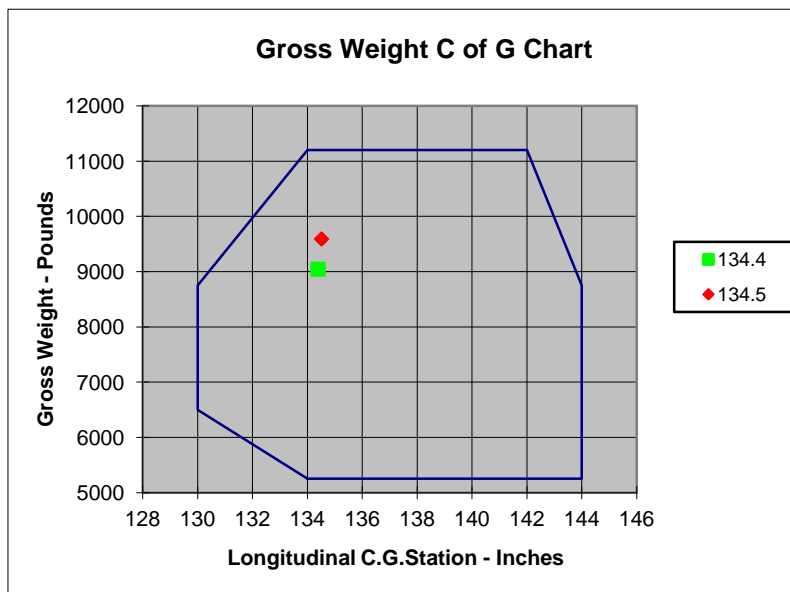
CONFIGURATION	LONGITUDINAL			LATERAL	
	WEIGHT	ARM	MOMENT	ARM	MOMENT
<b>EMPTY WEIGHT</b>	6600.0	144.2	951720.0	0.00	0
Pilot	170.0	47.0	7990.0	22.00	3740
Copilot	0.0	47.0	0.0	-22.00	0
4-Man Seat left outside	0.0	87.0	0.0	-23.00	0
4-Man Seat left inside	0.0	87.0	0.0	-8.00	0
4-Man Seat right outside	0.0	87.0	0.0	8.00	0
4-Man Seat right inside	0.0	87.0	0.0	23.00	0
5-Man Seat left outside	0.0	117.0	0.0	-34.00	0
5-Man Seat left inside	0.0	117.0	0.0	-19.00	0
5-Man Seat center	0.0	117.0	0.0	0.00	0
5-Man Seat right inside	0.0	117.0	0.0	19.00	0
5-Man Seat right outside	0.0	117.0	0.0	34.00	0
2-Man Seat right forward	0.0	139.0	0.0	26.00	0
2-Man Seat right aft	0.0	156.0	0.0	26.00	0
2-Man Seat left forward (FUEL)	0.0	139.0	0.0	-26.00	0
2-Man Seat left aft (FUEL)	0.0	156.0	0.0	-26.00	0
Right Skid (Deplaning)		100.0	0.0	60.00	0
Left Skid (Deplaning)		100.0	0.0	-60.00	0
Baggage Compartment	0.0	265.0	0.0	0.00	0
Cargo Hook	4130.0	138.0	569940.0	0.00	0
Fuel Max Fwd ( 494.0 lbs. )	300.0	128.0	38400.0	0.00	0
Forward C of G	11200.0	140.0	1568050.0	0.33	3740
Fuel (Data from fuel loading table)	0.0		0.0		
Take-off Weight & Aft C of G	11200.0	140.0	1568050.0	0.33	3740



Lateral CG Limits  
6.5" to -4.7"

Bell 212 - Schedule "C" - Hover Exit (Most Right C of G)

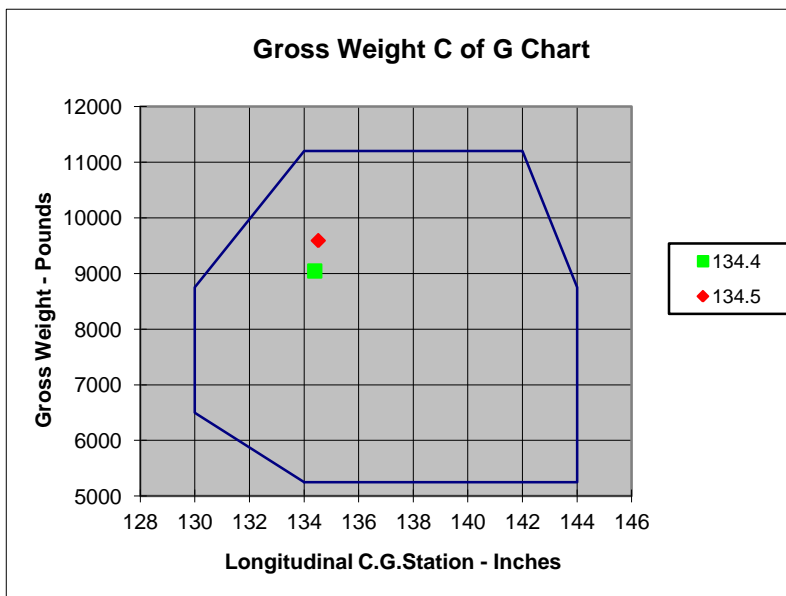
CONFIGURATION	LONGITUDINAL			LATERAL	
	WEIGHT	ARM	MOMENT	ARM	MOMENT
<b>EMPTY WEIGHT</b>	6600.0	144.2	951720.0	0.00	0
Pilot	170.0	47.0	7990.0	22.00	3740
Copilot	180.0	47.0	8460.0	-22.00	-3960
4-Man Seat left outside	0.0	87.0	0.0	-23.00	0
4-Man Seat left inside	0.0	87.0	0.0	-8.00	0
4-Man Seat right outside	200.0	87.0	17400.0	8.00	1600
4-Man Seat right inside	200.0	87.0	17400.0	23.00	4600
5-Man Seat left outside	0.0	117.0	0.0	-34.00	0
5-Man Seat left inside	0.0	117.0	0.0	-19.00	0
5-Man Seat center	200.0	117.0	23400.0	0.00	0
5-Man Seat right inside	200.0	117.0	23400.0	19.00	3800
5-Man Seat right outside	200.0	117.0	23400.0	34.00	6800
2-Man Seat right forward	200.0	139.0	27800.0	26.00	5200
2-Man Seat right aft	200.0	156.0	31200.0	26.00	5200
2-Man Seat left forward	0.0	139.0	0.0	-26.00	0
2-Man Seat left aft	0.0	156.0	0.0	-26.00	0
Right Skid (Deplaning)	200.0	100.0	20000.0	60.00	12000
Left Skid (Deplaning)		100.0	0.0	-60.00	0
Baggage Compartment	0.0	265.0	0.0	0.00	0
Cargo Hook	0.0	138.0	0.0	0.00	0
Fuel Max Fwd ( 494.0 lbs. )	494.0	128.0	63232.0	0.00	0
Forward C of G	9044.0	134.4	1215402.0	4.31	38980
Fuel (Data from fuel loading table)	546.0		74660.0		
Take-off Weight & Aft C of G	9590.0	134.5	1290062.0	4.06	38980



Lateral CG Limits  
6.5" to -4.7"

Bell 212 - Schedule "D" - Hover Exit (Most Left C of G)

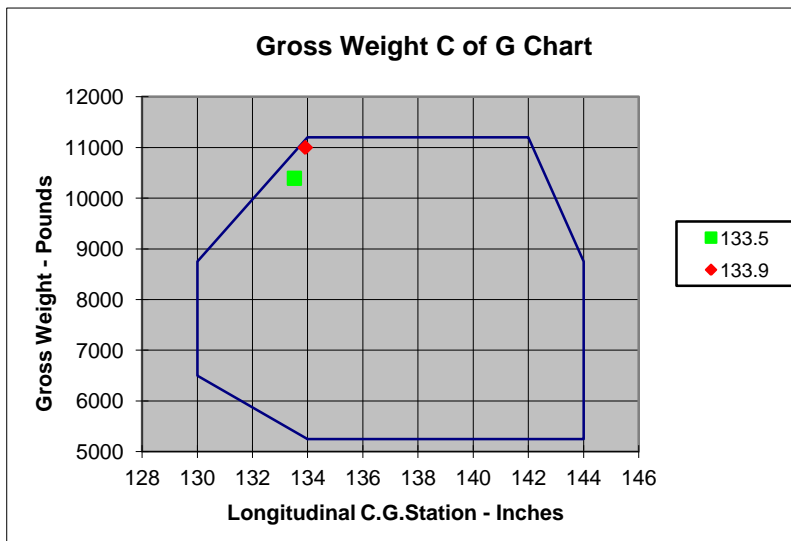
CONFIGURATION	LONGITUDINAL			LATERAL	
	WEIGHT	ARM	MOMENT	ARM	MOMENT
<b>EMPTY WEIGHT</b>	6600.0	144.2	951720.0	0.00	0
Pilot	170.0	47.0	7990.0	22.00	3740
Copilot	180.0	47.0	8460.0	-22.00	-3960
4-Man Seat left outside	200.0	87.0	17400.0	-23.00	-4600
4-Man Seat left inside	200.0	87.0	17400.0	-8.00	-1600
4-Man Seat right outside	0.0	87.0	0.0	8.00	0
4-Man Seat right inside	0.0	87.0	0.0	23.00	0
5-Man Seat left outside	200.0	117.0	23400.0	-34.00	-6800
5-Man Seat left inside	200.0	117.0	23400.0	-19.00	-3800
5-Man Seat center	200.0	117.0	23400.0	0.00	0
5-Man Seat right inside	0.0	117.0	0.0	19.00	0
5-Man Seat right outside	0.0	117.0	0.0	34.00	0
2-Man Seat right forward	0.0	139.0	0.0	26.00	0
2-Man Seat right aft	0.0	156.0	0.0	26.00	0
2-Man Seat left forward	200.0	139.0	27800.0	-26.00	-5200
2-Man Seat left aft	200.0	156.0	31200.0	-26.00	-5200
Right Skid (Deplaning)	0.0	100.0	0.0	60.00	0
Left Skid (Deplaning)	200.0	100.0	20000.0	-60.00	-12000
Baggage Compartment	0.0	265.0	0.0	0.00	0
Cargo Hook	0.0	138.0	0.0	0.00	0
Fuel Max Fwd ( 494.0 lbs. )	494.0	128.0	63232.0	0.00	0
Forward C of G	9044.0	134.4	1215402.0	-4.36	-39420
Fuel (Data from fuel loading table)	546.0		74660.0		
Take-off Weight & Aft C of G	9590.0	134.5	1290062.0	-4.11	-39420



Lateral CG Limits  
6.5" to -4.7"

Bell 212 - Schedule "E" - Heliskiing

CONFIGURATION	LONGITUDINAL			LATERAL	
	WEIGHT	ARM	MOMENT	ARM	MOMENT
<b>EMPTY WEIGHT</b>	6600.0	144.2	951720.0	0.0	0
Pilot	200.0	47.0	9400.0	22.0	4400
Copilot	180.0	47.0	8460.0	-22.0	-3960
4-Man Seat left outside	250.0	87.0	21750.0	-23.0	-5750
4-Man Seat left inside	250.0	87.0	21750.0	-8.0	-2000
4-Man Seat right outside	250.0	87.0	21750.0	8.0	2000
4-Man Seat right inside	250.0	87.0	21750.0	23.0	5750
5-Man Seat left outside	200.0	117.0	23400.0	-34.0	-6800
5-Man Seat left inside	200.0	117.0	23400.0	-19.0	-3800
5-Man Seat center	200.0	117.0	23400.0	0.0	0
5-Man Seat right inside	200.0	117.0	23400.0	19.0	3800
5-Man Seat right outside	200.0	117.0	23400.0	34.0	6800
2-Man Seat right forward	0.0	139.0	0.0	26.0	0
2-Man Seat right aft	0.0	156.0	0.0	26.0	0
2-Man Seat left forward	200.0	139.0	27800.0	-26.0	-5200
2-Man Seat left aft	220.0	156.0	34320.0	-26.0	-5720
Right Skid (Deplaning)		100.0	0.0	60.0	0
Left Skid (Deplaning)		100.0	0.0	-60.0	0
Ski-Basket	300.0	119.5	35850.0	67.5	20250
Baggage Compartment	200.0	265.0	53000.0	0.0	0
Cargo Hook		138.0	0.0	0.0	0
Fuel Max Fwd ( 494.0 lbs. )	494.0	128.0	63232.0	0.0	0
Forward C of G	10394.0	133.5	1387782.0	0.94	9770
Fuel (Data from fuel loading table)	606.0		85280.0		
Take-off Weight & Aft C of G	11000.0	133.9	1473062.0	0.89	9770



Lateral CG Limits  
6.5" to -4.7"

## **Annex I – HELICOPTER CLASS D EXTERNAL LOAD OPERATIONS PURSUANT TO CAR 702.21(2) AND CASS 722.21(2)(b)**

(Applicable to multi engine helicopter not capable of OEI hover with the load, or a single engine helicopter.)

### **GENERAL**

Campbell Helicopters Ltd. is authorized by Special Authorizations to Air Operator Certificate # 6649 to conduct Helicopter Class D External Load operations pursuant to CAR 702.21(2) and CASS 722.21(2)(b).

Definitions:

**"Helicopter Class D external load"** means an external load with a person carried externally or any external load, other than a Class A, B or C external load.

**"Class D load"** means a Helicopter Class D external load.

**"Class D operations"** means the conduct of Helicopter Class D external load operations.

**"Mission crew"** means the pilot of the aircraft, the spotter on board the aircraft, and one or more technical experts (technicians) who will be carried externally and conduct work required by the mission.

**"Personnel carrying device"** means the entire Class D load carrying system, including the device(s) for attaching the load to the helicopter, suspension lines, harnesses, patient carrying devices, and all other items as specifically approved by Transport Canada (Airworthiness) for the operational configuration of the aircraft being operated, in compliance with CAR 702.45.

**"Sling"** means the insertion or extraction of persons or equipment during the conduct of Class D operations.

**"Staging area"** means the heli-spot closest to the mission site where the aircraft can safely execute a full landing and shut down.

### **OPERATIONAL REQUIREMENTS - General**

The following operational requirements exist for Class D loads:

- a) the helicopter will be equipped to permit direct radio intercommunication among crewmembers and persons being carried externally;
- b) the personnel-carrying device will be Airworthiness approved for the carriage of human external loads;
- c) the load will be jettisonable;
- d) the helicopter will be turbine powered and equipped, where approved for the type, with an auto-ignition system and a detector system to warn flight crew- members of excessive ferrous metal in the engine(s);



- e) only flight crewmembers and persons essential during flight will be carried;
- f) persons will be transported externally between geographical points only to the nearest suitable landing site;
- g) Class D operations will only be conducted for the purpose of law enforcement, forest fire suppression operations, urban fire fighting operations, or saving human life;
- h) Campbell Helicopters Ltd. will have a formal written agreement from the user of the service and the agreement will stipulate that only suitably trained and qualified persons will be assigned;
- i) Class D operations will take place in Day VFR conditions only; and
- j) Class D operations will be conducted in accordance with approved flight manuals, related flight manual supplements and related equipment specifications as applicable.

### OPERATIONAL REQUIREMENTS

Where helicopter Class D external load operations are to be conducted the pilots-in-command will have achieved:

- a) at least 1,000 hours total helicopter pilot flight time;
- b) at least 25 hours on the aircraft type which the pilot is to fly on initial assignment and at least 5 hours on types to be used thereafter;
- c) at least 50 hours experience in the operational area if operations are to be conducted in Designated Mountainous Areas 1 or 2 as defined in the Designated Airspace Handbook (TP 1820); and
- d) have completed training for Class D load operations in accordance with CASS 722.76 and section 6.19 of this operations manual.

Where helicopter Class D External Load Operations are to be conducted for the purpose of providing a rescue service the following standards shall apply.

Pilots-in-command for rescue service operations shall have achieved:

- a) at least 2,000 hours total helicopter pilot flight time;
- b) at least 200 hours on the aircraft type which the pilot is to fly on initial assignment to rescue operations and at least 25 hours on types to be used thereafter;
- c) at least 1,000 hours experience in the operational area if rescue services are to be conducted in Designated Mountainous Areas 1 or 2 as defined in the *Designated Airspace Handbook* (TP 1820); and

- d) have completed training for Class D load operations in accordance with [CASS 722.76](#) and section 6.19 of this manual.

### Operations Control

A close working relationship is required between Campbell Helicopters Ltd. and the user organization to ensure coordinated proficiency and mission safety. Terms of reference for this working relationship will be documented in a written agreement and will define the following:

- a) responsibilities of pilots in command, spotter(s), chief technician(s), technicians, and any other persons who may be assigned to rescue service operations;
- b) required operational capabilities and scope of operation;
- c) coordinated mission standard operating procedures;
- d) mission authorization and control processes, including communications procedures; and
- e) coordinated air operator and user training program on at least an annual basis.

An example of terms of reference for the working agreement between Campbell Helicopters Ltd. and a user organization is contained in Appendix 1 to this Annex.

### AIR OPERATOR EMPLOYEE QUALIFICATION AND TRAINING REQUIREMENTS

See Section 6.19, Campbell Helicopters Ltd. – Operations Manual.

### OPERATIONAL PROCEDURES

#### Personnel for Class D Operations

All Class D operations conducted under Special Authorizations will be conducted with a mission crew consisting of:

- a) **Pilot** – responsible for all flight decisions and operations required to conduct the mission safely.
- b) **Spotter** – responsible for assisting the pilot in identifying and avoiding hazards and directing the pilot in situations when the pilot must maintain horizontal reference. Depending on the design of the approved personnel carrying device being used, in an emergency the spotter may be responsible to jettison the load upon command from the pilot.
- c) **Chief Technician** – responsible for proper installation of the approved personnel carrying device, and supervision of all on-the-ground operations required to conduct the mission safely.

- d) **Technician(s)** – responsible for performing tasks as assigned by the chief technician. Only the minimum number of technicians necessary to conduct the mission will be employed.

#### Standard Operating Procedures – Class D Loads

Class D operations will normally be conducted following the sequence of events shown below. In cases of extreme emergency, this normal sequence of events may be modified at the discretion of the pilot:

- a) the pilot conducts a pre-flight briefing to all mission participants;
- b) the chief technician conducts an initial mission plan briefing to all mission participants;
- c) the pilot and the chief technician conduct a reconnaissance of the mission site to:
  - i) locate and confirm mission objective(s);
  - ii) determine if a Class D operation is necessary;
  - iii) identify flight and ground hazards and hazard mitigation measures;
  - iv) conduct power checks;
  - v) select the staging area; and
  - vi) finalize the mission plan and options as appropriate.
- d) land at the staging area, and configure the aircraft for Class D operations.
  - i) remove all possible weight from the helicopter (maximize lift);
  - ii) attach the personnel carrying device to the helicopter as per flight manual supplement and manufacturer's instructions;
  - iii) Technician(s) equipment is put on and checked;
  - iv) Spotter's equipment is put on and checked. Safety lanyard to hard points;
  - v) Technician re-checks attachment of the personnel carrying device;
  - vi) all equipment at staging area secured prior to lift off;
  - vii) communications check between pilot, spotter and technician(s); and
  - viii) lift off.
- e) Rappel technician(s) into the site. (Maximum two persons on the line at any time.) Rappel any extra gear required into the site; (rappel ops only)
- f) Technicians conduct work on site as required. Helicopter lands and shuts down at the staging area. Radio communications between the pilot and the chief technician are maintained at all times;
- g) when the onsite work is completed, evacuate technicians and all persons from the site to the staging area;

- h) detach the personnel-carrying device from the aircraft, and re-configure the aircraft for normal flight;
- i) return flight to base. At base, inspect and put away equipment, conduct mission de-briefing as appropriate.

#### Emergency Procedures

**CAUTION LIGHT** - In the event of an instrument panel caution light, the pilot will immediately communicate this information to the spotter and any mission crew being carried externally, and inform them of the specific actions to be taken, as appropriate for the circumstances.

**COMMUNICATIONS FAILURE** - In the event of loss of radio intercommunications with any of the mission crew during flight, the mission will be aborted and the helicopter will return to the staging area until such time as full radio intercommunications are re-established. Hand signals as contained in the Workers Compensation Board of BC publication "Safe Work Practices for Helicopter Operations in the Forest Industry" will be used to ensure mission crew and aircraft safety on the flight to the staging area.

**EMERGENCY LANDING** - Place the load on the ground at the nearest suitable site, move the aircraft slightly to the side, and land with the load close to the pilot's door.

**ENGINE FAILURE** - Proceed (auto-rotation if required) to the nearest suitable landing site and conduct an emergency landing.

**MECHANICAL MALFUNCTION** - In the event that the pilot experiences a loss or reduction in power, or any other indication of mechanical malfunction of the helicopter, the pilot will immediately communicate this information to the spotter and any persons being carried externally, and perform an emergency landing.

**MISSION CREW MEMBER DISTRESS** - In the event that any member of the mission crew is injured or unable to proceed, the helicopter will proceed to the staging area and land.

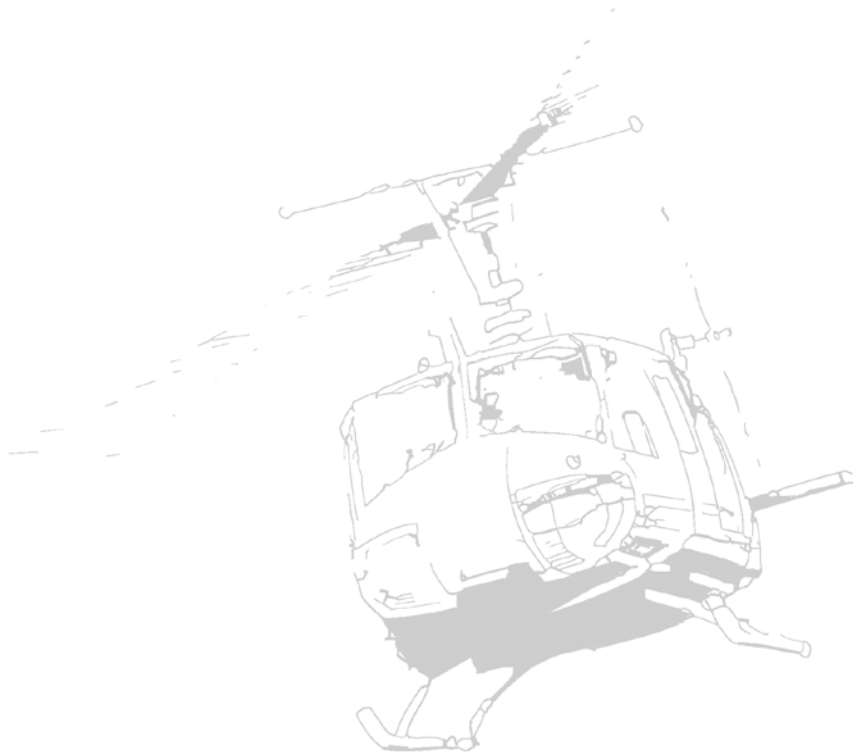
**SUSPENSION LINE SNAG WITH A TECHNICIAN ON THE LINE** - In the unlikely event that the suspension line becomes snagged on a tree or other obstacle while a technician is being carried externally, the pilot and the spotter will establish radio communications with that technician, and exchange information regarding the specific nature of the problem. The pilot will then reduce suspension line tension, and the technician will attempt to free the line in an appropriate manner, ensuring his personal safety.

If the technician is able to free the line, the pilot will conduct an emergency landing and inspect the entire personnel carrying device to ensure system integrity.

If the technician is unable to free the snagged suspension line, the technician will secure himself to the obstacle, and radio the pilot and spotter when he is fully secured. When the technician is fully secure, the pilot position the helicopter so that the line does not fall onto the technician, and then give the order to jettison the suspension line in the manner prescribed in the flight manual supplements for that personnel carrying device.

**SUSPENSION LINE SNAG WHILE THE LINE IS UN-ATTENDED** - In the event that the suspension line becomes snagged and there is no technician being carried externally on the line, the pilot and the spotter will coordinate the movements of the aircraft to free the line from the obstacle. If these efforts are successful, the pilot will immediately return to the staging area and inspect the entire personnel carrying device to ensure system integrity.

If the efforts to free the suspension line are unsuccessful, the pilot will give the order to jettison the suspension line in the manner prescribed in the flight manual supplement for that personnel carrying device.



**Working Agreement Between Campbell Helicopters Ltd. and User Organization  
Regarding Helicopter Class D External Load Operations Pursuant to CASS 722.21(2)(b)(viii)**

Campbell Helicopters Ltd. and User Organization agree to conduct all helicopter Class D external load operations in compliance with all applicable Canadian Aviation Regulations and Commercial Air Service Standards, and according to the following terms and conditions.

- a) Campbell Helicopters Ltd. will have all required Operations Manual approvals from Transport Canada in place for Class D load operations;
- b) Personnel carrying device(s) will be approved by Transport Canada (Airworthiness) for use on the helicopter to be used. Flight manual supplements and all other documentation provided by the manufacturer(s) of the personnel carrying device(s) will be available on site;
- c) All Class D load operations, including training missions, will be conducted as specified in Campbell Helicopters Ltd. approved Operations Manual;
- d) Pilots conducting Class D load operations will be trained and current to the standards specified in section 6.19 EXTERNAL LOAD TRAINING, Class D External Loads of the approved Campbell Helicopters Ltd. Operations Manual; and
- e) Spotters and technicians assigned by User Organization to participate in Class D load operations will be trained and current to the standards specified in section 6.19 EXTERNAL LOAD TRAINING, Class D External Loads of the approved Campbell Helicopters Ltd. Operations Manual.

The undersigned have knowledge of all details of the terms and conditions shown above, and agree to these terms and conditions.

**For Campbell Helicopters**

Name: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Title: \_\_\_\_\_  
 Date: \_\_\_\_\_

**For User Organization**

Name: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Title: \_\_\_\_\_  
 Date: \_\_\_\_\_



**CAMPBELL HELICOPTERS LTD.  
SECTION 5 - EMERGENCY PROCEDURES  
AND  
EQUIPMENT**

## 5.1 ACCIDENT/INCIDENT REPORTING (AIM GEN 3.3.1 and 3.3.3)

All accidents/incidents will be reported to the Operations Manager or delegate by the timeliest means possible. This initial contact must be followed up with a formal accident / incident report found at Annex A. This report is to be forwarded to the Operations Manager within 24 hours of initial contact.

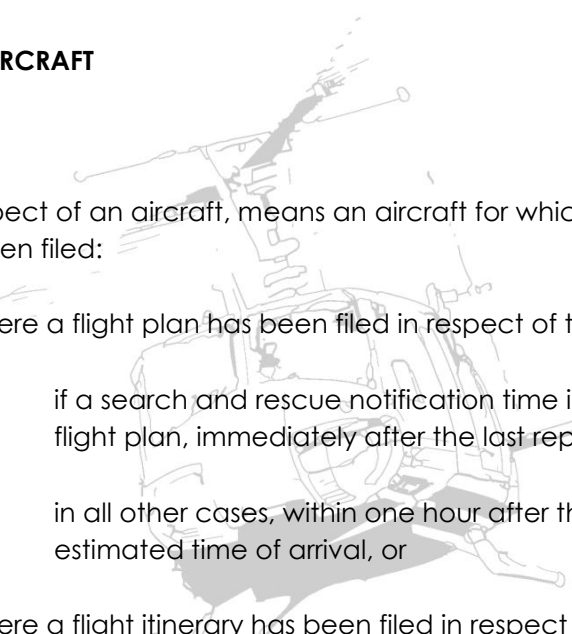
The Operations Manager will report all accidents or incidents to the Transportation Safety Board as required by Transport Canada. When in doubt as to the requirement to report an occurrence, the Operations Manager will contact the Transportation Safety Board for guidance. The PIC retains the responsibility to ensure that the accident or incident is reported to the Transportation Safety Board (TSB).

Annex B details what constitutes a reportable accident and incident.

## 5.2 REPORTING OVERDUE AIRCRAFT

### 5.2.1 Definition

“Overdue”, in respect of an aircraft, means an aircraft for which an arrival report has not been filed:

- 
- a) where a flight plan has been filed in respect of the aircraft,
    - (i) if a search and rescue notification time is specified in the flight plan, immediately after the last reported such time, or
    - (ii) in all other cases, within one hour after the last reported estimated time of arrival, or
  - b) where a flight itinerary has been filed in respect of the aircraft,
    - (i) if a search and rescue notification time is specified in the flight itinerary, immediately after the last reported such time, or
    - (ii) in all other cases, within 24 hours after the last reported estimated time of arrival.

### 5.2.2 Notification

Any person who assumes responsibilities with respect to an aircraft and who has reason to believe that the aircraft is overdue, or any other person who has been directed by that person to do so, shall immediately, by the quickest means available:



- a) notify an air traffic control unit, a flight service station, a community aerodrome radio station or a Rescue Co-ordination Center; and
- b) provide, to the best of the person's knowledge, all of the available information concerning the overdue aircraft that may be requested by the flight service station, the community aerodrome radio station or the Rescue Co-ordination Center.

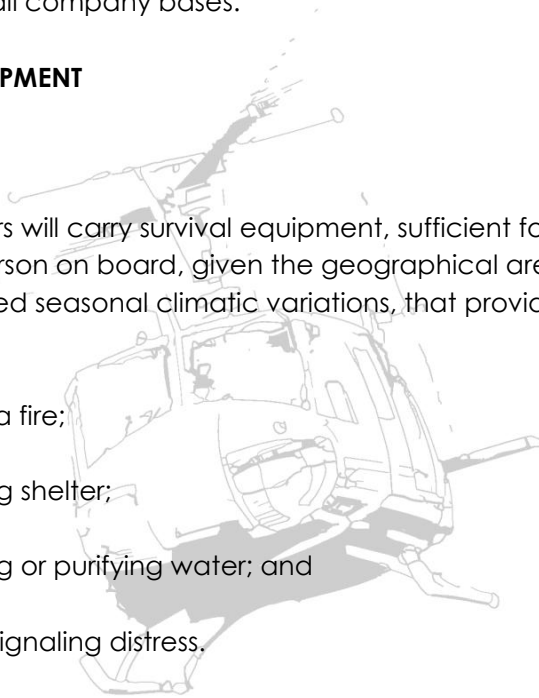
It will also be necessary to inform the Operations Manager or other company contact person.

A list of people to contact is at Annex C. This Annex is to be posted in a prominent location at all company bases.

### 5.3 EMERGENCY SURVIVAL EQUIPMENT

#### 5.3.1 Flights over land

All company helicopters will carry survival equipment, sufficient for the survival on the ground of each person on board, given the geographical area, the season of the year and anticipated seasonal climatic variations, that provides the means for:

- a) starting a fire;
  - b) providing shelter;
  - c) providing or purifying water; and
  - d) visually signaling distress.
- 

A survival manual must also be carried.

Annex D to this section contains a detailed list of the equipment.

This equipment does not have to be carried if:

- a) the helicopter is operated within 25 nm of the departure point and the aircraft is equipped with suitable radio(s) to communicate with a flight follower for the duration of the flight; or
- b) the helicopter is operated in a geographical area where, and at a time of year when, the survival of the persons on board is not jeopardized.

### 5.3.2 Flights over water

A life preserver is required for each person on board if the helicopter is operated over water beyond a point where it could reach shore in the event of an engine failure.

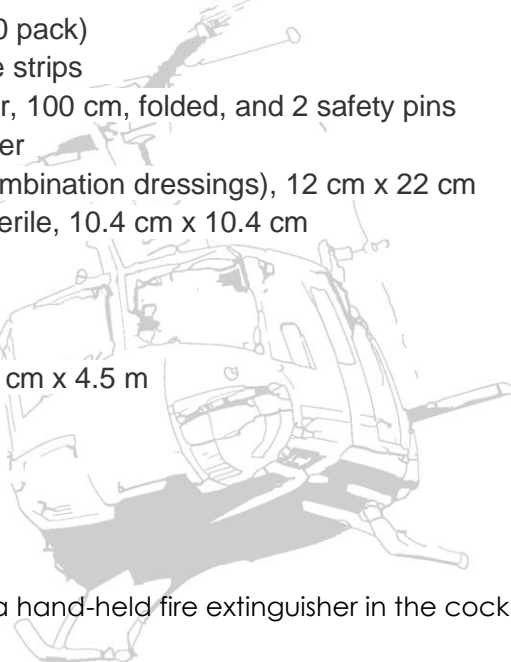
Life preservers shall be carried and stowed so that they are within reach of each person carried when seated with his or her seat belt fastened.

### 5.3.3 First Aid Kit

A first aid kit will be carried on board each helicopter. This first aid kit shall contain the supplies and equipment for a Type "A" kit set out in the Aviation Occupational Safety and Health Regulations Part X, Schedule II

*To follow is the list for SCHEDULE II, Type A:*

- 1 x Antiseptic swabs (10 pack)
- 6 x Bandages: adhesive strips
- 2 x Bandages: triangular, 100 cm, folded, and 2 safety pins
- 1 x First Aid Kit Container
- 2 x Abdominal pads (combination dressings), 12 cm x 22 cm
- 8 x Dressings: gauze sterile, 10.4 cm x 10.4 cm
- 1 x Tweezers
- 4 x Gloves: disposable
- 1 x Scissors: bandage
- 2 x Tape: adhesive, 2.5 cm x 4.5 m
- 1 x Blanket: foil type



### 5.3.4 Fire Extinguisher

Each helicopter shall carry a hand-held fire extinguisher in the cockpit that is:

- a) of a type suitable for extinguishing the fires that are likely to occur;
- b) designed to minimize the hazard of toxic gas concentrations; and
- c) readily available in flight to each flight crew member.

### 5.3.5 Inspections

Emergency equipment (survival kits, life preservers, life rafts, ELT, first aid kit and fire extinguishers) will be inspected annually. Certification as to its acceptability shall be kept on file in the company's Maintenance Schedule Report.

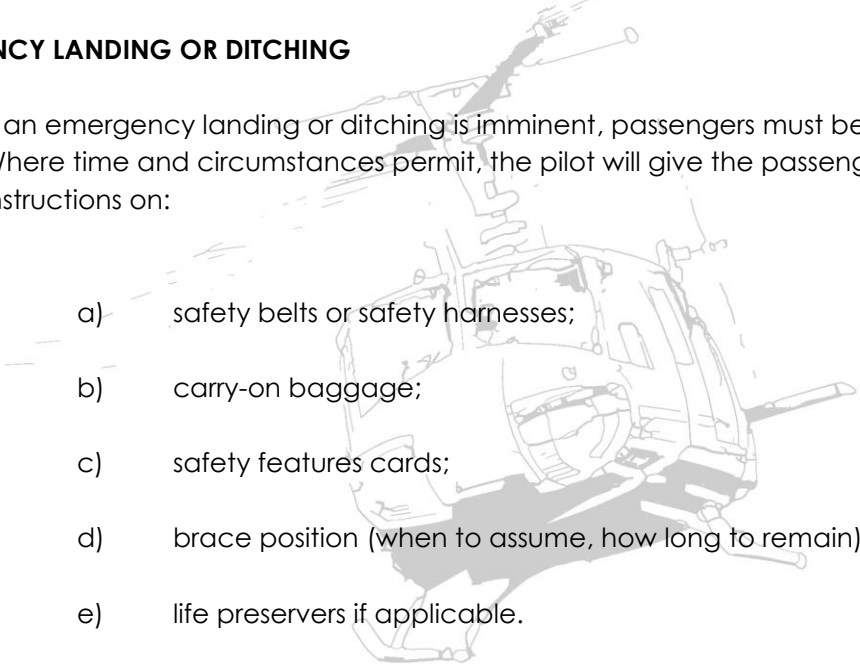
The Operations Manager is to make the Company inspection report available to Transport Canada at audit or any other time it is demanded.

## 5.4 ELT OPERATING PROCEDURES

The ELT will be operated in accordance with the instructions in AIM SAR 3.0 and the Canada Flight Supplement emergency section and operating instructions printed on the ELT.


## 5.5 EMERGENCY LANDING OR DITCHING



If an emergency landing or ditching is imminent, passengers must be prepared. Where time and circumstances permit, the pilot will give the passengers instructions on:

- 
- a) safety belts or safety harnesses;
  - b) carry-on baggage;
  - c) safety features cards;
  - d) brace position (when to assume, how long to remain); and
  - e) life preservers if applicable.

## 5.6 EVACUATION

If emergency evacuation of the aircraft is necessary following an emergency landing or ditching, or at any other time, the pilot will give clear instructions to all persons on board, and supervise the evacuation until all persons are clear of the helicopter. The pilot will give clear instructions on the safest direction and most hazard-free escape route for passenger movement away from the helicopter following evacuation.

COPY # ___ of 4	<b>CAMPBELL HELICOPTERS LTD</b>	<i>File / Control Number (Office use only)</i>									
		<table border="1" style="float: right; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">YYYY</td> <td style="width: 20px; text-align: center;">MM</td> <td style="width: 20px; text-align: center;">DD</td> <td style="width: 20px; text-align: center;">###</td> </tr> </table>	YYYY	MM	DD	###					
YYYY	MM	DD	###								
<b>COMPANY ACCIDENT / INCIDENT REPORT</b>											
<i>(This form is to be received by Operations within 24 hours of initial notification of occurrence.)</i>											
<b>BASIC INFORMATION</b>											
Date:	Time:	Aircraft Type:									
Location:		Tail Number:									
Lat/Long:		Pilot:									
		Engineer:									
<b>If applicable, detail additional crewmembers involved:</b>											
Position	Name	Position									
		Name									
Position	Name	Position									
		Name									
<b>MISSION / TASK</b>		<b>WEATHER CONDITIONS</b>									
<b>GENERAL DESCRIPTION OF ACCIDENT / INCIDENT</b>											
<p>Provide a synopsis of events leading up to the accident / incident describing the outcome or potential hazard. Attach additional pages if required. Include photographs if possible and provide descriptions in box at right.</p>		<b>ATTACHED PHOTOGRAPHS</b>									
		Pic #      Description									
		Pic #      Description									
		Pic #      Description									
<b>LIST OF WITNESSES (Attach witness statements, if available)</b>											
Position	Name	Contact Number									
Position	Name	Contact Number									
Position	Name	Contact Number									
Position	Name	Contact Number									
<b>INJURIES (Provide number of each type)</b>											
None	Minor	Serious	Fatal	Unknown	If unsure of the correct information, indicate "unknown" – don't speculate.	<b>AIRCRAFT DAMAGE (Check appropriate box)</b>					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	None	<input type="checkbox"/>	Minor	<input type="checkbox"/>	Major
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Destroyed	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Unknown	
Reported by:						Contact Number:					
Copy 1: Operations Manager   Copy 2: Accountable Executive   Copy 3: Chief Pilot   Copy 4: Director of Maintenance											

<b>FOLLOW-UP INFORMATION</b>																				
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ADVISED (IF REQ'D)																				
Operations	Y	N																		
RCMP	Y	N																		
Transport Canada	Y	N																		
Customer	Y	N																		
	Y	N																		
<b>SAFETY COMMITTEE RECOMMENDATIONS</b>																				
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Recommending Person:	Position:																			
Signature:	Date:																			
<b>ACCOUNTABLE EXECUTIVE COMMENTS</b>																				
Attach additional documents as required. <div style="text-align: center; margin-top: 20px;">  </div>																				
Name:	Position:																			
Signature:	Date:																			

**Annex "B" – DEFINITIONS OF REPORTABLE AVIATION OCCURANCE / ACCIDENT / INCIDENT**

From AIM GEN 3.2.

**"Aviation Occurrence"** means:

- (a) any accident or incident associated with the operation of aircraft; and
- (b) any situation or condition that the Board has reasonable grounds to believe could, if left unattended, induce an accident or incident described in paragraph (a).

**"Reportable Aviation Accident"** means an accident resulting directly from the operation of an aircraft, where:

- (a) a person sustains a serious injury or is killed as a result of
  - (i) being on board the aircraft,
  - (ii) coming into contact with any part of the aircraft or its contents, or
  - (iii) being directly exposed to the jet blast or rotor downwash of the aircraft;
- (b) the aircraft sustains damage or failure that adversely affects the structural strength, performance or flight characteristics of the aircraft and that requires major repair or replacement of any affected component part; or
- (c) the aircraft is missing or inaccessible.

**"Mandatory Reportable Incident"** In the case of an incident involving an aircraft having a maximum certificated take-off weight greater than 2 250 kg, or of an aircraft being operated under an air operator certificate issued under Part VII of the *Canadian Aviation Regulations*:

- (a) an engine fails or is shut down as a precautionary measure;
- (b) a transmission gearbox malfunction occurs;
- (c) smoke or fire occurs;
- (d) difficulties in controlling the aircraft are encountered owing to any aircraft system malfunction, weather phenomena, wake turbulence, uncontrolled vibrations or operations outside the flight envelope;
- (e) the aircraft fails to remain within the intended landing or takeoff area, lands with all or part of the landing gear retracted or drags a wing tip, an engine pod or any other part of the aircraft;
- (f) any crew member whose duties are directly related to the safe operation of the aircraft is unable to perform the crew member's duties as a result of a physical incapacitation that poses a threat to the safety of any person, property or the environment;

- (g) depressurization occurs that necessitates an emergency descent;
- (h) a fuel shortage occurs that necessitates a diversion or requires approach and landing priority at the destination of the aircraft;
- (i) the aircraft is refueled with the incorrect type of fuel or contaminated fuel;
- (j) a collision, a risk of collision or a loss of separation occurs;
- (k) a crew member declares an emergency or indicates any degree of emergency that requires priority handling by an air traffic control unit or the standing by of emergency response services;
- (l) a slung load is released unintentionally or as a precautionary or emergency measure from the aircraft; or
- (m) any dangerous goods are released in or from the aircraft.



**Pilot -Post Accident Procedures**

- (1) *Immediately following an accident, flight crewmembers shall:*
  - (a) Ensure fuel is turned off and electrical systems secured;
  - (b) Evacuate passengers ensuring that the rotor blades have stopped;
  - (c) Assemble all persons and take action to recover missing persons;
  - (d) Place ELT on a level surface as high as possible, avoid obstructions between it and the horizon, activate the ELT, do not turn it off until rescued;
  - (e) Administer to the needs of injured persons as possible;
  - (f) Remove survival equipment;
  - (g) Prepare pyrotechnics for use and determine serviceability of aircraft radios; and
  - (h) Prepare shelters and lay out search and rescue signals.

**Protection of Occurrence Site Aircraft Components and Documentation**

- (1) When an accident or reportable incident occurs company personnel shall secure the site as applicable.
- (2) *The PIC, operator, owner and any crew member of the aircraft involved, shall as far as possible, preserve and protect:*
  - (a) The aircraft or any component or contents thereof and the occurrence site until such time as an TSB investigator otherwise authorizes; and
  - (b) All records, documents, and all materials of any kind pertaining to the flight during which the accident occurred, the crewmembers and the aircraft, its contents and components.
- (3) The records, information, documents and materials referred to above shall be surrendered to a TSB investigator on demand.

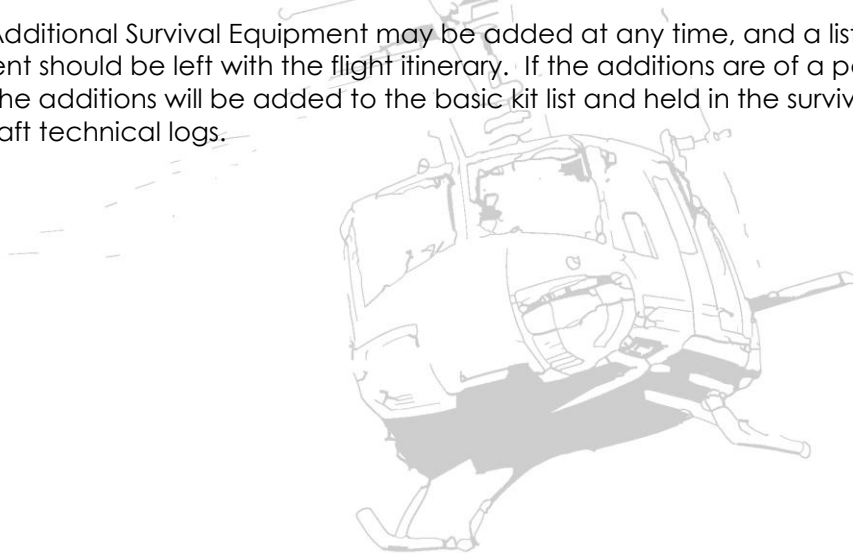


**Annex "D" - LAND SURVIVAL EQUIPMENT**

The normal land survival equipment will consist of:

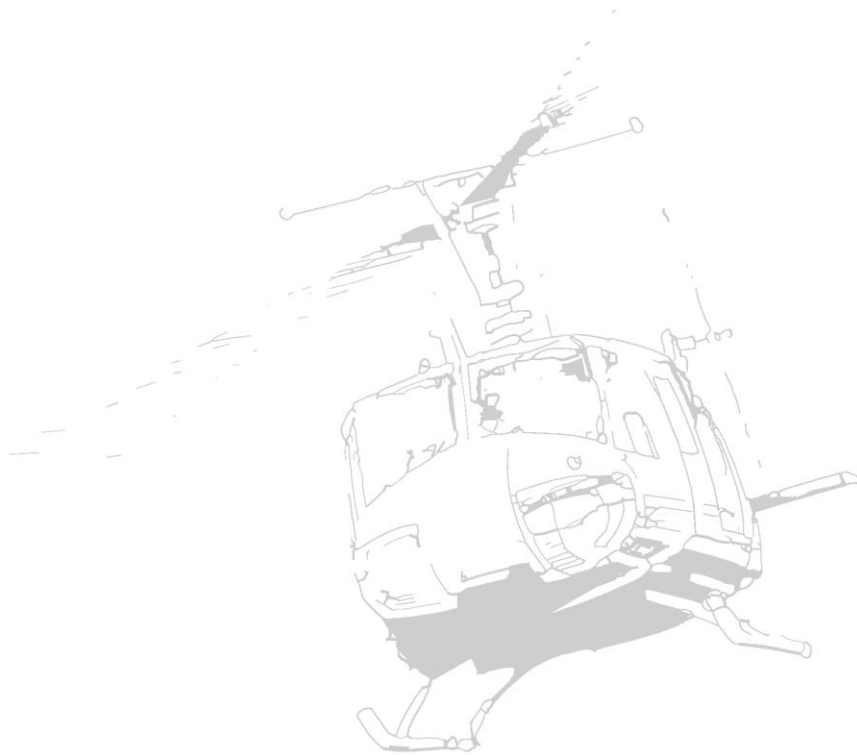
<b>Requirement</b>	<b>Means</b>
Starting a fire	Waterproof Matches Hand Ax (Hatchet) Survival Knife
Providing shelter	Tent or Tarps
Providing or purifying water	Water Purification Tablets
Visually signaling distress	Signal Panel Signal Mirror
Instructions	Survival Manual Instructions for use of equipment

**NOTE:** Additional Survival Equipment may be added at any time, and a list of such equipment should be left with the flight itinerary. If the additions are of a permanent nature, the additions will be added to the basic kit list and held in the survival kit and with the aircraft technical logs.



**Annex “E” - WATER SURVIVAL EQUIPMENT**

N/A





**CAMPBELL HELICOPTERS LTD.**  
**SECTION 6 - TRAINING PROGRAM**

## 6.1 TRAINING PROGRAM

### 6.1.1 Pilot Training

Pilots must have a minimum of 1,000 hours PIC on helicopters to be employed with Campbell Helicopters Ltd.

The Chief Pilot is responsible for the pilot training program. Training will consist of ground training, flying training, confirmatory exams and flight test (if required).

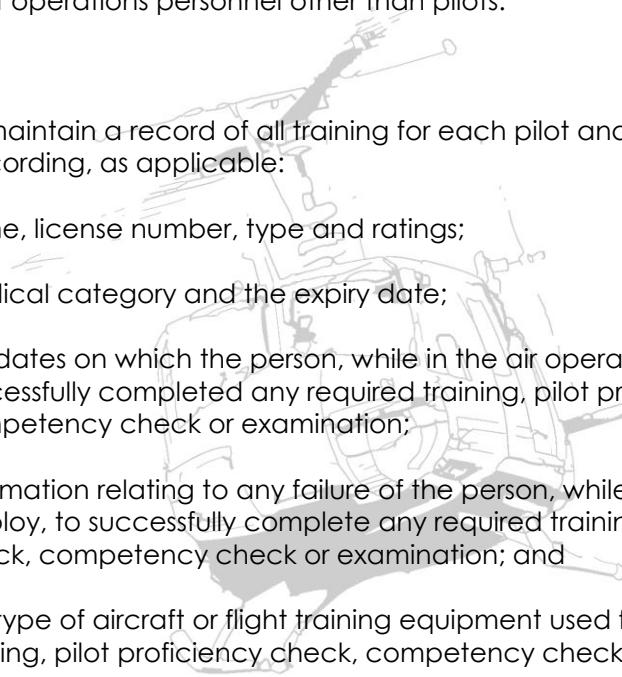
### 6.1.2 Other Operations Staff Training

The Operations Manager is responsible for the training of operational staff other than pilots.

The Operations Manager will establish and maintain a safety awareness program concerning the adverse effects of aircraft surface contamination and provide the program to all flight operations personnel other than pilots.

## 6.2 TRAINING RECORDS

The company will maintain a record of all training for each pilot and other persons who require training, recording, as applicable:

- 
- a) name, license number, type and ratings;
  - b) medical category and the expiry date;
  - c) the dates on which the person, while in the air operator's employ, successfully completed any required training, pilot proficiency check, competency check or examination;
  - d) information relating to any failure of the person, while in the air operator's employ, to successfully complete any required training, pilot proficiency check, competency check or examination; and
  - e) the type of aircraft or flight training equipment used for any required training, pilot proficiency check, competency check;
  - f) a record of each pilot proficiency check; and
  - g) a copy of the most recent written examination completed by each pilot for each type of aircraft for which the pilot has a qualification.

Records will be kept using the form found at Annex "A" to this section. All training records will be retained for at least three years.

## 6.3 TRAINING AND QUALIFICATIONS OF TRAINING PERSONNEL

Instructors (Ground Training) and Training Pilots (Flight) must be qualified and trained in accordance with CASS 723.98 (3).

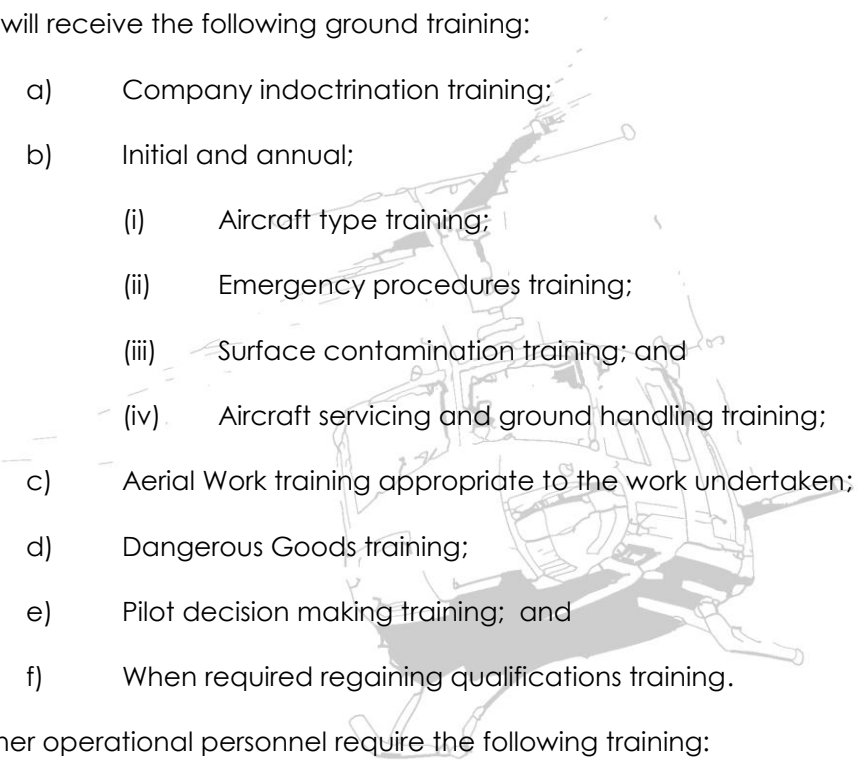
## 6.4 TRAINING PROGRAM STANDARDS

The syllabus of each training program shall include the programmed time allotted and the subject matter to be covered.

Manuals, if applicable, shall be provided during training to each trainee on the subject matter to be taught. Relevant training aids such as fire extinguishers, life preservers, rafts, aircraft components, static aircraft, etc. shall be available for the program being presented.

Ground training programs shall provide a means of evaluating the trainee after completion of the syllabus by completion of an examination with review and correction of any errors. Training examinations should be comprehensive and periodically reviewed and updated.

Pilots will receive the following ground training:

- 
- a) Company indoctrination training;
  - b) Initial and annual;
    - (i) Aircraft type training;
    - (ii) Emergency procedures training;
    - (iii) Surface contamination training; and
    - (iv) Aircraft servicing and ground handling training;
  - c) Aerial Work training appropriate to the work undertaken;
  - d) Dangerous Goods training;
  - e) Pilot decision making training; and
  - f) When required regaining qualifications training.

All other operational personnel require the following training:

- a) All persons assigned to an operational control function, including base managers and persons responsible for flight following:
  - (i) Company indoctrination training;
- b) Persons assigned on board duties, other than as a pilot:
  - (i) Initial and annual training in those duties; and
- c) Persons assigned the duties of the flight follower:
  - (i) Flight follower training.

Detailed syllabi are included in Section 6, Annex C (dangerous goods training is in Section 8).

### 6.5 TRANSPORTABILITY OF PILOT PROFICIENCY CHECK

If a pilot starts employment with Campbell Helicopters Ltd. and holds a valid PPC from another company on one of the helicopter types operated by Campbell Helicopters Ltd. then the PPC remains valid provided the pilot receives the following training:

- a) company indoctrination;
- b) pilot ground and emergency procedures training on each type of helicopter the pilot is assigned, sufficient to cover the air operator procedures and equipment differences;
- c) standard operating procedures review; and
- d) Campbell Helicopters Ltd. records the PPC validity and expiration date in company records.

### 6.6 COMPANY INDOCTRINATION TRAINING

This training is required upon initial employment for all persons assigned to an operational control function, including base managers, pilots and persons responsible for flight following. The program shall ensure that persons involved in control of flight operations are aware of their responsibilities, know company reporting relationships and are competent to fulfil their assigned duties related to flight operations.

A person who has not acted in an operational control position within the previous three months shall, prior to acting in an operational control position, satisfy the air operator that the person still has the knowledge and abilities referred to in this syllabus.

Programmed time allotted: 4 hours

Syllabus:

- a) the Canadian Aviation Regulations and applicable Standards;
- b) Air Operator Certificate and Operations Specifications;
- c) company organisation, reporting relationships and communication procedures, including duties and responsibilities of flight crew members and the relationship of those duties to other crew members;
- d) flight planning and operating procedures;
- e) fuelling procedures including procedures for fuelling with passengers on board and fuel contamination precautions;
- f) critical-surface contamination and safety awareness program;

- g) passenger safety briefings and safe movement of passengers to/from the helicopter;
- h) use and status of the Company Operations Manual including maintenance release procedures and accident/incident reporting procedures;
- i) aircraft icing and other meteorological training appropriate to the area of operations;
- j) navigation procedures and other specialised operations applicable to the operator;
- k) accident/incident reporting;
- l) passenger on board medical emergency;
- m) handling of disabled passengers;
- n) carriage of external loads;
- o) operational control system;
- p) weight and balance system procedures; and
- q) pre-flight crew member briefing.

On completion of training a satisfactory written exam will be placed in the persons training record file.

## 6.7 TECHNICAL GROUND TRAINING

Pilots require technical ground training annually and will be aircraft type specific. On completion of training a satisfactory written type training exam will be placed in the pilot's training record file.

This training shall ensure that each pilot is knowledgeable with respect to helicopter systems and all normal, abnormal and emergency procedures.

Type training programs should be performance oriented and stress the operation (normal, emergency and malfunctions) of the helicopter systems and equipment. Instruction related to components and systems that flight crews cannot control, influence or operate should be minimised.

Programmed time allotted:	Initial:	4 hours
	Annual:	2 hours (may be self study)

Syllabus:

- a) helicopter systems operation and limitations as contained in the helicopter Flight Manual;

- b) operation of all equipment that is installed in all helicopters of the same type operated by the air operator;
- c) differences in equipment that is installed in all helicopters of the same type in the air operator's fleet;
- d) helicopter performance and limitations; and
- e) weight and balance procedures.

## 6.8 EMERGENCY PROCEDURES TRAINING

Pilots require annual training on emergency procedures. It must include instruction in the location and operation of all emergency equipment. Training devices approved to simulate flight operating emergency conditions, static helicopters, ground demonstrations, classroom lectures, films or other devices may be used for training provided the method used ensures that each flight crew member is adequately trained in the operation or use of all emergency equipment. Where practical training is required, it shall be completed on initial training and every three years thereafter.

Programmed time allotted:	Initial and every 3 years:	2 hours
	Annual:	1 hour

Syllabus:

- a) fire in the air and on the ground;
- b) use of fire extinguishers, including practical training;
- c) operation and use of emergency exits, including practical training;
- d) passenger preparation for an emergency landing or ditching, (as applicable) including practical training;
- e) emergency evacuation procedures, including practical training;
- f) donning and inflation of life preservers (when equipped), including practical training;
- g) removal from stowage, deployment, inflation and boarding of life rafts (when equipped), including practical training;
- h) hijacking, bomb threats and other security procedures;
- i) passenger on board medical emergency;
- j) special emergency procedures where the helicopter is used on MEDEVAC operations, including patient evacuation in emergency situations.

On completion of training a satisfactory written exam will be placed in the pilots training record file.



## 6.9 SURFACE CONTAMINATION TRAINING

Pilots require initial and recurrent training to ensure they are aware of hazards and procedures for ice, frost and snow critical contamination on helicopters.

Programmed time allotted: 1 hour (may be self study)

Syllabus:

- a) responsibility of the pilot-in-command and other operations personnel;
- b) regulations related to operations in icing condition;
- c) weather conducive to ice, frost and snow contamination;
- d) inspection before flight and removal of contamination;
- e) in-flight icing recognition; and
- f) hazards related to critical-surface contamination by ice, frost and snow.

On completion of training a satisfactory written exam will be placed in the pilots training record file.

## 6.10 SURVIVAL EQUIPMENT TRAINING

Pilots require survival equipment training.

Programmed time allotted: 1 hour

Syllabus:

- a) survival concepts;
- b) contents of the survival equipment kit;
- c) how to use the survival equipment carried on board as appropriate for the operation.

## 6.11 AIRCRAFT SERVICING AND GROUND HANDLING TRAINING FOR PILOTS

Pilots require training in aircraft servicing and ground handling.

Programmed time allotted: 1 hour

Syllabus:

- a) Elementary Work, as per CARs 706.10;

- b) Fuelling procedures:
  - (i) types of fuel, oil and fluids used in the helicopter;
  - (ii) correct fuelling procedures;
  - (iii) procedures for checking fuel, oil and fluids and the proper securing of caps.
- c) use of tow bars;
- d) installation of protective covers on the helicopter;
- e) procedures for operating in cold weather, such as:
  - (i) moving the helicopter out of a warm hangar when precipitation is present;
  - (ii) the environmental impact of employing de-icing or anti-icing fluids (not authorized at Campbell Helicopters); and
  - (iii) engine and cabin pre-heating procedures, including proper use of related equipment.

On completion of training a satisfactory written exam will be placed in the pilots training record file.

## 6.12 RESETTING OF TRIPPED CIRCUIT BREAKERS

### 6.12.1 Technical Ground Training

Study helicopter systems operation and limitations as contained in the helicopter Flight Manual, including tripped CB resetting procedures. (See Section 4.19 this manual).

## 6.13 AERIAL WORK TRAINING

Pilot training shall be provided where the aerial work requires particular flight manoeuvres, aircraft performance considerations or knowledge of equipment to safely conduct the operation.

Programmed time allotted: as required

Syllabus:

- a) training related to contents and requirements of flight manual supplements or airworthiness approvals;
- b) pre-flight inspection requirements of aerial work equipment;

- c) procedures for handling malfunctions and emergencies related to the aerial work equipment;
- d) operational preparation procedures related to reconnaissance of aerial work areas before low level flight operations;
- e) operational restrictions;
- f) flight training and practice in required flight manoeuvres.

On completion of training a satisfactory written exam will be placed in the pilots training record file.

#### **6.14 EXTERNAL LOAD TRAINING - Class B and C External Loads**

This training is required where a pilot has not received training for the Class of external load to be carried or has not conducted the Class of external load within the previous 24 calendar months.

Programmed time allotted: 1 hour ground, 30 minutes air.

Syllabus:

- a) restrictions related to external load operations over built-up areas;
- b) preparation of loads, load rigging procedures and attaching of Class B and Class C loads as applicable;
- c) steps to be taken before starting operations, including flight and ground crew briefings, and instructions, inspection of suspension cables and pre-flight checking of jettison system;
- d) precautions related to aerodynamics of Class B and Class C external loads, including oscillation and carriage of un-weighted cables;
- e) flight training in the pick-up, departure, approach and delivery of representative Class B external loads as applicable;
- f) flight training in manoeuvring with Class C external loads as applicable; and
- g) instruction on the applicable external load flight manual supplement.

On completion of training a satisfactory written exam will be placed in the pilots training record file.

## 6.15 EXTERNAL LOAD TRAINING - Class D External Load

### 6.15.1 Training for Pilots

Pursuant to CAR 702.76 and CASS 722.76(6) (c) the initial and annual recurrent training program shown below is required for pilots assigned to Class D external load operations. All pilot training for Class D external loads as specified in this section will be conducted ONLY after successful completion of the Aerial Work Training as specified in section 6.17 of the Campbell Helicopters Ltd. Operations Manual.

Programmed time allotted:	<u>Ground School</u>	
	Initial	8 hours
	Recurrent	1.5 hours
	<u>Flight Time</u>	
	Initial	1.0 hours
	Recurrent	0.4 hours

**Note:** If the pilot has not conducted Class D External Load operations or successfully performed recurrent training within the past 36 months, the pilot will re-do the Initial training program.

Syllabus:

- a) instruction on the applicable flight manual supplement or Airworthiness approvals, including weight and balance calculation procedures, method of loading, rigging and attaching the external load and pre-flight procedures;
- b) instruction on operational requirements, including calculation of one engine inoperative performance as applicable, co-ordination and communications procedures, and operational restrictions;
- c) steps to be taken before commencing Class D load operations, including flight and ground crew briefings and instructions and pre-flight inspection requirements;
- d) flight training with representative Class D loads including, as applicable to the load attachment configuration:
- e) precision hovering in and out of ground effect, including vertical reference maneuvering;
- f) pick up, departure, approach and delivery of Class D loads;
- g) simulated emergencies and malfunction procedures with representative Class D loads.
- h) comprehensive classroom instruction, on-the-helicopter training and simulated mission(s) as specified in Appendix 1 – Campbell Helicopters Ltd. Training Program, Helicopter Human External Load Operations (Canada), to this section.

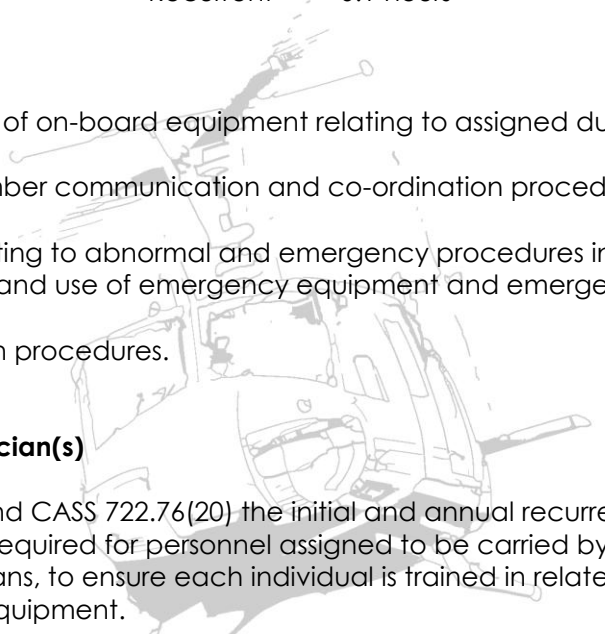
On completion of training a satisfactory written exam will be placed on the pilot's training record file.

### 6.15.2 Training for Spotter(s)

Pursuant to CAR 702.76 and CASS 722.76(19) the initial and annual recurrent training program shown below is required for personnel assigned duties on board aircraft during Class D external load operations, to ensure each crew member is trained to perform assigned duties.

Programmed time allotted:	<u>Ground School</u>	
	Initial	8 hours
	Recurrent	4 hours
	<u>Flight Time</u>	
	Initial	0.2 hours
	Recurrent	0.1 hours

Syllabus:

- 
- a) Proper use of on-board equipment relating to assigned duties;
  - b) Crew member communication and co-ordination procedures;
  - c) Duties relating to abnormal and emergency procedures including operation and use of emergency equipment and emergency exits; and
  - d) Evacuation procedures.

### 6.15.3 Training for Technician(s)

Pursuant to CAR 702.76 and CASS 722.76(20) the initial and annual recurrent training program shown below is required for personnel assigned to be carried by helicopter Class D external load means, to ensure each individual is trained in related procedures and use of attachment equipment.

Programmed time allotted:	<u>Ground School</u>	
	Initial	8 hours
	Recurrent	4 hours
	<u>Flight Time</u>	
	Initial	0.2 hours
	Recurrent	0.1 hours

Syllabus:

- a) Flight crew and externally carried person(s) communication and co-ordination procedures;
- b) Procedures (pilot action) in the event of an aircraft system malfunction or emergency;

- c) Equipment inspection procedures;
- d) Proper attachment and use procedures for all elements of the approved personnel carrying device.
- e) Pre-flight inspection procedures
- f) Equipment malfunction procedures;
- g) Practice in the use of equipment and procedures using static aircraft; and
- h) Operational practice in procedures and use of equipment.

#### 6.16 LOW VISIBILITY OPERATIONS TRAINING PROGRAM

Prior to undertaking any flight, especially when reduced visibility conditions are anticipated, pilots shall familiarize themselves thoroughly, with:

- a) the weather
- b) the route;
- c) terrain;
- d) obstacles; and
- e) possible diversion routes, alternates and fuel requirements.

A major factor in accidents in low visibility operations is the failure of the pilot to realize that the aircraft is traveling too fast for the given conditions. All pilots are cautioned that as visibility decreases, so must forward airspeed and that they are to remain clear of cloud at all times. Poorly visible objects that can be difficult to see even in normal visibility conditions (dead snags, tree tops, wires etc..) are further hazards to flight in reduced visibilities.

In the summer month, greater care needs to be taken when operating in forest fire areas, due to the reduced visibility with smoke (and rain on occasion). In the winter month, rain, ice, snow etc., may be encountered, resulting in greater caution required by all pilots when operating in the associated reduced visibility.

Prior to conducting any flight operations in reduced visibilities in uncontrolled airspace Campbell Helicopters pilots shall meet the following conditions:

- a) pilots will have at least 1000 hours of pilot-in-command experience in helicopters;
- b) helicopters will be operated at a reduced air speed that will provide the pilot-in-command adequate opportunity to see and avoid obstacles;
- c) pilots will receive initially and every three years thereafter, Pilot Decision Making training which will include the following topics:

- (i) The decision making process, including modules on factors which affect good judgment;
  - (ii) Human performance factors, including modules on physical, psychological and, physiological phenomena and limitations; and
  - (iii) Human error countermeasures and good airmanship.
- d) pilots will have received initial and annual recurrent flight training for operations in reduced visibility as detailed in Section 4.1 of this COM; and
- e) ground training.

### 6.16.1 Ground Training

The pilot shall take the following factors shall be discussed and considered when conducting low visibility operations:

- a) Gross Weight: The gross weight should not exceed the allowable weight for the planned density altitude (WAT chart);
- i. Hover Out of Ground Effect vs. In Ground Effect
  - ii. Low speed flight in deteriorating weather
  - iii. Take off and landing in a snowball.
  - iv. Take off and landing in a brownout.
- b) Wind: The pilot should always be aware of wind direction and speed and how the wind might affect ground speed and turning radius;
- i. Affect on aircraft performance with a headwind vs. tailwind
  - ii. Time and distance to turn out of deteriorating weather
- c) Turning Radius: Distance traveled increases with speed therefore turning downwind will increase the turning radius;
- d) Weather: It is important for the pilot to receive proper weather briefings prior to any flight. Consideration should be given to both existing and forecast conditions, particularly with regard to wind, precipitation, changing conditions, frontal size and intensity.
- i. Forecast weather vs. actual weather
  - ii. Decision making if the weather as forecast is wrong

- e) Terrain: Consideration must be given to the terrain of intended flight: flat, hilly or mountainous. If mountainous, the availability of a route through low passes should be considered. The terrain should be constantly monitored for possible landing sites in case of rapidly deteriorating weather;
- i. Rising ground, snow covered lakes and heavily treed areas and associated problems when flying in deteriorating weather
  - ii. Weather changes from valley to valley when flying in mountainous terrain
  - iii. Man made obstacles along the route should be reviewed prior to departure
- f) Time of Day: Flight in reduced visibility is restricted to take-off not before one hour after sunrise and shall be completed one hour before sunset. The time of sunrise and sunset varies with latitude and pilots can obtain that information from the nearest FSS or in the AIM, GEN Section 1.6.4;
- i. Low light and how it affects visibility
  - ii. Planned departure and arrival times
  - iii. Affects smoke and ice crystals may have on visibility if a turn into a low setting sun is initiated.
- g) Communications: It should be considered that at reduced altitude the broadcast range is reduced and therefore it might be difficult maintaining communications for flight following (Section 3 - 3.2), receiving weather reports and notifying a ground station about changes to the planned route or possible emergencies;
- h) White-out: White-out is normally a loss of visual reference and is the most common cause of accidents during winter flying. Flat light and open white surface blends with the sky and there is no discernible horizon, which makes it difficult to detect falling snow from clouds ahead. Entering falling snow could cause loss of visual reference. If the area ahead looks doubtful, turn around. Do not fly passed your present reference point without the next reference point in sight. The most dangerous part of the flight is landing the helicopter in reduced visibility and loose and light snow. It is imperative to have a good, fixed and dark reference point for landing. This is also true in good visibility since visual reference could be lost landing, depending on the amount of loose snow;
- i. With a uniformly overcast sky
  - ii. In blowing snow with helicopter downwash
- i) Fuel Consideration: See this manual Section 4.1.2;
- i. Effects on airspeed vs. groundspeed and fuel reserves



- j) Aircraft Minimum Speed: On encountering low visibility operations, the helicopter shall be flown at a *reduced* airspeed that will provide the pilot adequate opportunity to see and avoid obstacles.

The minimum safe airspeed shall be in accordance with the Height / Velocity diagram in the approved RFM for the applicable type, but in any case not less than 40 kts;

Should the operation be such, that the airspeed needs to be reduced even further, i.e. beyond this minimum speed, the pilot shall not proceed any further on the selected route. In this case, either a safe landing shall be made at the nearest suitable landing site, or a turnaround shall be initiated.

On completion of training a satisfactory written exam will be placed in the pilots training record file.

### 6.16.2 Flight Training

This flight training is required initially and annually where a pilot could be expected to fly VFR in less than one mile visibility (but not less than one half mile visibility).

Programmed time allotted: 6 minutes air time.

Syllabus:

Flight sequences will at least consist of low altitude, low speed manoeuvring, and course reversal at low speed.

*(NOTE: This flight training need not be a separate sortie, but may be completed at the same time as annual recurrent flight training)*

## 6.17 PERSONS ASSIGNED ON BOARD DUTIES

Where the company has assigned on-board duties to a non-flight crew member, that person shall be given adequate instruction /training to perform the procedures relevant to the duties with which the person is to be involved. This training shall be above and beyond a passenger briefing outlined in Section 4.17

Programmed time allotted: as required

Syllabus:

- (a) proper use of on-board equipment relating to assigned duties;
- (b) crew member communication and co-ordination procedures;
- (c) duties relating to abnormal and emergency procedures including operation and use of emergency equipment and emergency exits; and
- (d) evacuation procedures.

## 6.18 REGAINING QUALIFICATIONS TRAINING

Pilots are required to have completed three takeoffs and landings on type in the last 90 days. Pilots who have not maintained this recency qualification but have completed three takeoffs and landings in the last 180 days must undergo the following regaining qualification training:

- a) a briefing on changes that have occurred to the helicopter or its operation since the last flight;
- b) three take-offs and landings (which may be carried out as part of a PPC where one has come due).

Pilots who have not completed three takeoffs and landings in the last 180 days must undergo annual flight training in order to re-qualify.

## 6.19 FLIGHT FOLLOWER TRAINING

Persons assigned the duties of the flight follower shall receive appropriate training.

Programmed time allotted: 4 hours

Syllabus:

- a) company indoctrination;
- b) duties and responsibilities;
- c) communication procedures;
- d) applicable regulations and standards;
- e) flight preparation procedures as applicable to assigned duties;
- f) procedures in the event of an emergency or overdue aircraft;
- g) accident and incident reporting procedures;
- h) requirements of the approved Company Operations Manual as applicable to the duties and responsibilities.

On completion of training a satisfactory written exam will be placed in the person's training record file.

### 6.19.1 Flight Training

Not applicable.

## 6.20 CRM TRAINING

The Company shall provide Crew Resource Management Training (CRM) to flight crew, flight attendants, dispatchers/flight followers, ground crew and maintenance personnel, as applicable, in accordance with paragraphs (a) and (b) of this subsection.

**Information Note:** *The training described in this subsection will be tailored to the needs and size of the organization. CRM training should cover the operator's safety culture, its company culture, the type of operations and the associated procedures of the operator. This should include areas of operations that may lead to particular difficulties or involve unusual hazards.*

(a) Initial training is to be conducted every three years and shall cover all the elements in paragraphs (a) and (b) below:

- (i) threat and error management;
- (ii) communications;
- (iii) situational awareness;
- (iv) pressures and stress;
- (v) fatigue;
- (vi) workload management;
- (vii) decision making;
- (viii) leadership and team building;
- (ix) automation and technology management; and
- (x) relevant case study.

(b) Annual training in safety and emergency procedures shall comprise of a joint participation of flight crew, flight attendants, dispatchers/flight followers, ground crew and maintenance personnel, as applicable, and shall cover the following items:

- (i) threat and error management;
- (ii) an in-depth review of a minimum of three additional core elements as found in subparagraphs (a)(ii) through (a)(ix);
- (iii) relevant case study;
- (iv) a review and discussion of current safety trends within the operator's specific operation(s) and industry; and
- (v) crew member evacuation drills, including debriefing.

## 6.21-6.29 NOT ALLOCATED AT THIS TIME

## 6.30 PILOT FLIGHT TRAINING

**6.30.1 Single-engine Aircraft** Not allocated.

### 6.30.2 Multi-engine Aircraft

Flight Training shall be “air time” and conducted in accordance with the following:

- a) Initial Company Indoctrination Training: Pilots without type endorsement or current PPC shall undergo additional type endorsement training or annual recurrent training (item 6.8.2 a) or c)), whichever is required;
- b) Type Endorsement Training: Pilots shall undergo at least three hours of flight training to obtain their type endorsement on company multi-engine aircraft; or
- c) Annual Recurrent Training: All pilots will undergo within a 12-month period, at least 1.5 hours of recurrent flight training on each type to which the pilot is assigned flight duties.

Syllabus:

Standard operating procedures for normal, abnormal and emergency operation of the helicopter systems and components, including:

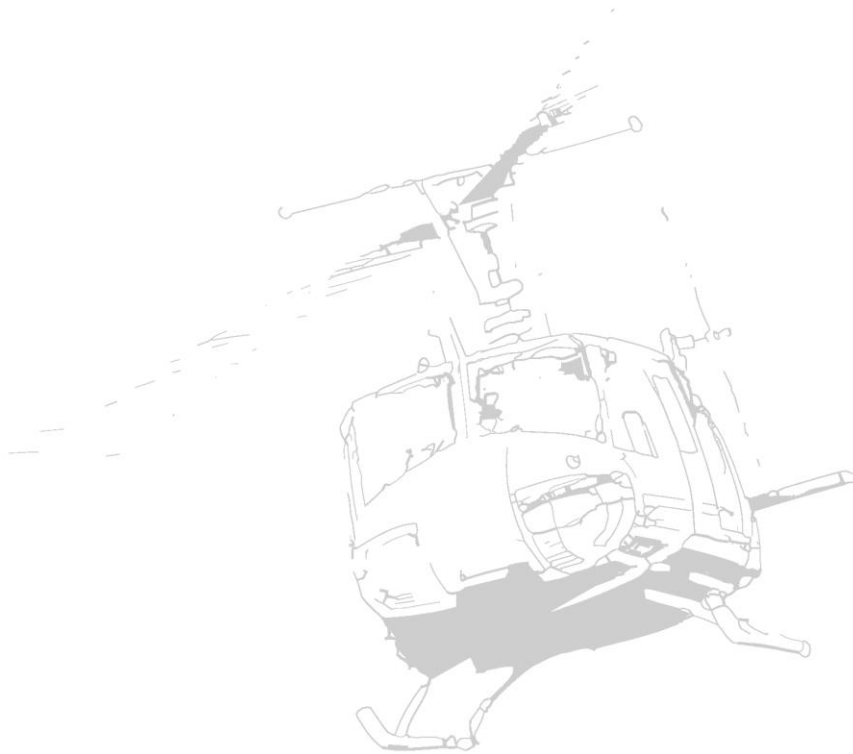
- a) use of checklists, including interior and exterior pre-flight checks;
- b) hover, normal take-off, circuit, approach and landing;
- b) simulated engine fire and failure, including straight-in and 180° power recovery autorotations;
- d) briefings on the effects of airframe and engine icing and anti-ice operation;
- e) actual hydraulic, simulated electrical and other system failures;
- f) simulated flight control and degraded states of operation, while in flight and during take-off and landing, including left and right tail rotor malfunctions;
- g) steep turns and other flight characteristics (45 degrees of bank, quick stops)
- h) helicopter performance including max-power take-offs and steep approaches;
- i) rejected take-off procedures;
- j) confined areas;
- k) precision hovering;
- l) off-slope landings; and
- m) take off, landing and flight with one engine inoperative, and

single-engine performance capabilities.

Any simulated failures of helicopter systems shall only take place under operating conditions which do not jeopardise safety of flight.

*The following checks shall be completed prior to the entry into any autorotation:*

- H** - height sufficient for entry and recovery
- A** - area suitable in the event of an engine failure
- S** - cabin secure, no loose articles
- E** - engine temps and pressures normal
- L** - lookout area around and underneath clear



**CAMPBELL HELICOPTERS LTD - PILOT TRAINING RECORD**

**NAME:**

**TRAINING YEAR**

**PILOT LICENSE INFORMATION**

**DATE COMPLETED:**

**DATE DUE:**

LICENCE#	CAT 1 MEDICAL		
EXP:			

**FLIGHT TRAINING**

MULTI-ENGINE TRAINING		
FLIGHT IN REDUCED VISIBILITY		
HOVER EXIT		
AERIAL WORK / EXTERNAL LOAD		

**PILOT PROFICIENCY CHECK**

BELL 212		
----------	--	--

**GROUND SCHOOL**

COMPANY INDOCTRINATION		
AIRCRAFT TECHNICAL TRAINING		
EMERGENCY PROCEDURES		
CRITICAL SURFACE CONTAMINATION		
SURVIVAL EQUIPMENT		
AIRCRAFT GROUND HANDLING		
AERIAL WORK AND B & C EXTERNAL LOADS		

**EXAMS**

GENERAL (INDOCTRINATION & RECURRENT)		
EMERGENCY PROCEDURES		
AERIAL WORK & CLASS B, C, EXTERNAL LOADS		
SERVICING AND GROUND HANDLING		
CRITICAL SURFACE CONTAMINATION		
LOW VISIBILITY OPERATIONS		
BELL 212 3B – HP DIFFERENCES		
HOVER EXIT		
SURVIVAL		

**PRACTICAL TRAINING**

EMERGENCY PROCEDURES PRACTICAL (3-YRS)		
PILOT DECISION MAKING (3-YRS)		
CRM (3-YRS FULL ANNUAL –UPDATE)		
TRANSPORTATION OF DANGEROUS GOODS (2-YRS)		
ELEMENTARY MAINTENANCE TRAINING (3-YRS)		

**TRAINING FLIGHTS**

Date							
Tail #							
Hours							

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## CAMPBELL HELICOPTERS - PILOT TRAINING CHECKLIST

Name:		License#:
Date:		
<b>PILOT DOCUMENTS (PHOTOCOPIES)</b>		
100	Medical Certificate (current)	<input type="checkbox"/>
101	Pilot's License (current)	<input type="checkbox"/>
102	Radio License (current)	<input type="checkbox"/>
103	Flight Crew Member PPC	<input type="checkbox"/>
104	PDM Certificate	<input type="checkbox"/>
105	Dangerous Goods Card	<input type="checkbox"/>
106	Elementary Maintenance Card	<input type="checkbox"/>
107	Emergency Procedures Training	<input type="checkbox"/>
108	Crew Members Qualifications Card	<input type="checkbox"/>
109	CRM Training	<input type="checkbox"/>
<b>FLIGHT TRAINING RECORDS</b>		
200	Initial / Recurrent / Endorsement Flight Training Completed	<input type="checkbox"/>
201	Low Visibility Training Completed	<input type="checkbox"/>
202	Aerial Work Training Completed	<input type="checkbox"/>
203	Hover Exit Training Completed	<input type="checkbox"/>
204	PPC Recommendation Form	<input type="checkbox"/>
205	Flight Test Report (PPC) 26-0279E	<input type="checkbox"/>
<b>WRITTEN EXAMINATIONS</b>		
300	Exams Completed, Corrected, and In Order	<input type="checkbox"/>
301	Transportation of Dangerous Goods Exam	<input type="checkbox"/>
302	Pilot Decision Making Course	<input type="checkbox"/>
<b>PILOT INFORMATION</b>		
400	Pilot Information Sheet	<input type="checkbox"/>
<b>DAILY INSPECTIONS / ELEMENTARY WORK TRAINING</b>		
500	Bell 212 DI / walkaround	<input type="checkbox"/>
501	Elementary Work Training	<input type="checkbox"/>
502		<input type="checkbox"/>
<b>MISCELLANEOUS</b>		
600	Ops Manager Season Briefing	<input type="checkbox"/>
601	Forestry Pilot Data Forms Completed ( All Provinces)	<input type="checkbox"/>

Pilot Signature: \_\_\_\_\_

Chief Pilot Signature: \_\_\_\_\_

This document must be completed and signed by the Pilot and Chief Pilot prior to being released from training.

## Campbell Helicopters Ltd



<b>PPC RECOMMENDATION</b>
---------------------------

CANDIDATE INFORMATION			
Name:		Licence Number:	Operator/Training Unit: CAMPBELL HELICOPTERS LTD
<input type="checkbox"/> Single Pilot	<input checked="" type="checkbox"/> Captain	<input type="checkbox"/> Initial <input type="checkbox"/> Recurrent	<input type="checkbox"/> Upgrade <input checked="" type="checkbox"/> VFR Only
<input type="checkbox"/> Valid Cat 1 Medical			

COMMERCIAL AIR SERVICE STANDARDS PPC TRAINING REQUIREMENTS		
<input checked="" type="checkbox"/> Company Indoctrination <input checked="" type="checkbox"/> Technical Ground Training: <input checked="" type="checkbox"/> Refuelling Procedures <input checked="" type="checkbox"/> Emergency Procedures Training (EPT) <input checked="" type="checkbox"/> EPT Practical (Initial and Every 3 Years)	<input checked="" type="checkbox"/> Air Taxi/ Aerial Work <input checked="" type="checkbox"/> Fire Extinguisher <input checked="" type="checkbox"/> Survival Equipment <input checked="" type="checkbox"/> Transportation of Dangerous Goods <input checked="" type="checkbox"/> Surface Contamination/Airborne Icing <input checked="" type="checkbox"/> Servicing and Ground Handling	
Comments:		
Exams Completed <input type="checkbox"/>	Flight Training Time hr	Aircraft Type: BH12

PPC RECOMMENDATION		
I have reviewed the candidates training documentation and hereby certify that the above mandatory training requirements have been met in accordance with the company's APPROVED training program as outlined in the Company Operations Manual.		
Name: (Chief Pilot / Operations Manager / Training Captain)	Signature:	Date:



**TRAINING TRIP ASSESSMENT FORM**

Pilot Name:		Date:		Aircraft type:	
Training Pilot:		Airtime:		AC Reg:	

PRE/POST FLIGHT DUTIES						
Sequence		1	2	3	4	Comments
100	Preflight briefing					
101	Preflight inspection					
102	Use of checklist					
103	Aircraft start					
104	Aircraft shutdown					
105	Radio Procedures					
106	Weight and balance					
107	Refuelling procedures					

AIRCRAFT HANDLING						
Sequence		1	2	3	4	Comments
200	Takeoff into hover (Hover Check)					
201	Hovering maneuvers					
202	Sideward & rearward flight					
203	Transitions to forward flight					
204	Circuits					
205	Transitions to hover					
206	No hover landing					
207	Run-on landing					
208	Maximum power takeoff					
209	Steep approach					
210	Normal approach					
211	Off-levels					
212	Confined areas					
213	Steep turns					
214	Airmanship					
215	Situational Awareness					

SPECIFIC EMERGENCIES											
300	Emergencies	1	2	3	4	301	Emergencies	1	2	3	4
A	Hydraulic failure					A	Engine fire on ground				
B	Chip Light					B	Engine fire in flight				
C	Generator failure					C	Baggage fire				
D	Inverter failure					D	Electrical fire				
E	Fuel Filter					E	Smoke in Cabin				
F	Hot start					F	Autorotation (Straight ahead)				
G	Failure to light					G	Autorotation (180°)				
H	Engine oil press / temp					H	Engine failure - Hover				
I	Xmsn oil press / temp					I	Governor failure				
J	Boost pump failure					J	Directional control failure				
k	Inverter Failure					k	Rejected Takeoff				
l	Door Light					l	Engine restart in flight				

Training Pilot: \_\_\_\_\_ Pilot: \_\_\_\_\_

Initial Training  Recurrent Training  Endorsement

**CAMPBELL HELICOPTERS SPECIALIZED FLIGHT TRAINING REPORT  
– CLASS B and C EXTERNAL LOADS**

Pilot:	Date:	AC Type:
Training Pilot:	Airtime:	AC Callsign:

SEQUENCE	1	2	3	4	Comments
100	Water bucketing - Belly				
101	Longline with Bucket				
102	Precision Drops				
103	Load control				
104					

- 
- 
- 
- 
- 
- REF: SECTION 6 - 6.14 COM
  - This flight training is required initially and if hasn't carried the class of external load within previous 24 months.
  - Allotted time of 0.5 hr
  - PIC understand inspection criteria of Ops Gear
  - PIC understands use of Electrical and Manual Hook release systems
  - PIC understands and has reviewed procedures and limits in 6.14" in the COM.
    - Aircraft limits
    - CARs
  - I recommend this candidate for the above type specialized flight.

Training Pilot: \_\_\_\_\_  
(Signature)

Pilot: \_\_\_\_\_  
(Signature)

Initial Training  Recurrent Training  Endorsement Training

**CAMPBELL HELICOPTERS SPECIALIZED FLIGHT TRAINING REPORT  
– HOVER EXIT /ENTRY**

Pilot:	Date:	AC Type:
Training Pilot:	Airtime:	AC Callsign:

Sequence	1	2	3	4	Comments
100 One Skid in contact with surface					
101 Toes of skids in contact w/surface					
102 2 ft hover over level ground					
103					

- REF: SECTION 4 ANNEX ‘E’ COM
- This flight training is required initially and annually
- Minimum of 0.1 hr
- This flight can be included with recurrent flight training, no separate sortie is required
- PIC understands and has reviewed procedures and limits in Annex ‘E’ in the COM.
  
- I recommend this candidate for the above type specialized flight.

Training Pilot: \_\_\_\_\_  
(Signature)

Pilot: \_\_\_\_\_  
(Signature)

Initial Training  Recurrent Training  Endorsement Training

**CAMPBELL HELICOPTERS SPECIALIZED FLIGHT TRAINING REPORT  
– LOW VISIBILITY**

Pilot:	Date:	AC Type:
Training Pilot:	Airtime:	AC Callsign:

SEQUENCE	1	2	3	4	Comments
100	Flight in low visibility				
101	Low Altitude Flying				
102	Low Speed Maneuvering				
103	Course Reversal – Low speed				
104	Steep Turns				
105					

- 
- 
- 
- REF: 6.16.2 COM
  - Min 1000 hrs PIC required
  - This flight training is required initially and annually
  - Minimum of 0.1 hr required
  - Min airspeed not less than 40 kts.
  - This flight can be included with recurrent flight training, no separate sortie is required
  
  - PIC understands the limits in the COM and aircraft for this type of flight.

Training Pilot: \_\_\_\_\_  
(Signature)

Pilot: \_\_\_\_\_  
(Signature)

Initial Training  Recurrent Training  Endorsement Training



## CAMPBELL HELICOPTERS Emergency Procedures Training for Pilots

PILOT: \_\_\_\_\_ DATE : \_\_\_\_\_

INITIAL   
(INITIAL & EVERY 3 YEARS 2 HRS)

RECURRENT   
(1hr)

Aircraft Type:		BH12			BH12
<b>EMERGENCY EXITS</b>			<b>WATER SURVIVAL</b>		
MAIN DOOR(S)			LIFE JACKETS		
WINDOWS			LIFE RAFTS		
CABIN DOORS			DITCHING AND EVAC PROCEDURE		
USE OF SEATS FOR LADDER			<b>GENERAL PROCEDURES</b>		
EVACUATION PROCEDURES			FIRST AID KIT		
<b>COMMUNICATIONS</b>			SURVIVAL KIT		
A/C RADIOS			EMERGENCY EQUIPMENT		
PA SYSTEM / SIREN			HUACK/BOMB THREAT		
SAT PHONES/TRACKING			PILOT INCAPACITATION		
TRANSPONDER			CIRCUIT BREAKER RESET		
COMM FAILURE			POST CRASH FIRE RISK		
ELT			FORCED LANDING-SURVIVAL/RESCUE		
<b>LIGHTING</b>			A/C SAFETY CARDS		
CABIN			A/C PLACARDS		
EMERGENCY			AFM SUPPLEMENTS		
<b>FIRE EXTINGUISHERS</b>			PASSENGER MEDICAL EMERGENCY		
AIR & GROUND			MEDEVAC -EQUIP INSTALL		
ENGINE FIRE BOTTLES			CLASS A,B,C,D EXTERNAL LOADS		
ENGINE AND FUEL SYSTEMS			RAMP SAFETY		
HAND TYPE EXTINGUISHER			POWER SETTINGS –RANGE/CRUISE		

REMARKS

TOTAL TIME \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Instructor's Signature

\_\_\_\_\_  
Pilots Signature



**CAMPBELL HELICOPTERS LTD.**  
**SECTION 7 – COMPANY FORMS AND DIRECTIVES**



**CAMPBELL HELICOPTERS LTD.**  
**SECTION 8 – DANGEROUS GOODS**

## Table of Contents

**PREFACE**

TABLE OF CONTENTS .....	i
RECORD OF AMENDMENTS .....	iii
LIST OF EFFECTIVE PAGES .....	iv

**SECTION 8 – DANGEROUS GOODS**

<b>8.1</b>	GENERAL .....	Page 8-1
	8.1.1 Purpose .....	Page 8-1
	8.1.2 Definitions .....	Page 8-1
	8.1.3 Dangerous Goods Permitted on Company Aircraft .....	Page 8-1
	8.1.4 Permits of Equivalent Level of Safety .....	Page 8-1
	8.1.5 Operations Office .....	Page 8-2
<b>8.2</b>	TRAINING .....	Page 8-2
	8.2.1 General .....	Page 8-2
	8.2.2 Training Certificates .....	Page 8-2
	8.2.3 Production of Training Certificates .....	Page 8-2
	8.2.4 Training Records .....	Page 8-2
<b>8.3</b>	SUPERVISION .....	Page 8-2
	8.3.1 Company Dangerous Goods Coordinator .....	Page 8-2
	8.3.2 References .....	Page 8-3
<b>8.4</b>	EXEMPTIONS, EXCEPTIONS AND SPECIAL CASES .....	Page 8-3
	8.4.1 General .....	Page 8-3
	8.4.2 In Flight Consumables .....	Page 8-4
	8.4.3 Geological Core Samples .....	Page 8-4
	8.4.4 Aerial Work .....	Page 8-4
	8.4.5 Government Test Samples .....	Page 8-5
	8.4.6 Other Samples .....	Page 8-5
<b>8.5</b>	ACCEPTANCE OF DANGEROUS GOODS .....	Page 8-5
	8.5.1 Company Restrictions .....	Page 8-5
	8.5.2 Acceptance Procedures .....	Page 8-6
	8.5.3 Shipments Refused for Carriage .....	Page 8-6
	8.5.4 Documentation and Record Keeping .....	Page 8-7
<b>8.6</b>	HANDLING PROCEDURES .....	Page 8-7
	8.6.1 Loading of Dangerous Goods on Company Aircraft .....	Page 8-7
	8.6.2 Unloading of Dangerous Goods on Company Aircraft .....	Page 8-7



**8.7** EMERGENCY PROCEDURES .....Page 8-8

8.7.1 Emergency Action Procedures for Company Personnel .....Page 8-8

**8.8** REPORTING

8.8.1 Reporting Dangerous Goods Accidents and Incidents .....Page 8-9

8.8.2 Reporting Damaged or Leaking Shipments of DG .....Page 8-9

8.8.3 Reporting Undeclared or Mis-declared DG .....Page 8-9

8.8.4 Reporting DG in Passenger Baggage .....Page 8-9

8.8.5 Thirty Day Follow-up Report .....Page 8-9

## ANNEXES

Annex A – Certificate of Training .....Page A-1

Annex B – Dangerous Goods Permitted .....Page B-1

Annex C – Packing Instructions .....Page C-1

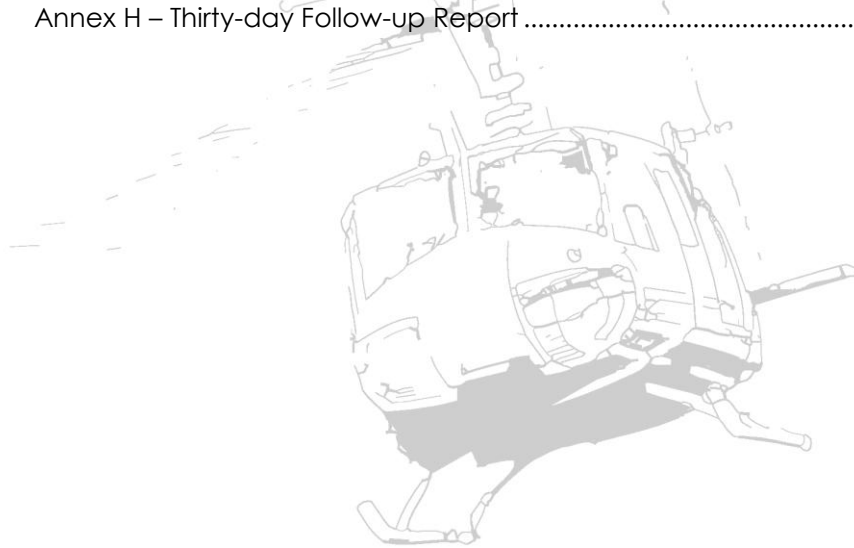
Annex D – Dangerous Goods Permitted for Personal Use .....Page D-1

Annex E – Permits for Equivalent Level of Safety .....Page E-1

Annex F – Dangerous Goods Acceptance Checklist .....Page F-1

Annex G – Documentation and Records .....Page G-1

Annex H – Thirty-day Follow-up Report .....Page H-1







## GENERAL

### 8.1.1 Purpose

This manual forms a part of the Company Operations Manual. It establishes company policies and procedures for the domestic transportation of dangerous goods. The manual is in compliance with CAR 702.82 and 703.105, the Transportation of Dangerous Goods Regulations (TDGR) and the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO TI).

### 8.1.2 Definitions

“**dangerous goods**” means - articles or substances which are capable of posing a risk to health, safety, property or the environment;

“**dangerous goods accident**” means - an occurrence associated with and related to the transport of dangerous goods by air which results in fatal or serious injury to a person or major property damage;

“**dangerous goods incident**” means - an occurrence other than a dangerous goods accident associated with and related to the transport of dangerous goods by air, not necessarily occurring on board an aircraft, which results in injury to a person, property damage, fire, breakage, spillage, leakage of fluid or radiation or other evidence that the integrity of the packaging has not been maintained. Any occurrence relating to the transport of dangerous goods which seriously jeopardizes an aircraft or its occupants is also deemed to be a dangerous goods incident;

“**ICAO TI**” means - the International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods;

“**passenger aircraft**” means – an aircraft carrying anyone other than a crew member, a person accompanying a (sic dangerous goods) consignment, an operator, owner or charterer or an employee of the owner, operator or charterer acting in the course of employment, or a person carrying out an inspection or investigation under a Federal or Provincial Act: Note the definition of passenger is not the same as used in CARS;

“**TDGR**” means - the Canadian Transportation of Dangerous Goods Regulations.

### 8.1.3 Dangerous Goods Permitted on Company Aircraft

Dangerous goods which may be carried on company aircraft are shown in Appendices B and D.

Other dangerous goods may be carried as set forth under the provisions of “Aerial Work” as outlined in Section 8.4.4.

### 8.1.4 Permits of Equivalent Levels of Safety

Permits applicable to certain dangerous goods which may be carried on company aircraft are shown in Annex E.

### 8.1.5 Operations Office

Head Office        Campbell Helicopters Ltd.

Mailing Address:   PO Box 2008 Abbotsford Stn A  
                             Abbotsford, BC V2T 3T8

Telephone:        (604) 852-1122

Fax:                (604) 852-4982

Email:              campbellheli@telus.net

## 8.2 TRAINING

### 8.2.1 General

Company personnel involved with the transportation of dangerous goods shall, at least once every 24 months, receive the Solocks.com Training Inc. training for "Operators of Rotorcraft Working Under CARS 604, 702 and 703".

### 8.2.2 Training Certificates

Once an employee has received appropriate training and understands his or her duties, he or she shall be issued a certificate of training, as per Annex A.

### 8.2.3 Production of Training Certificates

- a) employees must have their training certificates with them at all times when on duty; and,
- b) employees must produce their training certificate when asked to do so by a Dangerous Goods Inspector.

### 8.2.4 Training Records

A record of training, including a copy of the training certificate, shall be kept for each employee, in electronic or paper form, beginning on the date the training certificate is issued and continuing for 24 months after it expires.

## 8.3 SUPERVISION

### 8.3.1 Company Dangerous Goods Coordinator

The company Dangerous Goods Coordinator is the Director of Maintenance. He can be reached by phone at: (604) 852-1122.

The Company Dangerous Goods Coordinator shall be responsible for:

- a) maintaining the company Dangerous Goods Program and acting as the liaison between the company and the Regional Commercial and Business Aviation Dangerous Goods Office of Transport Canada;

- b) the dissemination of information and advice concerning dangerous goods;
- c) training, maintaining training records and issuing training certificates to company personnel;
- d) developing, maintaining and promulgating appropriate procedures to be followed in the event of an emergency involving dangerous goods;
- e) analyzing reports of dangerous goods that were leaking or damaged, mis-declared or discovered in passenger or crew baggage, and taking appropriate action to prevent re-occurrences;
- f) record keeping;
- g) posting of prominent notices in all company passenger facilities giving information regarding the transportation of dangerous goods;
- h) making any required reports to Transport Canada; (as per TDGR Part 8) maintaining access the references shown in Section 8.3.2; and
- i) providing information for the decontamination and disposal of damaged or leaking packages containing dangerous goods.

### 8.3.2 References

Publication	Location
The Transportation of Dangerous Goods Act & Regulations	<a href="http://www.tc.gc.ca/tdg/clear/tofc.htm">http://www.tc.gc.ca/tdg/clear/tofc.htm</a>
Campbell Helicopters Ltd. Transportation of Dangerous Goods Manual	One in the office and one on each A/C. A copy must be kept at any location where flight bookings are accepted.
ICAO Technical Instructions for the Safe Transport of Dangerous Goods	Interpretations and extracts available on request from Solocks.com Training Inc. by e-mail at <a href="mailto:extracts@solocks.com">extracts@solocks.com</a> or by telephone at 1-877-977-8339.
North American Emergency Response Guide (NAERG)	One in the office and one on each A/C. It is also available on the internet at <a href="http://www.tc.gc.ca/canutec/erggmu/ergmenu.aspx">http://www.tc.gc.ca/canutec/erggmu/ergmenu.aspx</a>

## 8.4 EXEMPTIONS, EXCEPTIONS & SPECIAL CASES

### 8.4.1 General

There are exemptions for dangerous goods identified in this sub-section provided they are placed on board an aircraft with the approval of the pilot-in-command.

### 8.4.2 In Flight Consumables

In-flight consumables containing dangerous goods are exempt provided:

- a) they are dangerous goods meant to provide, during flight, medical aid to a patient;
- b) they are dangerous goods meant to provide, during flight, veterinary aid or a humane killer for an animal;
- c) they are dangerous goods meant to provide, during flight, aid in connection with search and rescue operations;
- d) they are dangerous goods meant to provide propulsion of the aircraft or the operation of its specialized equipment during transport (e.g. refrigeration units) or that are required in accordance with the operating regulations (e.g. fire extinguishers); or,
- e) they are dangerous goods meant to be dropped in connection with agricultural, horticultural, forestry or pollution control activities.

### 8.4.3 Geological Core Samples

Geological core samples containing dangerous goods are exempt provided:

- a) they are less than 100 mm in diameter;
- b) they are packed in wooden core sample boxes that are wrapped in a sealed plastic or polyethylene bag or in an equally leak-proof package;
- c) where applicable, they meet the requirements of the "Packaging and Transport of Nuclear Substances Regulations"; and
- d) the shipper advises the operator of the presence of the core sample.

### 8.4.4 Aerial Work

Dangerous goods may be accepted, handled and transported under the general provisions of Section 8.4.1 - General if they are being used at a location where the following Aerial Work takes place:

- a) active fire suppression;
- b) aerial drip torching;
- c) agriculture;
- d) avalanche control;
- e) forestry;
- f) horticulture;

- g) hydro graphic or seismographic work; or
- h) pollution control.

The acceptance, handling and transportation of dangerous goods will be conducted in accordance with the regulations outlined in TDGR 12.12.

Consignments must be packaged to prevent spills, damage and leakage. For example gasoline must be in a good quality container designed for that purpose (TDGR 12.12 (2)(d)).

TDGR marking, Labeling, documentation and record keeping are not required for dangerous goods consignments carried under this paragraph.

#### **8.4.5 Government Test Samples**

In the case of government test samples containing dangerous goods, they may be accepted, handled and transported under the general provisions of Section 8.4.1 – General provided:

- a) they are taken for inspection or investigation purposes and are kept under the direct supervision of a federal, provincial or municipal government employee; and
- b) they are contained in packaging which will not allow the sample to leak out.

#### **8.4.6 Other Samples**

In the case of other samples containing dangerous goods, they may be accepted, handled and transported under the general provisions of Section 8.4.1 - General provided:

- a) they are not explosives, infectious substances or radioactive materials;
- b) they are in a package(s) which is designed to prevent leakage;
- c) they each weigh less than 10 kg and are clearly marked "test samples"; and,
- d) the air waybill, trip ticket or flight report or other document which accompanies the samples shows the name and address of the shipper and the words "test samples".

### **8.5 ACCEPTANCE OF DANGEROUS GOODS**

#### **8.5.1 Company Restrictions**

Other than the items listed in Annex D, dangerous goods shall not be carried on the same aircraft as passengers.

Note: Persons accompanying a consignment of dangerous goods are not considered passengers. (Refer to Section 8.1.2 – Definitions.).



Dangerous goods will only be transported to or from areas where access is limited or other means of transport are impractical.

The following dangerous goods will not be transported on company aircraft:

- Division 2.3 - Toxic gasses;
- Division 4.1 - Flammable solids;
- Division 4.2 - Spontaneously combustible;
- Division 4.3 - Dangerous When Wet;
- Division 5.2 - Organic peroxides;
- Division 6.2 - Infectious Substances;
- Class 7 - Radioactive Materials;
- Class 9 - Dry Ice;

Under no circumstances shall dangerous goods be stored at or in company facilities.

### **8.5.2 Acceptance Procedures**

The pilot-in command, the person conducting the passenger/person safety briefing or the person accepting a cargo shipment shall determine if there are any dangerous goods present.

A list of dangerous goods which may be carried on company aircraft is provided in Appendices B and D.

Items which may be carried under a Permit of Equivalent Level of Safety can be found in Annex E. The dangerous goods permitted and the conditions under which they may be carried are detailed in each permit.

All dangerous goods consignments offered for transport must be checked for compliance against the Dangerous Goods Acceptance Checklist set out in Annex F.

In addition, other dangerous goods may be carried under the provisions of "Aerial Work" outlined in sub-sections of 8.4.4.

Any dangerous goods, other than those items listed in Appendices B and D or permitted under Section 8.4.4, shall not be carried.

Items either unknown or suspected of posing a hazard must be refused carriage.

### **8.5.3 Shipments Refused for Carriage**

Campbell Helicopters Ltd. will not be responsible for shipments which have been refused for carriage. These remain the property of the person who tendered the consignment. This person shall be responsible for the disposition of the consignment.

Under no circumstances will Campbell Helicopters Ltd. accept any responsibility for the transport, custody or disposal of a refused consignment.

#### **8.5.4 Documentation and Record Keeping**

Any company employee who accepts a flight booking or who accepts a dangerous goods consignment shall:

- a) complete the "Dangerous Goods Booking Sheet" provided in Annex G; and
- b) advise the pilot-in-command of any dangerous goods intended for transport, prior to commencement of the flight.

The pilot-in-command shall endorse the relevant flight ticket with the words "Dangerous Goods Transported".

Flight tickets and any other dangerous goods documents shall be kept with the applicable accounting documents.

*Records are NOT required for dangerous goods that are being transported under the "Aerial Work" provisions detailed in "Section 8.4.4".*

### **8.6 HANDLING PROCEDURES**

#### **8.6.1 Loading of Dangerous Goods on Company Aircraft**

The pilot-in-command shall load, or directly supervise the loading, of the aircraft.

The pilot-in-command shall ascertain if any dangerous goods are present in COMAT or in guests' possession.

All dangerous goods must be inspected immediately before loading to determine if they are free of leakage or damage. In the case of leakage, spillage or damage, the dangerous goods **MUST NOT** be loaded on board the aircraft.

Oxidizers (Division 5.1) must not be loaded adjacent to Flammable liquids (Class 3).

Whenever possible, vehicles (i.e. ATVs, skidoos, etc.) will be carried as external loads.

Packages with "This Way Up" labels shall be loaded with the arrows pointing upwards.

Whenever possible gas cylinders shall be loaded with the valves pointed upright.

Dangerous goods shall be protected from being damaged during flight. They shall also be secured to prevent movement during flight.

#### **8.6.2 Unloading of Dangerous Goods from Company Aircraft**

The pilot-in-command shall ensure that during the process of unloading the aircraft all dangerous goods consignments are inspected for signs of damage or leakage.

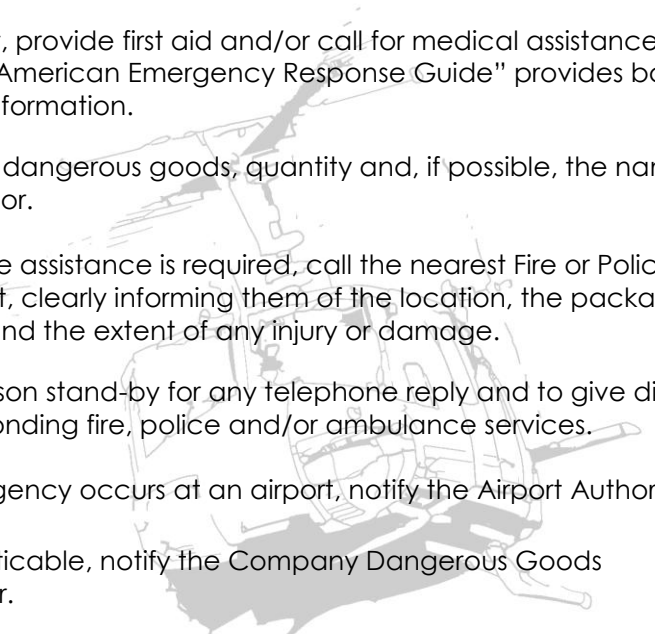
If evidence of damage or leakage is discovered, the "Emergency Actions" shown in Section 8.7 – Emergency Procedures shall be followed.

## 8.7 EMERGENCY PROCEDURES

### 8.7.1 Emergency Action Procedures for Company Personnel

In the event of an emergency involving dangerous goods, protection of people **MUST** be your first consideration.

The following steps should be considered, as applicable:

- 
- STEP 1** In the case of an in-flight emergency, the pilot-in-command shall: consider landing as soon as possible; and if the situation permits, advise the appropriate air traffic services unit of any dangerous goods carried on board the aircraft.
  - STEP 2** Evacuate and secure the area of the aircraft where the damaged or leaking dangerous goods were found.
  - STEP 3** If necessary, provide first aid and/or call for medical assistance. The "North American Emergency Response Guide" provides basic "First Aid" information.
  - STEP 4** Identify the dangerous goods, quantity and, if possible, the name of the consignor.
  - STEP 5** If immediate assistance is required, call the nearest Fire or Police department, clearly informing them of the location, the package consignor and the extent of any injury or damage.
  - STEP 6** Have a person stand-by for any telephone reply and to give direction to the responding fire, police and/or ambulance services.
  - STEP 7** If the emergency occurs at an airport, notify the Airport Authority.
  - STEP 8** When practicable, notify the Company Dangerous Goods Coordinator.

Remove any damaged or leaking packages, if this can be done without placing yourself or others in DANGER.

**Do not become a victim or part of the problem.**

## 8.8 REPORTING

### 8.8.1 Reporting “Dangerous Goods Accidents & Incidents”

Where a “dangerous goods accident” or a “dangerous goods incident”, occurs or is apprehended, the company Dangerous Goods Coordinator must report immediately to the individuals prescribed in the following:

Organization or Individual	Contact information
Appropriate provincial authority	<a href="http://www.tc.gc.ca/tdg/clear/part8.htm">http://www.tc.gc.ca/tdg/clear/part8.htm</a>
The person's employer	As applicable
The consignor of the dangerous goods	As applicable
Regional Civil Aviation office (See the following website address for the list of Regional Offices information):	<a href="http://www.tc.gc.ca/CivilAviation/commerce/DangerousGoods">www.tc.gc.ca/CivilAviation/commerce/DangerousGoods</a> Use the “30 Day Follow Up Report” shown in Annex H for this purpose.
CANUTEC	(613) 996-6666
Operator of the airport	As applicable – see Canada Flight Supplement

### 8.8.2 Reporting Damaged or Leaking Shipments of Dangerous Goods

As soon as this can be done safely, the company Dangerous Goods Coordinator must be notified of any spills, leaks, damage or injury caused by dangerous goods or suspected dangerous goods.

### 8.8.3 Reporting Undeclared or Mis-declared Dangerous Goods

When undeclared or mis-declared dangerous goods are discovered, a report will be made to the company Dangerous Goods Coordinator.

### 8.8.4 Reporting Dangerous Goods in Passenger Baggage

When dangerous goods not permitted for carriage are discovered in passenger or crew baggage a report will be made to the company Dangerous Goods Coordinator.

### 8.8.5 Thirty Day Follow-Up Report

Use the form shown in Annex H for your Thirty Day Follow-Up Report of any dangerous goods accident or incident.

**ANNEX A – Certificate of Training**

THIS CERTIFICATE IS REQUIRED IN ACCORDANCE WITH THE TRANSPORTATION OF DANGEROUS GOODS REGULATIONS.

THIS CERTIFICATE IS VALID FOR A PERIOD OF 24 MONTHS AFTER COMPLETION OF INITIAL OR SUBSEQUENT DANGEROUS GOODS TRAINING GIVEN BY OR ON BEHALF OF THIS COMPANY.

THIS CERTIFICATE SHALL BE HELD BY THE ASSIGNED PERSON WITH A COPY RETAINED BY THE EMPLOYER AND EACH BEING AVAILABLE FOR INSPECTION BY SUCH PERSONS DESIGNATED AS AN INSPECTOR FOR THE PURPOSES OF THE TRANSPORTATION OF DANGEROUS GOODS ACT.

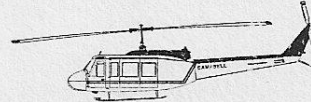
24-HOUR EMERGENCY INFORMATION  
CALL CANUTEC-OTTAWA, COLLECT  
(613) 996-6666

INFORMATION AND OCCURRENCES  
CALL TRANSPORT CANADA  
VANCOUVER, BC  
(604) 666-5657

**CAMPBELL HELICOPTERS LTD.**

30740 Threshold Dr.  
Abbotsford International Airport  
Abbotsford, BC

**Mailing Address:**  
P.O. Box 2008 Clearbrook Postal Station  
Abbotsford, BC V2T 3T8



**CERTIFICATE OF TRAINING**

**AIR TRANSPORTATION OF DANGEROUS GOODS**

NAME: \_\_\_\_\_

CERTIFICATE NO. \_\_\_\_\_

THIS CERTIFIES THAT

\_\_\_\_\_ HAS RECEIVED INITIAL DANGEROUS GOODS TRAINING IN ALL ASPECTS OF THE HANDLING AND TRANSPORTING OF DANGEROUS GOODS APPROPRIATE TO HIS/HER ASSIGNED DUTIES AS REQUIRED IN THE TRANSPORTATION OF DANGEROUS GOODS REGULATIONS, PART 9, AND THE ICAO TECHNICAL INSTRUCTIONS, PART 6, CHAPTER 2 IN THE FOLLOWING CATEGORY OR CATEGORIES.

- CARGO ACCEPTANCE PROCEDURES .....
- GROUND HANDLING/LOADING/UNLOADING ....
- LOAD PLANNER.....
- PASSENGER HANDLING.....
- BAGGAGE HANDLING .....
- FLIGHT CREW.....
- AIR CREW.....
- PACKING.....
- SHIPPER/SHIPPER'S AGENT .....

SIGNATURE \_\_\_\_\_  
NAME \_\_\_\_\_  
TITLE \_\_\_\_\_  
DATE \_\_\_\_\_

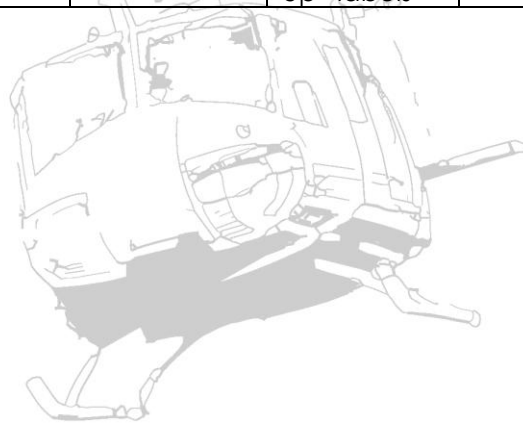
EMPLOYEES SIGNATURE	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____
INSTRUCTORS SIGNATURE	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____
RECORD OF TRAINING	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____
EXPIRY DATE	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____

## ANNEX B – Dangerous Goods Permitted

The following dangerous goods may only be transported on company aircraft to or from areas where access is limited and other means of transport are impractical. Shipping documents are not required for the listed items.

The Marking & Labeling column indicates those markings and labels unique to each item and is intended as a field guide.

UN Number	Shipping Name	Packaging (Appendix C)	Marking & Labeling	Shipping Document	Notes
Consumer Commodities					
UN1950	Aerosols, flammable	P.I. 910 & TDGR 12.8 (1) (b) & (c)  30kg Max per package	Package must be marked "Air Transport, 12.8, Consumer commodity"  For Liquids: 2 "This Way Up" labels	Not required	
UN1950	Aerosols, non-flammable				
UN1263	Paint or Paint related material in PG II or PG III				
	Any Flammable liquids in PG II				
	Any Flammable liquids or toxic substances in PG III				
	Any solid dangerous goods				



The following is a list of dangerous goods that may be carried on company aircraft where access is limited or where other means of transport are not available or are impractical. TDGR 12.9 (1)(c)(ii)

The Marking & Labeling column indicates those markings and labels unique to each item and is intended as a field guide. Shipping Documents are not required for these items.

UN Number	Shipping Name	Packaging (Appendix C)	Marking & Labeling	Cargo Notes
Flammable Gasses - Class 2.1				
UN1011	Butane	P.I. 200 & TDGR 12.9 (10) (a) & (b)	Shipping Name, UN Number & Flammable Gas label	100 Litres Max per each cylinder ----- No Limit
UN1012	Butylene			
UN1055	Isobutylene			
UN1075	Liquefied Petroleum Gases			
UN1077	Propylene			
UN1969	Isobutane			
UN1978	Propane			
Non-flammable Gasses - Class 2.2				
UN1044	Fire Extinguishers	P.I. 213	Shipping Name, UN Number & Non-Flammable Gas label	No Limit
Flammable Liquids - Class 3				
UN1202	Diesel Fuel	Pack as shown in TDGR 12.9 (3) & (4)	Shipping Name, UN Number & Flammable Liquid label	230 Litres Max per each container ----- No Limit
UN1203	Gasoline			
UN1219	Isopropanol			
UN1223	Kerosene			
UN1863	Fuel Aviation turbine engine (PG II & III only)			
UN1268	Petroleum distillates (PG II & III only)			
Oxidizers - Class 5.1				
UN1496	Sodium Chlorite	Pack as shown in TDGR 12.9 (12)	Shipping Name, UN Number & Oxidizer label	No Limit
Corrosives - Class 8				
UN2800	Batteries, wet, non-spillable	P.I. 806	Shipping Name, UN Number & Corrosive label	No Limit
UN2795	Batteries, wet, filled with alkali	P.I. 800		
UN2794	Batteries, wet, filled with acid	P.I. 800		
UN1791	Hypochlorite Solution	Pack as shown in TDGR 12.9 (12)		
Miscellaneous - Class 9				
UN3166	Engines, internal Combustion	P.I. 900	Only required if engine is totally enclosed	No Limit

## **ANNEX C – Packing Instructions**

### **PACKING INSTRUCTION 200 (summary)**

Cylinders must conform to the requirements of the appropriate national authority in which they are approved and filled. (TDGR 12.9 (10) (a) & (b))

Valves must be protected by caps, shrouds or guards. When it is not possible to fit caps, shrouds or guards, for example fire extinguishers, the cylinders must be securely boxed to protect the valve.

Cylinders with capacities of one litre or less must be packaged in outer packaging constructed of suitable material of adequate strength and design in relation to the packaging capacity and its intended use, and secured or cushioned so as to prevent significant movement within the outer packaging during normal conditions of transport.

### **PACKING INSTRUCTION 213 (summary)**

Fire extinguishers must be packed in strong packaging which will prevent the fire extinguisher from being activated.

### **PACKING INSTRUCTION 800 (summary)**

Batteries must be packed in wooden (4C 1, 4C2), plywood (4D), fibreboard (4G) or reconstituted wood (4F) boxes, plywood drums (1 D), fibre drums (1 G), plastic drums (1H2), plastic jerry cans (3H2) or solid plastic boxes (4H2) of Packing Group II. UN Packaging is not required under Permit SA7720 see Appendix E.

Packages must incorporate an acid/alkali-proof liner of sufficient strength and adequately sealed to positively preclude leakage in the event of spillage. The batteries must be packed so that the fill openings and vents, if any, are upward; they must be incapable of short-circuiting and be securely cushioned in the packagings.

The upright position of the package must be indicated on it by two "This Way Up" labels. The words "This side up" or "This end up" may also be displayed on the top of the package.

### **PACKING INSTRUCTION 806 (summary)**

Batteries must be protected against short circuits and must be securely packed in strong outer packaging.

### **PACKING INSTRUCTION 900 (summary)**

Internal combustion engines must be drained of fuel and tank caps fitted securely.

Equipment which has batteries installed must have the battery securely fastened in the battery holder and the battery must be protected so as to prevent damage and short circuits.

Equipment which cannot be loaded in an upright position will not be carried on company aircraft.



**TDGR 12.9 (3) & (4) Containers – Flammable Liquids (Summary)**

Drums less than 230 litres:

TC	CTC	DOT	ICC	UN
5A/5B/5C	5A/5B/5C	5A/5B/5C	5A/5B/5C	1A1
17C or 17E	17C or 17E	17C or 17E	17C or 17E	1B1
34	34	34		1H1 or 6HA

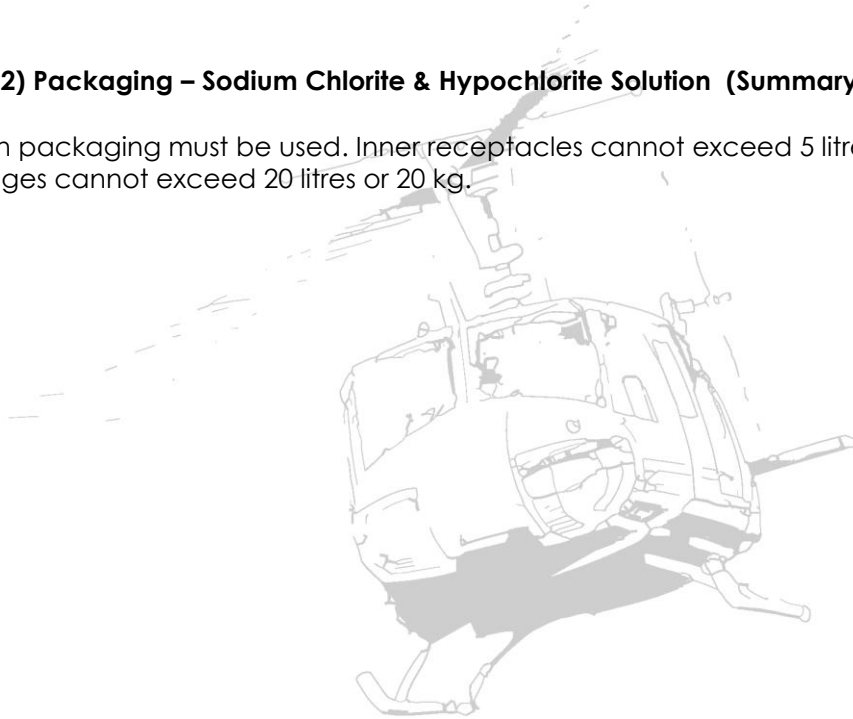
Containers 25 litres or less:

UN 3A1 or UN3H1 or UL, ULC or ASTM F 852 standards

Steel marine fuel tanks used for outboard motors may also be used.

**TDGR 12.9 (12) Packaging – Sodium Chlorite & Hypochlorite Solution (Summary)**

Combination packaging must be used. Inner receptacles cannot exceed 5 litres or 5 kg, and outer packages cannot exceed 20 litres or 20 kg.

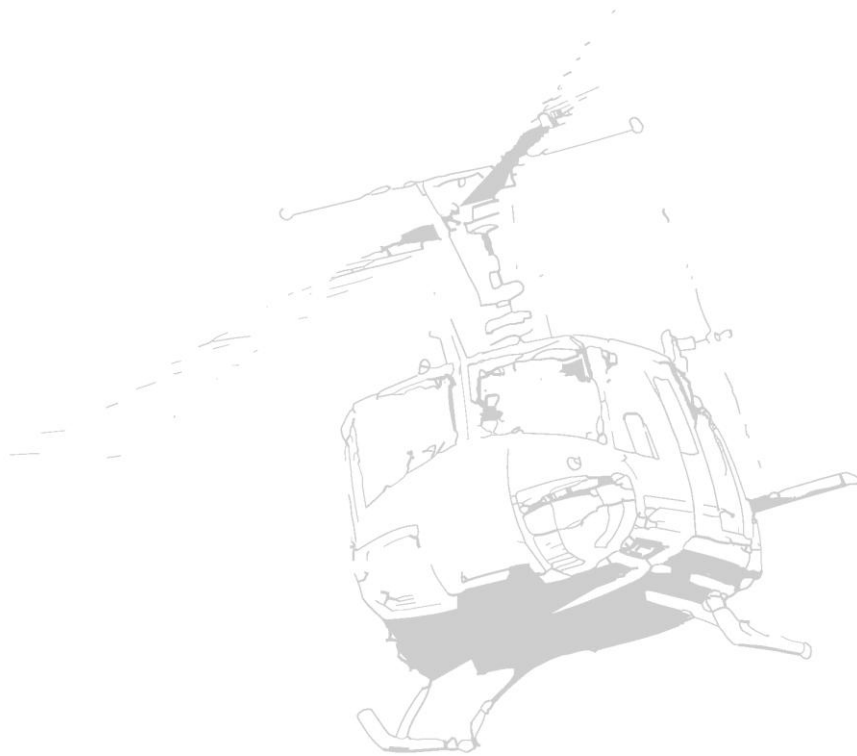


**ANNEX D - Dangerous Goods Permitted for Personal Use**

Item	Quantity Limit	Location
Alcoholic beverages when in retail packaging containing more than 24% but not more than 70% alcohol by volume	Maximum 5 litres	In baggage only
Avalanche rescue equipped with a pyrotechnic trigger mechanism containing not more than 200 mg net of Division 1.4S and not more than 250 mg of compressed gas in Division 2.2. The Airbags within the backpack must be fitted with pressure relief valves.	1 per person	In baggage, packed in such a manner that it cannot be accidentally activated
Non-radioactive medicinal or toilet articles (including aerosols), including such items as hair sprays, perfumes, colognes and medicines containing alcohol.	Not to exceed 0.5 kg or 0.5 L each. Total not to exceed 2 kg. or 2.0 L	In baggage only
Hair curlers containing hydrocarbon gas, no more than one per passenger or crew member, provided that the safety cover is securely fitted over the heating element. Gas refills for such curlers are not permitted.	1 only	In baggage only
Safety matches or a lighter with fuel/fluid fully absorbed in a solid and intended for use by an individual can be carried on one's person. Refills are not allowed.	1 lighter or book of matches per person	NOT permitted in baggage.
"Strike anywhere" matches are totally forbidden	FORBIDDEN	
Ammunition in Division 1.4S (UN0012 or UN0014 only) when securely packed, excluding ammunition with explosive or incendiary projectiles.	5 kg. Gross per person	In baggage only
Carbon dioxide gas cylinders carried by passengers for the operation of mechanical limbs	1 spare cylinder	In baggage only

## **ANNEX E – Permits for Equivalent Level of Safety**

Copies of any Permits for Equivalent Level of Safety applicable to Campbell Helicopters Ltd. will follow this page as un-numbered pages





Transportation of Dangerous Goods Directorate  
Tower C, Place de Ville  
330 Sparks Street  
Ottawa, Ontario  
K1A 0N5

Direction générale du transport des marchandises dangereuses  
Tour C, Place de Ville  
330, rue Sparks  
Ottawa (Ontario)  
K1A 0N5



## Equivalency Certificate (Approval issued by the competent authority of Canada)

**Certificate No.:** SA 7720 (Ren. 11)

**Certificate Holder:** Helicopter Association of Canada

**Mode of Transport:** Air

**Effective Date:** December 4, 2018

**Expiry Date:** December 31, 2023

### LEGEND

For the purposes of this equivalency certificate, documents referred to by an abbreviation have the following meaning:

***TDG Act:*** *Transportation of Dangerous Goods Act, 1992*

***TDG Regulations:*** *Transportation of Dangerous Goods Regulations*

***ICAO Technical Instructions:*** *“Technical Instructions for the Safe Transport of Dangerous Goods by Air”, published by the International Civil Aviation Organization (ICAO), as amended from time to time*

**CONDITIONS**

1. This equivalency certificate authorizes the air operator members of the Helicopter Association of Canada, to handle, offer for transport or transport, by aircraft, dangerous goods that are:

- UN1950, AEROSOLS, flammable, Class 2.1,
- UN1950, AEROSOLS, non-flammable, Class 2.2,
- UN1950, AEROSOLS, flammable, containing substances in Class 6.1, Packing Group II, Class 2.1(6.1),
- UN1950, AEROSOLS, non-flammable, containing substances in Class 6.1, Packing Group II, Class 2.2(6.1), or
- UN0312, CARTRIDGES, SIGNAL, Class 1.4G, Packing Group II,

in a manner that does not comply with:

- subsection 12.1(2) of the *TDG Regulations*,

if the following conditions are met:

(a) The dangerous goods are transported in compliance with section 12.9 - Limited Access of the *TDG Regulations*, except for subparagraphs 12.9(1)(c)(i), 12.9(1)(c)(iii), and subsections 12.9(2) to 12.9(12);

(b) In the case of:

- UN1950, AEROSOLS, flammable, Class 2.1,
- UN1950, AEROSOLS, non-flammable, Class 2.2,
- UN1950, AEROSOLS, flammable, containing substances in Class 6.1, Packing Group II, Class 2.1(6.1), or
- UN1950, AEROSOLS, non-flammable, containing substances in Class 6.1, Packing Group II, Class 2.2(6.1),

the air operator ensures that:

(i) the quantity of dangerous goods per aerosol container is less than or equal to 400 ml,

(ii) the aerosol container is in compliance with section 5.11 of the *TDG Regulations* and has two means of protection against actuation,

(iii) the aerosol container is placed in an outer means of containment that is clearly marked with "UN1950 - Bear Spray" and is designed, constructed, filled, closed, secured and maintained so that under normal condition of transport, including handling, there will be no accidental release of dangerous goods that could endanger public safety,

**Equivalency Certificate SA 7720 (Ren. 11)**  
**(Approval issued by the competent authority of Canada)**

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- (iv) the means of containment containing the aerosol container is transported in a baggage compartment that is separate from the passenger cabin, or an area of the aircraft, approved by Transport Canada for transporting cargo, outside the aircraft cabin to prevent the dangerous goods from entering the air supply of the cabin of the aircraft, and
  - (v) if condition 1.(b)(iv) of this certificate is not possible, the means of containment containing the aerosol container may be transported in the cabin of an aircraft, and the passengers are notified of its location;
- (c) In the case of UN0312, CARTRIDGES, SIGNAL, Class 1.4G, Packing Group II, (animal deterrent such as Bear Bangers), the air operator ensures that:
- (i) the dangerous goods have not deteriorated or been damaged,
  - (ii) the dangerous goods are in an outer means of containment that is clearly marked with “UN0312 - Bear Bangers” and is designed, constructed, filled, closed secured and maintained so that under normal condition of transport, including handling, there will be no accidental release of dangerous goods that could endanger public safety,
  - (iii) if the aircraft has a cargo area separate from the passenger cabin, the means of containment containing the dangerous goods is transported in a cargo area separate from the passenger cabin, and
  - (iv) the total number of devices containing the dangerous goods does not exceed six per person per flight;
- (d) The dangerous goods are loaded aboard the aircraft or as an external load at the last aerodrome of departure to access the limited access area and no stops are permitted at any other aerodrome except for emergency reasons or re-fuelling;
- (e) The Helicopter Association of Canada ensures that a copy of this equivalency certificate is provided to all air operator members of the Helicopter Association of Canada;
- (f) The air operator members of the The Helicopter Association of Canada ensure that the personnel handling and transporting the dangerous goods are trained in regards to the conditions of this equivalency certificate;
- (g) A paper or electronic copy of this equivalency certificate accompanies the dangerous goods during transport and must be provided to an inspector or a peace officer immediately upon request; and
- (h) A current proof of membership with The Helicopter Association of Canada must be readily available upon request.

**Equivalency Certificate SA 7720 (Ren. 11)**  
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2. This equivalency certificate authorizes the air operator members of the Helicopter Association of Canada, to handle, offer for transport or transport, by aircraft, dangerous goods, in a manner that does not comply with:

- subsection 12.1(2) of the *TDG Regulations*,

if the following conditions are met:

- (a) The dangerous goods are transported by aircraft referred to in Subpart 5 of Part VII of the *Canadian Aviation Regulations*;
- (b) The dangerous goods are transported in compliance with section 12.9 - Limited Access, except for subparagraph 12.9(1)(c)(i) of the *TDG Regulations*;
- (c) All packaging for which retention of liquid is a basic function is capable of withstanding without leakage an internal pressure producing a pressure differential of not less than 95 kPa;
- (d) The dangerous goods are loaded aboard the aircraft or as an external load at the last aerodrome of departure to access the limited access area and no stops are permitted at any other aerodrome except for emergency reasons or re-fuelling;
- (e) The Helicopter Association of Canada ensures that a copy of this equivalency certificate is provided to all air operator members of the Helicopter Association of Canada;
- (f) The air operator members of the The Helicopter Association of Canada ensure that the personnel handling and transporting the dangerous goods are trained in regards to the conditions of this equivalency certificate;
- (g) A paper or electronic copy of this equivalency certificate accompanies the dangerous goods during transport and must be provided to an inspector or a peace officer immediately upon request; and
- (h) A current proof of membership with The Helicopter Association of Canada must be readily available upon request.

**Equivalency Certificate SA 7720 (Ren. 11)**  
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3. This equivalency certificate authorizes the air operator members of the Helicopter Association of Canada, to handle, offer for transport or transport, by aircraft, dangerous goods that are:

- UN2794, BATTERIES, WET, FILLED WITH ACID, electric storage, Class 8,
- UN2795, BATTERIES, WET, FILLED WITH ALKALI, electric storage, Class 8, or
- UN2800, BATTERIES, WET, NON-SPILLABLE, electric storage, Class 8,

in a manner that does not comply with:

- subsection 12.1(2) of the *TDG Regulations*,

if the following conditions are met:

- (a) The dangerous goods are transported in compliance with section 12.9 - Limited Access, except for subparagraphs 12.9(1)(c)(i) and 12.9(11)(a)(ii) of the *TDG Regulations*;
- (b) The dangerous goods:
  - (i) are placed in an acid/alkali-proof liner of sufficient strength and adequately sealed to positively preclude leakage in the event of spillage,
  - (ii) are contained in a means of containment that is a rigid container, wooden slatted crate or on a pallet, which is designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport, including handling, there will be no accidental release of the dangerous goods that could endanger public safety,
  - (iii) are packed so that the fill openings and vents, if any, are upward,
  - (iv) are protected against short circuit;
- (c) The dangerous goods are loaded aboard the aircraft or as an external load at the last aerodrome of departure to access the limited access area and no stops are permitted at any other aerodrome except for emergency reasons or re-fuelling;
- (d) The Helicopter Association of Canada ensures that a copy of this equivalency certificate is provided to all air operator members of the Helicopter Association of Canada;
- (e) The air operator members of the The Helicopter Association of Canada ensure that the personnel handling and transporting the dangerous goods are trained in regards to the conditions of this equivalency certificate;



**Equivalency Certificate SA 7720 (Ren. 11)**  
**(Approval issued by the competent authority of Canada)**

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- (f) A paper or electronic copy of this equivalency certificate accompanies the dangerous goods during transport and must be provided to an inspector or a peace officer immediately upon request; and
- (g) A current proof of membership with The Helicopter Association of Canada must be readily available upon request.

4. This equivalency certificate authorizes the air operator members of the Helicopter Association of Canada to handle, offer for transport or transport, by aircraft, dangerous goods that are:

- listed in subsection 12.9(2) or the *TDG Regulations*,

in a manner that does not comply with:

- subsection 12.1(2) of the *TDG Regulations*,

if the following conditions are met:

- (a) The dangerous goods are transported in compliance with section 12.9 - Limited Access, except for subparagraphs 12.9(3)(b)(iii) of the *TDG Regulations*;
- (b) The dangerous goods are contained in a small means of containment that is a plastic marine fuel tank having the CSA B306 mark and having a capacity less than or equal to 25 L;
- (c) The small means of containment is designed, constructed, filled, closed, secured, and maintained so that under normal conditions of transport, including handling, there will be no accidental release of the dangerous goods that could endanger public safety;
- (d) The dangerous goods are loaded aboard the aircraft or as an external load at the last aerodrome of departure to access the limited access area and no stops are permitted at any other aerodrome except for emergency reasons or re-fuelling;
- (e) The Helicopter Association of Canada ensures that a copy of this equivalency certificate is provided to all air operator members of the Helicopter Association of Canada;
- (f) The air operator members of the The Helicopter Association of Canada ensure that the personnel handling and transporting the dangerous goods are trained in regards to the conditions of this equivalency certificate;
- (g) A paper or electronic copy of this equivalency certificate accompanies the dangerous goods during transport and must be provided to an inspector or a peace officer immediately upon request; and

**Equivalency Certificate SA 7720 (Ren. 11)**  
**(Approval issued by the competent authority of Canada)**

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(h) A current proof of membership with The Helicopter Association of Canada must be readily available upon request.

5. This equivalency certificate authorizes the air operator members of the Helicopter Association of Canada to handle, offer for transport or transport, by aircraft, the dangerous goods:

- listed in Appendix A to this equivalency certificate,

in a manner that does not comply with:

- subsection 12.1(2) of the *TDG Regulations*,

if the following conditions are met:

- (a) The dangerous goods are transported in compliance with section 12.9 - Limited Access of the *TDG Regulations*, except for subsection 12.9(9);
- (b) The dangerous goods are loaded aboard the aircraft at the last aerodrome of departure to access the limited access area and no stops are permitted at any other aerodrome except for emergency reasons or refuelling;
- (c) The dangerous goods are contained in a means of containment that is in compliance with Part 5 of the *TDG Regulations*;
- (d) For cargo aircraft, each means of containment has a capacity less than or equal to 100 L;
- (e) For passenger carrying aircraft, the total capacity of all means of containment is less than or equal to 120 L;
- (f) The means of containment is secured in an upright position or in as near an upright position as possible to prevent movement during transport;
- (g) The dangerous goods are loaded aboard the aircraft or as an external load at the last aerodrome of departure to access the limited access area and no stops are permitted at any other aerodrome except for emergency reasons or re-fuelling;
- (h) The Helicopter Association of Canada ensures that a copy of this equivalency certificate is provided to all air operator members of the Helicopter Association of Canada;
- (i) The air operator members of the The Helicopter Association of Canada ensure that the personnel handling and transporting the dangerous goods are trained in regards to the conditions of this equivalency certificate;

**Equivalency Certificate SA 7720 (Ren. 11)**  
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- (j) A paper or electronic copy of this equivalency certificate accompanies the dangerous goods during transport and must be provided to an inspector or a peace officer immediately upon request; and
- (k) A current proof of membership with The Helicopter Association of Canada must be readily available upon request.

**Note 1: Subsection 31(4) of the *TDG Act* stipulates that any non-compliance with the conditions of this equivalency certificate causes the provisions of the Act and Regulations to apply as though this equivalency certificate did not exist.**

**Note 2: Any other requirement of the *TDG Regulations* applies.**

Signature of Issuing Authority



David Lamarche, P. Eng., ing.  
Chief, Approvals and Special Regulatory Projects

**Equivalency Certificate SA 7720 (Ren. 11)**  
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**Contact Person:** Fred L. Jones  
Helicopter Association of Canada  
2210 Prince of Wales Drive, Unit 502  
Nepean ON K2E 6Z9

**Telephone:** 613-2312-1110 ext. 239  
**Facsimile:** 613-369-5097  
**E-mail:** fred.jones@h-a-c.ca

*(The following Explanatory Note is for information purposes only and is not part of this certificate.)*

**Explanatory Note**

This equivalency certificate authorizes the air operator members of the Helicopter Association of Canada to handle or transport forbidden dangerous goods (animal deterrent – commonly known as Bear Spray and Bear Bangers) in compliance with section 12.9 - Limited Access of the *TDG Regulations*.

This equivalency certificate also authorizes the air operator members of the Helicopter Association of Canada to transport:

- dangerous goods as a 705 Air Operator while following the requirements set out in section 12.9 - Limited Access of the *TDG Regulations*,
- batteries in a packaging different from Packing Instructions 800 or 806 of the *ICAO Technical Instructions*, and
- dangerous goods listed in subsection 12.9(2) or the *TDG Regulations* in a plastic marine fuel tank having the CSA B306 mark and having a capacity less than or equal to 25 L.

The current list of the air operator members of the Helicopter Association of Canada is available at the following website: <http://www.h-a-c.ca/operators.html>.

**Legend for Certificate Number**

SH - Road, SR - Rail, SA - Air, SM - Marine  
SU - More than one Mode of Transport  
Ren. - Renewal

## **Appendix A**

### **Dangerous Goods:**

- UN1001, ACETYLENE, DISSOLVED, Class 2.1,
- UN1002, AIR, COMPRESSED, with not more than 23.5 per cent oxygen, by volume, Class 2.2,
- UN1006, ARGON, COMPRESSED, Class 2.2,
- UN1013, CARBON DIOXIDE, Class 2.2,
- UN1060, METHYLACETYLENE AND PROPADIENE MIXTURE, STABILIZED, Class 2.1,
- UN1066, NITROGEN, COMPRESSED, Class 2.2, or
- UN1072, OXYGEN, COMPRESSED, Class 2.2(5.1)

## ANNEX F – Dangerous Goods Acceptance Checklist

### Package or Container

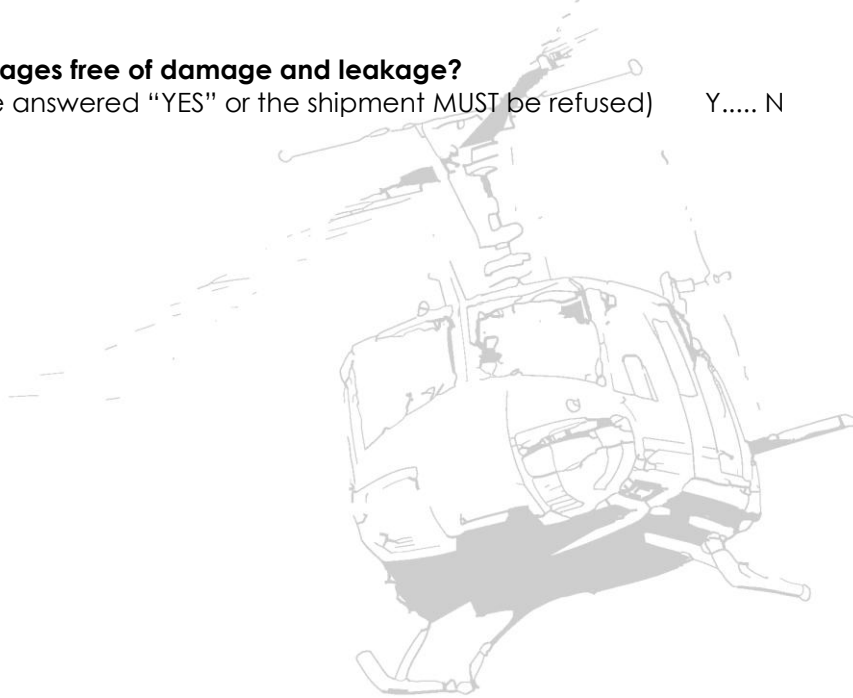
Is the package or container:

1. In an accepted category ..... Y.....N.....N/A
2. Marked with shipping name ..... Y.....N.....N/A
3. Marked with UN Number ..... Y.....N.....N/A
4. Have a Class label ..... Y.....N.....N/A
5. Have a Subsidiary risk label if required ..... Y.....N.....N/A
6. Have "This Way Up" labels if required ..... Y.....N.....N/A
7. Have a "Cargo Aircraft Only" label if required ..... Y.....N.....N/A
8. Package marking if required ..... Y.....N.....N/A

If any question warrants a "NO" response the consignment must be refused.

### **Are all packages free of damage and leakage?**

(This must be answered "YES" or the shipment MUST be refused) Y..... N



**ANNEX G – Documentation and Records**

<b>Dangerous Goods Booking Sheet</b>				
Name & Address of Shipper:		Prepared by:		
Approximate Date of Transport:		Goods To Be Transported Between:		
✓	UN Number	Proper Shipping Name	Class	Qty to be Transported
	UN1011	Butane	2.1	
	UN1012	Butylene	2.1	
	UN1055	Isobutylene	2.1	
	UN1075	Liquefied Petroleum Gases	2.1	
	UN1077	Propylene	2.1	
	UN1969	Isobutane	2.1	
	UN1978	Propane	2.1	
	UN1044	Fire Extinguishers	2.2	
	UN1202	Diesel Fuel	3	
	UN1203	Gasoline	3	
	UN1219	Isopropanol	3	
	UN1223	Kerosene	3	
	UN1863	Fuel aviation turbine engine, PG II & III only	3	
	UN1268	Petroleum distillates, N.O.S., PG II & III only	3	
	UN1496	Sodium Chlorite	5.1	
	UN2800	Batteries, wet, non-spillable	8	
	UN2795	Batteries, wet, filled with alkali	8	
	UN2794	Batteries, wet, filled with acid	8	
	UN1791	Hypochlorite Solution	8	
	UN3166	Engines, internal Combustion	9	

**ANNEX H - Thirty Day Follow-Up Report**

Name of person providing report: _____		
Contact Number: _____		
Place of Business & Address: _____		
: Accidental Release	: Dangerous Goods Accident	: Dangerous Goods incident
Date: _____ Time: _____		
Location: _____		
Consignor: _____		
Address: _____ UN		
Number _____ Shipping Name _____ Class _____		
Total quantity in containment prior to release: _____		
Estimated quantity of release: _____		
Describe the means of containment based on the identification markings: _____ _____ _____		
Describe the failure or damage to the means of containment including how the failure or damage occurred: _____ _____ _____		
Was the accidental release from a cylinder that has suffered a catastrophic failure? : yes : no		
If yes, describe the failure and note the certification marks: _____ _____		



Were there any deaths? : yes : no If yes, how many? \_\_\_\_\_

Were there any injuries : yes : no If yes, how many? \_\_\_\_\_

Were any persons evacuated from private residences, public areas or public buildings? : yes: no  
If yes, estimate how many: \_\_\_\_\_

Was an emergency response plan activated? : yes : no

If yes, name of the person responding in accordance with the emergency response assistance plan: \_\_\_\_\_

Forward this report within 30 days to:

Director General  
Transport Dangerous Goods Directorate  
Place de Ville, Tower C, 9th floor  
330 Sparks Street  
OTTAWA, Ontario  
K1A 0N5

