

canadair ***challenger***®

AIRPLANE FLIGHT MANUAL

MODEL CL-600-2A12

44,600 lb/45,100 lb MTOW

This airplane must be operated in compliance with the
LIMITATIONS prescribed herein.

BOMBARDIER INC.

CANADAIR AEROSPACE GROUP

**P.O. BOX 6087, MONTREAL, QUEBEC
CANADA H3C 3G9**

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PRODUCT SUPPORT PUBLICATION NO. 601-1B-1 (U.S.)



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MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

LOG OF REVISIONS

The Airplane Flight Manual is valid only when all the issued revisions are incorporated. Insert each revision, as issued, and record incorporation in the column provided.

Rev	Pages Affected	DOT Approval	Description of Revision	Date In-Corporated Signature
1	LIST OF SUPPLEMENTS, Page 1 SUPPLEMENT 12 - CONTENTS, Page i SUPPLEMENT 12, Pages 1, 2, 3, 4	B.J. Wormworth 16 Mar 1989	Introduces the effect of Canadair Service Bulletin 601-0262, Modification - Fuel Storage - Tail Cone Fuel Tank Addition, as Supplement 12	
2	INTRODUCTION, Page 1 NORMAL PROCEDURES, Page 56 PERFORMANCE - CONTENTS, Pages i, ii, iii, vi, vii, viii PERFORMANCE, Pages 52, 68, 76, 76A, 76B, 78, 80, 80A, 80B, 86, 88, 88A, 88B, 90, 90A, 90B, 106, 114, 114A, 114B, 116, 118, 118A, 118B, 124, 126, 126A, 126B, 128, 128A, 128B, 156, 158, 158A, 158B LIST OF SUPPLEMENTS, Page 1	B.J. Wormworth 19 April 1989	Performance data added for airplanes operating from paved runways with gravel protection kit installed. Operation from Unpaved/Gravel Runways added as Supplement 6 to the Airplane Flight Manual.	

**canadair
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MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date In-Corporated Signature
	SUPPLEMENT 6 - CONTENTS, Page i SUPPLEMENT 6 Pages 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23			
3	LIMITATIONS, Page 9 ABNORMAL PROCEDURES, Pages 9, 10, 11, 12	K.J. Mansfield 8 June 1989	Windmilling air start procedure revised.	
4	INTRODUCTION, Page 2 NORMAL PROCEDURES- CONTENTS, Pages ii, iii NORMAL PROCEDURES, Pages 32, 33, 34, 35, 39, 40, 41, 42, 43, 53, 54, 62, 64, 67 ABNORMAL PROCEDURES- CONTENTS, Page i ABNORMAL PROCEDURES, Page 4	L.T. Farrell 25 Sept 1989	Effect of Canadair Service Bulletin 601-0266, Modification - Nose Gear Doors - External Ground Operation added. Flight controls check deleted. Stall protection system check revised. Title of Engine Failure Before Achieving V ₁ procedure changed.	
5	LIMITATIONS, Page 3 SUPPLEMENT 12, Page 2	L.T. Farrell 7 Nov 1989	Centre of Gravity Limits chart kilogram scale corrected	

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date In-Corporated Signature
6	INTRODUCTION, Page 2 EMERGENCY PROCEDURES - CONTENTS, Page ii EMERGENCY PROCEDURES, Pages 25, 26, 26A, 26B PERFORMANCE, Page 165	L.T. Farrell 20 Feb 1990	Introduces the effect of Canadair Service Bulletin 601-0237, Modification - Stall Protection System - Computer Reliability Improvement.	
7	PERFORMANCE- CONTENTS, Page i PERFORMANCE, Pages 29, 30, 31, 52, 53, 68, 69, 70, 71, 72, 73, 74, 75, 90B, 91, 106, 107, 108, 109, 110, 111, 112, 113	K.J. Mansfield 17 Sept 1990	Data regarding the effect of clearways added.	
8	INTRODUCTION, Pages 1, 2 LIMITATIONS- CONTENTS, Pages i, ii, iii LIMITATIONS, Pages 1, 2, 4, 4A, 4B, 18, 28, 30 NORMAL PROCEDURES, Page 61 PERFORMANCE- CONTENTS, Pages i, iv, v, vi, vii, viii	K.J. Mansfield 25 Sept 1990	Introduces the effect of Canadair Service Bulletin 601-0360, Modification - Increased MTOW - 45,100 lb.	

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date In-Corporated Signature
8	PERFORMANCE, Pages 24, 24A, 24B, 26, 26A, 26B SUPPLEMENT 1, Pages 1, 2 SUPPLEMENT 12, Pages 1, 2A, 2B			
9	NORMAL PROCEDURES, Pages 14, 15	K.J. Mansfield 26 Sept 1990	Procedure for using APU to provide cabin air conditioning revised to correct APU bleed air indication.	
10	EMERGENCY PROCEDURES- CONTENTS, Page ii EMERGENCY PROCEDURES, Pages 33, 34 ABNORMAL PROCEDURES- CONTENTS, Page i ABNORMAL PROCEDURES, Pages 1, 4, 5, 6, 7, 8	B.J. Wormworth 9 Nov 1990	Engine failure or rejected take-off before V ₁ procedure moved to Emergency Procedures. Engine failure shutdown procedure clarified.	
11	INTRODUCTION, Page 2 SUPPLEMENT 12 - CONTENTS, Page i SUPPLEMENT 12, Pages 1, 3, 4, 5	B.J. Wormworth 23 Jan 1991	Effect of Canadair Service Bulletins 601-0355 and 601-0362 added.	

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date In-Corporated Signature
12	LIMITATIONS, Pages 4B, 26 EMERGENCY PROCEDURES, Pages 2, 6, 11, 19 NORMAL PROCEDURES, Pages 28, 72 ABNORMAL PROCEDURES, Pages 23, 24, 46, 48, 50 PERFORMANCE, Page 58 TEMPORARY REVISION, 601/6	B.J. Wormworth 11 Feb 1991	Miscellaneous changes.	
13	LIMITATIONS - CONTENTS, Page ii LIMITATIONS, Pages 4B, 19, 27, 28 EMERGENCY PROCEDURES, Pages 2, 8, 9, 12, 14, 30, 31, 32 ABNORMAL PROCEDURES, Pages 1, 5, 9, 39	B.J. Wormworth 27 Mar 1991	Miscellaneous changes.	
14	NORMAL PROCEDURES, Page 11 ABNORMAL PROCEDURES, Page 1	B.J. Wormworth 30 Apr 1991	Reference to ITT added to engine shutdown procedure. Reference to cowl anti-ice added to engine failure procedure.	

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
15	LIMITATIONS, Pages 4B, 28 EMERGENCY PROCEDURES, Pages 2, 8, 9, 19 NORMAL PROCEDURES - CONTENTS, Page i NORMAL PROCEDURES, Pages 1, 2, 6A, 62 PERFORMANCE - CONTENTS, Page v PERFORMANCE, Pages 26B, 26C, 26D, 27, 165	B.J. Wormworth 01 Nov 1991	Miscellaneous changes.	
16	LIMITATIONS - CONTENTS, Page ii LIMITATIONS, Page 28 EMERGENCY PROCEDURES, Pages 10, 24, 26B NORMAL PROCEDURES, Pages 24, 29 APPENDIX 1 - CONTENTS, Page 1 APPENDIX 1, Pages 1, 2, 32-1	B.J. Wormworth 16 Mar 1992	Miscellaneous changes. Configuration Deviation List added as Appendix 1.	

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date In-Corporated Signature
17	LIMITATIONS, Page 4B ABNORMAL PROCEDURES, Page 2	B.J. Wormworth 3 Jun 1992	Removal of requirement for continuous ignition in icing conditions. Revised procedure for engine vibration in icing conditions.	
18	TITLE PAGE APPROVAL PAGE EMERGENCY PROCEDURES, Pages 3, 12, 19, 30, 31 NORMAL PROCEDURES, Pages 10, 11, 39 ABNORMAL PROCEDURES, Pages 3, 22, 58	K.J. Mansfield 28 Aug 1992	Miscellaneous system changes.	
19	ABNORMAL PROCEDURES - CONTENTS, Page iii ABNORMAL PROCEDURES, Pages 42, 43	L. Galvin 02 Mar 1993	Introduces additional abnormal procedure for airplanes with powered fuel crossfeed.	
20	EMERGENCY PROCEDURES, Pages 31, 32	B.J. Wormworth 23 Jun 1993	Anti-ice, wing duct failure procedure revised.	
21	LIMITATIONS - CONTENTS, Page ii LIMITATIONS, Pages 7, 9, 11,	B.J. Wormworth 02 July 1993	Common engine start procedures for airplanes with CF34-3A or CF34-3A2 engines.	

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date In-Corporated Signature
21	EMERGENCY PROCEDURES, Page 19 NORMAL PROCEDURES, Pages 2, 3, 4 ABNORMAL PROCEDURES - CONTENTS, Pages i, iv ABNORMAL PROCEDURES, Pages 5, 9, 10, 11, 12 PERFORMANCE, Page 1		Revised loss of normal generated electrical power procedure.	
22	APPENDIX 1 - CONTENTS, Page 1 APPENDIX 1, Page 23-1	K.J. Mansfield 22 Dec 93	Static dischargers added to the Configuration Deviation List.	
23	NORMAL PROCEDURES - CONTENTS, Page ii NORMAL PROCEDURES, Pages 28A, 28B, 29	K.J. Mansfield 28 Jan 1994	Take-off configuration warning system check added for first flight of each day.	
24	NORMAL PROCEDURES, Pages 60, 61 PERFORMANCE, Pages 27, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 57, 62, 63, 73, 75, 95, 101, 111, 113, 139, 145	K.J. Mansfield 11 Feb 1994	Buffet boundary data revised re; load factor. Stall speeds (KIAS) chart corrected. Power setting charts revised to increase N ₁ by 0.4 %.	

**canadian
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
24	SUPPLEMENT 4, Pages 3, 5, 7, 9/10, 11/12		V ₂ chart corrected for minimum value. Performance charts expanded for anti-ice on at 10°C (50°F).	<i>B. P. Ward</i> <i>May 22/97</i>
25	LIMITATIONS, Page 4B EMERGENCY PROCEDURES, Pages 8, 15, 19, 22 NORMAL PROCEDURES - CONTENTS, Pages i, ii NORMAL PROCEDURES, Pages 1, 2, 3, 4, 5, 7, 8, 9, 10, 10A, 10B, 11, 16, 17, 18, 22, 23, 24, 26, 31, 33, 34, 35, 36, 37, 39, 43, 51, 53, 60, 63, 64, 66, 67, 68 ABNORMAL PROCEDURES - CONTENTS, Page ii ABNORMAL PROCEDURES, Pages 30, 31, 32 TEMPORARY REVISION 601/1	K.J. Mansfield 09 Aug 1994	Types of operation expanded. Requirements for continuous ignition revised. Reference to ram air vent removed to obtain MMEL relief. Cabin Low Pressure procedure revised regarding use of RATE knob. Rudder Control System Jammed procedure revised to include reference to rudder trim. Fusible plug release data corrected. Miscellaneous electrical system changes. Normal Procedures revised to reduce pre-flight checks. Data of TR 601/1 incorporated.	<i>B. P. Ward</i> <i>May 22/97</i>

**Canadair
Challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date In- corporated Signature
26	INTRODUCTION, Page 2 ABNORMAL PROCEDURES, Pages 55, 58	K.J. Mansfield 15 Dec 1994	Effect of Canadair Service Bulletin 601-0406 incorporated. Nose wheel steering failure indication clarified.	B.P. May 22 1997
27	LIST OF SUPPLEMENTS, Page 1 SUPPLEMENT 13 - CONTENTS, Page i SUPPLEMENT 13, Pages 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33	K.J. Mansfield 01 May 1995	Take-off performance data using scheduled V _{MCG} added as Supplement 13.	B.P. May 22 1995
28	LIMITATIONS - CONTENTS, Page ii LIMITATIONS, Pages 27, 28	K.J. Mansfield 06 Jul 1995	Operation without main landing gear wheel discs.	B.P. May 22 1995

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
29	LIMITATIONS, Page 27 EMERGENCY PROCEDURES - CONTENTS, Page i EMERGENCY PROCEDURES, Pages 1, 7, 19 NORMAL PROCEDURES, Page 65 ABNORMAL PROCEDURES, Page 55	K.J. Mansfield 09 Nov 1995	Correction to fusible plug release data. Addition of Emergency Procedure for low engine oil pressure. Revision of ADG manual deployment procedure. Deletion of TR 601/5. Expansion of services inoperative during loss of all normal electrical power. Correction of Consolidated Check List for CF34-3A engines. Revision of nose wheel steering failure procedure.	B.P. May 02/97
30	EMERGENCY PROCEDURES, Page 19 NORMAL PROCEDURES, Pages 10A, 10B, 23, 25, 26, 28, 31, 63, 67, 71, 72 ABNORMAL PROCEDURES, Page 32	K.J. Mansfield 20 Dec 1995	Revision of ADG manual deployment procedure. APU shutdown procedure clarified. Increase time delay for autopilot engagement during AFCS test. Effect of Canadair Service Bulletin 601-0463 added.	B.P. May 02/97

**Canadair
Challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
31	LIMITATIONS Page 10 NORMAL PROCEDURES - CONTENTS, Pages ii NORMAL PROCEDURES, Pages 2, 3, 4, 5, 28A, 37, 65 ABNORMAL PROCEDURES - CONTENTS, Page iii, iv ABNORMAL PROCEDURES, Pages 9, 42, 43	L.T. Farrell 17 Jan 1996	Fuel grade specifications revised. Effect of Canadair Service Bulletin 601-0450 added. Starting procedure checks expanded. Caution and warning system check clarified. Fuel system malfunctions revised.	BP May 02/97
32	EMERGENCY PROCEDURES, Pages 1, 19	R. Walker 02 Apr 1996	Clarification of ADG manual deployment procedure.	BP May 02/97
33	INTRODUCTION, Page 2 NORMAL PROCEDURES, Pages 28, 28A, 72	R. Walker 17 Jun 1996	List of Service Bulletins Updated. APU shutdown procedure clarified. Caution and warning system check clarified.	BP May 02/97
34	EMERGENCY PROCEDURES, Page 17 NORMAL PROCEDURES, Page 24 ABNORMAL PROCEDURES, Pages 22, 23	L. Farrell 24 Jul 1996	Roll monitor test relocated.	BP May 02/97

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
35	INTRODUCTION, Pages 1, 2, 3	L. Farrell 30 Jul 1996	Introduction of definition for note, caution and warning.	<i>BP</i> <i>May 2/97</i>
36	NORMAL PROCEDURES, Page 71	W. Jupp 25 Sep 1996	Consolidated check list revised to include shutoff of electric hydraulic pumps.	<i>4</i>
37	LIMITATIONS, Page 5 NORMAL PROCEDURES, Pages 16, 17, 18	K.J. Mansfield 28 Oct 1996	Altitude and temperature operating limits revised. Revise anti-ice test to permit verification of isolation valve.	<i>4</i>
38	LIMITATIONS, Page 12	L. Farrell 28 Nov 1996	APU starting limits expanded.	<i>4</i>
39	ABNORMAL PROCEDURES - CONTENTS, Page iii ABNORMAL PROCEDURES, Pages 42, 43, 44, 45, 46, 47, 61	R. Walker 28 Jan 1997	Fuel imbalance procedure clarified. Windshield outer face ply failure procedure expanded.	<i>4</i>
40	LIMITATIONS, Page 7 NORMAL PROCEDURES, Pages 4, 5, 7	L. Farrell 06 Mar 1997	Revision of engine operating limits and addition of idle speed checks.	<i>4</i>

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
41	INTRODUCTION, Page 3 LIMITATIONS - CONTENTS, Pages i, ii LIMITATIONS, Pages 4B, 17, 19, 28, 31, 32 TEMPORARY REVISION 601/7	W. Jupp 27 Mar 1997	Addition of limitations to include flight in RVSM airspace.	<i>B.P.</i> <i>May 2/97</i>
42	EMERGENCY PROCEDURES - CONTENTS, Pages i, ii EMERGENCY PROCEDURES, Pages 1, 2, 3, 4, 5, 6, 6A, 6B, 7, 20, 21, 22, 26A, 26B, 26C, 26D, 27, 28 NORMAL PROCEDURES - CONTENTS, Pages ii, iv NORMAL PROCEDURES, Pages 10A, 10B, 36, 37, 68, 69, 70, 71, 72	K.J. Mansfield 12 Aug 1997	Clarification of engine fire indications in the event of a lightning strike. Revision of ditching procedures to include forced landing. Revision of flight control system emergencies to clarify landing. Clarification of ITT reading during engine shutdown. Addition of fuel quantity check in Normal Procedures.	<i>B.P.</i> <i>March 8/99</i>

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
43	NORMAL PROCEDURES, Pages 3, 4, 26, 27, 28, 63, 65, 72 ABNORMAL PROCEDURES, Page 2	W. Jupp 06 Jan 1998	Clarification of bleed air requirement for engine starting. Revision of APU procedures. Clarification of engine vibration procedure.	
44	LIMITATIONS, Pages 8, 11, 25 EMERGENCY PROCEDURES - CONTENTS, Page ii EMERGENCY PROCEDURES, Pages 1, 29 NORMAL PROCEDURES, Page 41	W. Jupp 20 Apr 1998	Revision of engine oil pressure limits. Revision of oil grade limitations. Revision of altitude limit with flaps extended. Clarification of flight spoiler limit. Addition of procedure for excessive asymmetry or loss of braking. Revision of best glide speed for double engine failure. Deletion of requirement to cycle gear during operation from contaminated runways. Revision of braking procedures for operation from contaminated runways.	

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
45	LIMITATIONS, Page 12 EMERGENCY PROCEDURES, Page 19	W. Jupp 03 Dec 1998	Revision of APU in-flight start limit.	
46	INTRODUCTION, Page 3 EMERGENCY PROCEDURES - CONTENTS, Pages i, ii EMERGENCY PROCEDURES, Pages 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 19, 20, 21, 22, 33 NORMAL PROCEDURES, Page 33 ABNORMAL PROCEDURES - CONTENTS, Page i ABNORMAL PROCEDURES, Pages 1, 2, 3, 4, 9, 11, 55, 58 SUPPLEMENT 12 - CONTENTS, Page i SUPPLEMENT 12, Pages 1, 2B APPENDIX 1, Page 23-1	W. Jupp 21 Apr 1999	Deletion of Canadair Service Bulletin 601-0406. Miscellaneous updates to the emergency and abnormal procedures. Clarification of spoiler check procedure. Clarification of thrust setting during engine vibration. Revision of the nose wheel steering system failure. Addition of tail tank secondary transfer check. Revision of the Configuration Deviation List for static dischargers.	
47	INTRODUCTION, Pages 2, 3 LIMITATIONS, Page 28	W. Jupp 21 Sep 1999	Clarification of tire pressure limitation. Clarification of certification registry coding.	

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
48	INTRODUCTION, Page 3 LIMITATIONS - CONTENTS, Page ii LIMITATIONS, Pages 26, 28, 31 NORMAL PROCEDURES - CONTENTS, Page ii NORMAL PROCEDURES, Pages 41, 42, 43 ABNORMAL PROCEDURES, Pages 40, 41 PERFORMANCE, Pages 66, 67, 104, 105 APPENDIX 1 - CONTENTS, Page 1 APPENDIX 1 Page 32-1	W. Jupp 07 Feb 2000	Removal of requirement for wheel discs. Clarification of fuel failure procedures. Revision of limitation to permit take-off with fuel in the auxiliary tank. Expansion of take-off performance charts limited by tire speeds.	
49	EMERGENCY PROCEDURES - CONTENTS, Page ii EMERGENCY PROCEDURES, Pages 28A, 28B, 28C, 28D, 29 NORMAL PROCEDURES, Pages 39, 40, 58 ABNORMAL PROCEDURES - CONTENTS, Page iii ABNORMAL PROCEDURES, Pages 49, 53, 54, 55	W. Jupp 03 Apr 2000	Revision of the landing gear wheel and brake procedures.	

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
50	LIMITATIONS, Page 12 EMERGENCY PROCEDURES, Pages 2, 7 NORMAL PROCEDURES, Pages 39, 62 ABNORMAL PROCEDURES, Page 3 APPENDIX 1 - CONTENTS, Page 1 APPENDIX 1 Pages 23-1, 32-1, 33-1, 51-1, 52-1, 52-2, 53-1, 55-1, 55-2, 57-1, 57-2, 57-3, 57-4	K.J. Mansfield 04 Jul 2001	Revision of auxiliary power unit (APU) maximum EGT limits. Revision of engine fire or severe engine damage procedure. Revision of engine oil pressure low emergency procedure. Clarification of note regarding anti-skid system test before taxi. Addition of NLG Door check before entering airplane. Revision of engine vibration procedure. Expansion of Configuration Deviation List.	
51	SUPPLEMENT 5 Page 1	L. Galvin 18 Jan 2002	Extended airplane effectivity for Category II operation.	
52	INTRODUCTION, Page 3 NORMAL PROCEDURES, Pages 1, 2 ABNORMAL PROCEDURES - CONTENTS, Page iii ABNORMAL PROCEDURES, Pages 9, 10, 11, 53, 54, 55	W. Jupp 28 Mar 2002	Addition of a note regarding ACU selection before engine start. Revision of anti-skid failure procedures.	

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
53	LIMITATIONS Page 26 LIST OF SUPPLEMENTS, Page 1 SUPPLEMENT 14 - CONTENTS, Page i SUPPLEMENT 14, Pages 1, 2	W. Jupp 20 Jun 2002	Clarification of auxiliary fuel tank limits. Addition of Supplement 14 for operation with airplane systems inoperative.	
54	LIMITATIONS - CONTENTS, Page i LIMITATIONS, Pages 10, 11, 12, 13, 15, 16, 22, 22A, 22B ABNORMAL PROCEDURES, Page 27 APPENDIX 1 - CONTENTS, Pages i, ii APPENDIX 1 Pages 1, 2, 23-1, 23-2, 32-1, 33-1, 33-2, 51-1, 51-2, 52-1, 52-2, 52-3, 52-4, 52-5, 53-1, 53-2, 55-1, 55-2, 55-3, 57-1, 57-2, 57-3, 57-4, 57-5, 57-6 TEMPORARY REVISIONS 601/2 and 601/3-2	W. Jupp 25 Oct 2002	Addition of fuel temperature limitations. Update of Configuration Deviation List. Deletion of TR 601/2. Incorporation of TR 601/3-2.	

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
55	INTRODUCTION, Page 3 LIMITATIONS - CONTENTS, Page i LIMITATIONS, Pages 6, 6A, 6B EMERGENCY PROCEDURES - CONTENTS, Page ii EMERGENCY PROCEDURES, Pages 3, 4, 5, 8, 30, 31, 32 NORMAL PROCEDURES - CONTENTS, Pages i, ii NORMAL PROCEDURES, Pages 16, 17, 18, 19, 20, 21, 22, 40A, 40B, 41, 53, 54 ABNORMAL PROCEDURES, Pages 2, 20, 21, 61 PERFORMANCE - CONTENTS, Pages iv, v, vi, vii, viii, ix, x PERFORMANCE, Pages 10, 11, 12, 12A, 12B, 13, 14, 14A, 14B, 14C, 14D, 15, 16, 17, 18, 18A, 18B, 18C, 18D, 19, 20, 20A, 20B, 20C, 20D, 21, 22, 22A, 22B, 22C, 22D, 23, 24, 24A, 24B, 24C, 24D, 24E, 24F, 24G, 24H, 25, 26 APPENDIX 1 - CONTENTS, Page ii APPENDIX 1, Pages 1, 2, 56-1, 56-2 TEMPORARY REVISION 601/11-1	W. Jupp 21 Apr 2003	Revision of limitations and procedures for operating in icing conditions. Clarify the Smoke or fire procedures. Revision of stall protection system test. Revision of position error correction charts. Revision of general limitations for the Configuration Deviation List. Addition of CDL for p-static probes.	

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
56	LIMITATIONS, Page 6B NORMAL PROCEDURES – CONTENTS, Page iii NORMAL PROCEDURES, Page 55	W. Jupp 30 Sep 2003	Expansion of icing limitations. Addition of CAUTION for resetting nose wheel steering.	
57	EMERGENCY PROCEDURES, Pages 8, 16 SUPPLEMENT 14 – Contents, Page i SUPPLEMENT 14, Page 3	W. Jupp 16 Jan 2004	Revision of procedures using emergency depressurization. Expand supplement of inoperative systems to cover flap PDU.	
58	LIMITATIONS, Page 17 EMERGENCY PROCEDURES – CONTENTS, Page ii EMERGENCY PROCEDURES, Pages 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42 ABNORMAL PROCEDURES – CONTENTS, Pages iii, iv ABNORMAL PROCEDURES, Pages 56, 57, 58, 59, 60, 61, 62 APPENDIX 1 Pages 23-1, 23-2	W. Jupp 16 Jul 2004	Addition of CAUTION regarding maneuvering. Revision of landing gear procedures. Clarification of the CDL for static dischargers.	

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
59	LIMITATIONS, Page 6B EMERGENCY PROCEDURES – CONTENTS, Page i EMERGENCY PROCEDURES, Pages 6A, 6B, 7 ABNORMAL PROCEDURES – CONTENTS, Page i ABNORMAL PROCEDURES, Pages 4A, 4B APPENDIX 1 Pages 23-1, 23-2 TEMPORARY REVISION 601/10-1	W. Jupp 14 Jan 2005	Expand wing anti-icing limitations to include Type III fluids. Revision of the engine oil pressure low procedure to prevent overhaul. Revision of the uncommanded acceleration and deceleration procedures to prevent overspeed. Revision of the CDL for static dischargers.	
60	INTRODUCTION, Page 3 LIMITATIONS – CONTENTS, Page ii LIMITATIONS, Pages 11, 12, 13, 14, 14A, 14B EMERGENCY PROCEDURES, Page 19 NORMAL PROCEDURES – CONTENTS, Page i NORMAL PROCEDURES, Pages 12, 13, 14, 15 ABNORMAL PROCEDURES, Page 27	W. Jupp 19 Jul 2005	Introduction of Honeywell APU 36-150(CL).	



MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
61	INTRODUCTION, Pages 3, 4 LIMITATIONS - CONTENTS, Page ii LIMITATIONS, Pages 11, 12, 13, 14, 14A EMERGENCY PROCEDURES, Page 19 NORMAL PROCEDURES, Pages 14, 15 ABNORMAL PROCEDURES, Page 27	W. Jupp 05 May 2006	Addition of Service Bulletin to activate Honeywell APU 36-150(CL).	
62	LIMITATIONS - CONTENTS, Pages i, ii LIMITATIONS, Pages 6C, 6D, 10, 11, 12, 13, 14, 14A, 14B, 26 EMERGENCY PROCEDURES, Page 6A ABNORMAL PROCEDURES, Pages 4, 55 TEMPORARY REVISION 601/13	W. Jupp 11 Sep 2006	Incorporation of temporary revision to emphasize the requirement for an aerodynamically clean airplane during cold weather operations. Clarification of auxiliary fuel tank limit. Revision of fuel specifications and additives. Clarification of engine oil pressure low procedure. Clarification when selecting engine speed control switches off. Revision of nose wheel steering failure procedure.	

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
63	LIMITATIONS, Page 13 NORMAL PROCEDURES, Page 27	W. Jupp 21 Dec 2006	Clarification of the APU starting limits and behavior.	
64	INTRODUCTION, Page 3 LIMITATIONS – CONTENTS, Pages ii, iii LIMITATIONS, Pages 26, 27, 28, 29, 30, 31	W. Jupp 19 Jan 2007	Addition of fuel system limitations for aircraft with forward auxiliary fuel tank deactivated.	
65	INTRODUCTION, Page 3 LIMITATIONS – CONTENTS, Pages i, ii, iii LIMITATIONS, Pages 10, 10A, 10B, 11, 26, 27, 28, 29, 30, 31, 32, 33, 34 EMERGENCY PROCEDURES, Pages 17, 23 ABNORMAL PROCEDURES – CONTENTS, Page i ABNORMAL PROCEDURES, Pages 13, 14, 15, 27, 33, 45, 46, 47, 48, 49, 50, 51, 52	R. W. Walker 15 Apr 2008	Revision of fuel specifications and additives. Clarification of wing tank fuel quantity for take-off. Clarification of autopilot and yaw damper failure procedures. Addition of procedure for unpressurized flight. Clarification of instruction to land as soon as possible. Revision of hydraulic failure procedure.	

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
65	LIST OF SUPPLEMENTS, Page 1 SUPPLEMENT 14, Page 2 SUPPLEMENT 15 – Contents, Page i SUPPLEMENT 15, Pages 1, 2, 3, 4 SUPPLEMENT 16 – Contents, Page i SUPPLEMENT 16, Pages 1, 2 TEMPORARY REVISION 601/12-2		Revision of data in Supplement 14 for operation with nose wheel steering inoperative. Incorporation of TR introducing Supplement 15. Introduction of Supplement 16 for flight with landing gear down.	
66	LIMITATIONS – CONTENTS, Page ii LIMITATIONS, Pages 4B, 31	R. W. Walker 18 Jul 2008	Addition of limitations for Argentinean registered airplanes.	

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
67	EMERGENCY PROCEDURES, Pages 32, 33, 34, 37 NORMAL PROCEDURES, Page 58 ABNORMAL PROCEDURES – CONTENTS, Page iii ABNORMAL PROCEDURES, Pages 41, 42, 43, 44, 44A, 44B, 44C, 44D, 53, 54, 56, 58	R. W. Walker 14 Oct 2008	Clarification of speed restriction for various flap settings. Clarification of fuel quantity during go-around. Addition of a fuel leak procedure. Revision of associated fuel procedures. Clarification of braking during anti-skid failures. Clarification of landing gear manual extension procedure. Revision of yaw damper failure abnormal procedure.	
68	EMERGENCY PROCEDURES – CONTENTS, Page i EMERGENCY PROCEDURES, Pages 1, 2, 2A, 2B, 2C, 2D, 2E, 2F, 8, 9, 10, 10A, 10B, 10C, 10D ABNORMAL PROCEDURES – CONTENTS, Page i ABNORMAL PROCEDURES, Pages 1, 2, 6, 7, 9, 10, 11	R. W. Walker 26 May 2009	Revision of Double Engine Failure procedure. Standardization of smoke/fire/fumes emergency procedures. Revision regarding APU usage during engine malfunctions. Addition of step to open 10th stage bleeds after engine air starts.	



MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
69	LIMITATIONS – CONTENTS, Pages i, ii, iii LIMITATIONS, Pages 4A, 4B, 6, 6A, 6B, 6B(AR), 6C, 6D EMERGENCY PROCEDURES – CONTENTS, Page ii EMERGENCY PROCEDURES, Pages 4, 5, 19, 20, 21, 22, 22A, 22B, 23, 40 NORMAL PROCEDURES – CONTENTS, Pages iii, iv NORMAL PROCEDURES, Pages 16, 16A, 16B, 17, 17(AR), 18, 19, 40B, 41, 41(AR), 53, 54, 55, 56, 56A, 56B, 57 ABNORMAL PROCEDURES – CONTENTS, Pages i, ii ABNORMAL PROCEDURES, Pages 4B, 5, 6, 7, 34, 35, 36, 37, 38, 38A, 38B, 39, 44C, 48, 50, 51, 52, 58, 60, 61	R. W. Walker 26 Oct 2009	Update operating limitations related to operation safety enhancement. Incorporation of temporary revisions 601/9-1, 601/15, 601/17-2 and 601/18. Addition of caution regarding pitch-up tendency when using reverse thrust with reduced flap settings. Addition of instructions regarding wet brakes. Clarification of use of thrust reversers during landing. Revision of wing flap system malfunction. Addition of icing information during wing flap system malfunction. Addition of instruction to maximize use of reverse thrust during hydraulic 2 and 3 failures.	

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
70	LIMITATIONS – CONTENTS, Page ii LIMITATIONS, Pages 22A, 30, 31 EMERGENCY PROCEDURES, Pages 3, 5, 39 NORMAL PROCEDURES, Pages 7, 8, 9, 16, 16B, 20, 21, 66, 67, 68, 71	W. Istchenko 05 May 2010	Addition of circuit breaker reset limitation. Clarification of thrust reverser limitations and thrust reverser unlocked procedure. Standardize reference to anti-ice isolation valve switch/light. Relocation of APR test to after starting engines. Clarification of requirement for thrust reverser check. Clarification during ice detector test that some ice detectors may cause FAIL lights to flash momentarily. Incorporation of temporary revision to ensure sufficient heat is available for wing anti-icing. Clarification of anti-ice tests in consolidated check list. Clarification of windshield anti-ice selection after landing.	



MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
70	ABNORMAL PROCEDURES – CONTENTS, Pages i, ii, iv ABNORMAL PROCEDURES, Pages 2, 8, 21, 22, 22A, 22B, 22C, 22D, 23, 60, 61, 62 SUPPLEMENT 15, Page 1 TEMPORARY REVISION 601/14		Correction of reference in go-around procedure. Addition of ice dispersal procedure. Addition of reference to ice dispersal procedure during wing anti-ice failures. Revision of windshield outer face ply failure procedure. Correction of take-off rotation rate in AOA supplement.	
71	EMERGENCY PROCEDURES – CONTENTS, Page ii EMERGENCY PROCEDURES, Pages 10C, 10D, 21, 22, 22A, 22B, 22C, 22D, 23 NORMAL PROCEDURES – CONTENTS, Page i NORMAL PROCEDURES, Pages 4, 4A, 4B ABNORMAL PROCEDURES, Page 41 SUPPLEMENT 1 – Contents, Page i SUPPLEMENT 1, Pages 1, 2	W. Istchenko 21 Oct 2010	Addition of step to monitor electrical loads during smoke/fire/fumes procedure. Introduction of stall recovery procedure. Addition of fuel CAUTION for single engine operation. Deletion of duplication to conduct bleed leak detection test when starting engine using APU air supply. Revision of motive flow failure procedure. Revision of compliance requirements for noise characteristics.	

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
72	NORMAL PROCEDURES, Pages 3, 4A, 5, 65 ABNORMAL PROCEDURES, Pages 9 and 55 APPENDIX 1 Pages 51-1, 51-2, 51-3	W. Istchenko 29 Apr 2011	Addition of information regarding engine starting. Addition of information regarding nosewheel steering failure. Revision of CDL for aerodynamic sealant.	
73	EMERGENCY PROCEDURES - CONTENTS, Page ii EMERGENCY PROCEDURES, Pages 9, 10, 10B, 10D, 36, 41, 42 LIST OF SUPPLEMENTS, Page 1 SUPPLEMENT 14 - Contents, Page i SUPPLEMENT 14, Page 3 SUPPLEMENT 17 - Contents, Page i SUPPLEMENT 17, Pages 1, 2	W. Istchenko 08 Nov 2011	Addition of emergency evacuation procedure. Addition of reference to emergency evacuation procedure in smoke/fire/fumes, landing gear up/unsafe landing and rejected take-off procedures. Revision of Supplement 14 to add performance penalties for operation with a cracked windshield faceply. Introduction of Supplement 17 for operation with a cracked windshield faceply. Incorporation of temporary revision 601/22	

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
74	INTRODUCTION, Pages 2, 3 LIMITATIONS, Page 10B EMERGENCY PROCEDURES, Page 13 NORMAL PROCEDURES – CONTENTS, Page i NORMAL PROCEDURES, Pages 7, 8, 9, 10, 10A, 10B, 10C, 10D, 16, 16A, 16B, 17, 17(AR), 18, 18(AR), 19, 22, 58, 66, 67, 69 ABNORMAL PROCEDURES, Pages 20, 62	W. Istchenko 30 Oct 2012	Revision of fuel system icing inhibitor information. Removal of data pertaining to airplanes not incorporating Service Bulletin 601-0165. Deletion of temporary revisions 601/4 and 601/8. Incorporation of temporary revision 601/20-2.	
75	EMERGENCY PROCEDURES, Page 21	W. Istchenko 19 Apr 2013	Revision of stall recovery procedure.	

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
76	LIMITATIONS, Page 7 EMERGENCY PROCEDURES – CONTENTS, Pages i, ii EMERGENCY PROCEDURES, Pages 8, 9, 10, 10A, 10B, 10C, 10D, 39, 40, 41, 42, 43, 44 NORMAL PROCEDURES, Pages 6, 25, 26, 27, 28 ABNORMAL PROCEDURES – CONTENTS, Page i ABNORMAL PROCEDURES, Pages 14, 15	W. Istchenko 29 Oct 2013	Addition of note to engine operating limits regarding N₂ split at ground idle. Revision of smoke/fire/fumes procedures. Revision of procedure for wing leading edge overheat. Addition of step to deactivate fuel pump when dry motoring with one engine operating. Revision of APU starting for Honeywell APU 36-150(CL). Addition of manual cabin pressurization control procedure.	
77	INTRODUCTION, Page 4 EMERGENCY PROCEDURES, Pages 11, 12 LIST OF SUPPLEMENTS, Page 1 SUPPLEMENT 1, Pages 1, 2 SUPPLEMENT 1A – Contents, Page i SUPPLEMENT 1A, Pages 1, 2	W. Istchenko 19 Oct 2015	Revision of engine bleed air duct failures to shutdown affected engine. Revision of the 14TH stage bleed air duct failure to cater for anti-icing. Revision of Noise Characteristics.	

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
78	NORMAL PROCEDURES, Page 58 ABNORMAL PROCEDURES – CONTENTS, Page iv ABNORMAL PROCEDURES, Pages 8, 63, 64	W. Istchenko 19 Oct 2016	Addition of step to disarm thrust reversers during go-around. Addition of procedure for radio altimeter failure.	
79	LIMITATIONS, Pages 6A, 6B, 6D, 10, 10A EMERGENCY PROCEDURES, Pages 2A, 2B, 2D, 19 NORMAL PROCEDURES – CONTENTS, Page i NORMAL PROCEDURES, Pages 6B, 7, 8, 9, 10, 10A, 16, 17, 18, 19, 19(AR), 20, 21, 22, 58, 64, 67, 68	W. Istchenko 06 Jul 2017	Introduction of supplemental ground wing anti-icing. Removal of upper fuselage from critical surface definition for cold weather operations. Revision of Chinese fuel specification. Revision of notes regarding Russian TS-1 fuel. Addition of generator reset during double engine failure. Revision of double engine failure to pull ADG manual deploy handle prior to landing. Addition of check to verify ADG power is established during loss of all normal electrical power. Clarification of generator reset during loss of all normal electrical power.	

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
79	ABNORMAL PROCEDURES – CONTENTS, Page ii ABNORMAL PROCEDURES, Pages 8, 22C		Revision of procedures for supplemental ground wing anti-icing. Revision of go-around procedures.	
80	EMERGENCY PROCEDURES, Page 41	W. Istchenko 08 Jan 2018	Harmonization of wing anti-ice duct failure. Clarification of wait time for wing anti-ice duct failure.	
81	EMERGENCY PROCEDURES – CONTENTS, Page ii EMERGENCY PROCEDURES, Pages 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54 ABNORMAL PROCEDURES, Page 19 APPENDIX 1 Pages 51-1, 51-3	W. Istchenko 31 Aug 2018	Addition of procedure for unreliable airspeed. Addition of information to CDL for aerodynamic sealant.	
82	LIMITATIONS, Page 21 ABNORMAL PROCEDURES – CONTENTS, Pages i, ii ABNORMAL PROCEDURES, Pages 4A, 4B, 5, 6, 7, 8	W. Istchenko 22 Apr 2019	Addition of warning to AFCS limitations. Clarification of references. Addition of procedure for engine failure in climb during ALTSEL.	



MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

Rev	Pages Affected	DOT Approval	Description of Revision	Date Incorporated Signature
83	EMERGENCY PROCEDURES – CONTENTS, Page ii EMERGENCY PROCEDURES, Pages 32, 33, 34, 35, 36, 37, 38 ABNORMAL PROCEDURES, Pages 56, 56A, 59	A. Hartono 07 Nov 2019	Revision of procedures for gear disagree. Revision of procedure for landing gear lever jammed in the UP position. Addition of information regarding landing gear manual release operation. Addition of information to WOW I/P FAIL procedure.	
84	LIMITATIONS Page 6C, 6D, 6E NORMAL PROCEDURES, Pages 21, 22, 22A	J. Randall 16 Apr 2020	Revises wing anti-ice limitations and normal procedure.	



MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

LIST OF EFFECTIVE PAGES

	<u>Page</u>	<u>Date</u>		<u>Page</u>	<u>Date</u>
EFFECTIVE PAGES	1	Apr 16/20	LIMITATIONS	16	Oct 25/02
	2	Apr 16/20		17	Jul 16/04
	3	Apr 22/19		18	Sep 25/90
	4	Nov 07/19		19	Mar 27/97
	5	Aug 31/18		20	Mar 10/89
	6	Aug 31/18		21	Apr 22/19
	7	Aug 31/18		22	Oct 25/02
	8	Aug 31/18		22A	May 05/10
				22B	Oct 25/02
FOREWORD	1	Mar 10/89		23	Mar 10/89
				24	Mar 10/89
INTRODUCTION	1	Jul 30/96		25	Apr 20/98
	2	Oct 30/12		26	Apr 15/08
	3	Oct 30/12		27	Apr 15/08
	4	Oct 19/15		28	Apr 15/08
				29	Apr 15/08
LIMITATIONS				30	May 05/10
Contents	i	Apr 16/20		31	May 05/10
	ii	May 05/10		32	Apr 15/08
	iii	Oct 26/09		33	Apr 15/08
				34	Apr 15/08
LIMITATIONS	1	Sep 25/90			
	2	Sep 25/90	EMERGENCY PROCEDURES		
	3	Nov 07/89	Contents	i	Oct 29/13
	4	Sep 25/90		ii	Nov 07/19
	4A	Oct 26/09			
	4B	Oct 26/09	EMERGENCY		
	5	Oct 28/96	PROCEDURES	1	May 26/09
	6	Oct 26/09		2	May 26/09
	6A	Jul 06/17		2A	Jul 06/17
	6B	Jul 06/17		2B	Jul 06/17
	6B (AR)	Oct 26/09		2C	May 26/09
	6C	Apr 16/20		2D	Jul 06/17
	6D	Apr 16/20		2E	May 26/09
	6E	Apr 16/20		2F	May 26/09
	6F	Apr 16/20		3	May 05/10
	7	Oct 29/13		4	Oct 26/09
	8	Apr 20/98		5	May 05/10
	9	Jul 02/93		6	Apr 21/99
	10	Jul 06/17		6A	Sep 11/06
	10A	Jul 06/17		6B	Jan 14/05
	10B	Oct 30/12		7	Jan 14/05
	11	Apr 15/08		8	Oct 29/13
	12	Sep 11/06		9	Oct 29/13
	13	Dec 21/06		10	Oct 29/13
	14	Sep 11/06		10A	Oct 29/13
	14A	Sep 11/06		10B	Oct 29/13
	14B	Sep 11/06		10C	Oct 29/13
	15	Oct 25/02			



MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

	<u>Page</u>	<u>Date</u>		<u>Page</u>	<u>Date</u>
EMERGENCY PROCEDURES	10D	Oct 29/13	NORMAL PROCEDURES		
	11	Oct 19/15	Contents	i	Apr 16/20
	12	Oct 19/15		ii	Apr 21/03
	13	Oct 30/12		iii	Oct 26/09
	14	Apr 21/99		iv	Oct 26/09
	15	Apr 21/99	NORMAL PROCEDURES	1	Mar 28/02
	16	Jan 16/04		2	Mar 28/02
	17	Apr 15/08		3	Apr 29/11
	18	Mar 10/89		4	Oct 21/10
	19	Jul 06/17		4A	Apr 29/11
	20	Oct 26/09		4B	Oct 21/10
	21	Apr 19/13		5	Apr 29/11
	22	Oct 21/10		6	Oct 29/13
	22A	Oct 21/10		6A	Nov 01/91
	22B	Oct 21/10		6B	Jul 06/17
	22C	Oct 21/10		7	Jul 06/17
	22D	Oct 21/10		8	Jul 06/17
	23	Oct 21/10		9	Jul 06/17
	24	Mar 16/92		10	Jul 06/17
	25	Feb 20/90		10A	Jul 06/17
	26	Feb 20/90		10B	Oct 30/12
	27	Jul 16/04		10C	Oct 30/12
	28	Jul 16/04		10D	Oct 30/12
	29	Jul 16/04		11	Aug 09/94
	30	Jul 16/04		12	Jul 19/05
	31	Jul 16/04		13	Jul 19/05
	32	Nov 07/19		14	May 05/06
	33	Nov 07/19		15	May 05/06
	34	Nov 07/19		16	Jul 06/17
	35	Nov 07/19		17	Jul 06/17
	36	Nov 07/19		18	Jul 06/17
	37	Nov 07/19		19	Jul 06/17
	38	Nov 07/19		19 (AR)	Jul 06/17
	39	Oct 29/13		20	Jul 06/17
	40	Oct 29/13		21	Apr 16/20
	41	Jan 08/18		22	Apr 16/20
	42	Oct 29/13		22A	Apr 16/20
	43	Oct 29/13		22B	Apr 16/20
	44	Aug 31/18		23	Dec 20/95
	45	Aug 31/18		24	Jul 24/96
	46	Aug 31/18		25	Oct 29/13
	47	Aug 31/18		26	Oct 29/13
	48	Aug 31/18		27	Oct 29/13
	49	Aug 31/18		28	Oct 29/13
	50	Aug 31/18		28A	Jun 17/96
	51	Aug 31/18		28B	Jan 28/94
	52	Aug 31/18		29	Jan 28/94
	53	Aug 31/18		30	Mar 10/89
	54	Aug 31/18			

EFFECTIVE PAGES

Page 2

DOT Approved
Apr 16/20
44,600/45,100 US



MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

	<u>Page</u>	<u>Date</u>		<u>Page</u>	<u>Date</u>
NORMAL PROCEDURES	31	Dec 20/95	ABNORMAL PROCEDURES		
	32	Sep 25/89	Contents	i	Apr 22/19
	33	Apr 21/99		ii	Apr 22/19
	34	Aug 09/94		iii	Oct 14/08
	35	Aug 09/94		iv	Oct 19/16
	36	Aug 12/97			
	37	Aug 12/97	ABNORMAL PROCEDURES	1	May 26/09
	38	Mar 10/89		2	May 05/10
	39	Jul 04/01		3	Jul 04/01
	40	Apr 03/00		4	Sep 11/06
	40A	Apr 21/03		4A	Apr 22/19
	40B	Oct 26/09		4B	Apr 22/19
	41	Oct 26/09		5	Apr 22/19
41 (AR)	Oct 26/09			6	Apr 22/19
	42	Feb 07/00		7	Apr 22/19
	43	Feb 07/00		8	Apr 22/19
	44	Mar 10/89		9	Apr 29/11
	45	Mar 10/89		10	May 26/09
	46	Mar 10/89		11	May 26/09
	47	Mar 10/89		12	Jul 02/93
	48	Mar 10/89		13	Apr 15/08
	49	Mar 10/89		14	Oct 29/13
	50	Mar 10/89		15	Oct 29/13
	51	Aug 09/94		16	Mar 10/89
	52	Mar 10/89		17	Mar 10/89
	53	Oct 26/09		18	Mar 10/89
	54	Oct 26/09		19	Aug 31/18
	55	Oct 26/09		20	Oct 30/12
	56	Oct 26/09		21	May 05/10
	56A	Oct 26/09		22	May 05/10
	56B	Oct 26/09		22A	May 05/10
	57	Oct 26/09		22B	May 05/10
	58	Jul 06/17		22C	Jul 06/17
	59	Mar 10/89		22D	May 05/10
	60	Aug 09/94		23	May 05/10
	61	Feb 11/94		24	Feb 11/91
	62	Jul 04/01		25	Mar 10/89
	63	Jan 06/98		26	Mar 10/89
	64	Jul 06/17		27	Apr 15/08
	65	Apr 29/11		28	Mar 10/89
	66	Oct 30/12		29	Mar 10/89
	67	Jul 06/17		30	Aug 09/94
	68	Jul 06/17		31	Aug 09/94
	69	Oct 30/12		32	Dec 20/95
	70	Aug 12/97		33	Apr 15/08
	71	May 05/10		34	Oct 26/09
	72	Jan 06/98		35	Oct 26/09



MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

	<u>Page</u>	<u>Date</u>		<u>Page</u>	<u>Date</u>
ABNORMAL PROCEDURES	36	Oct 26/09	PERFORMANCE	1	Jul 02/93
	37	Oct 26/09		2	Mar 10/89
	38	Oct 26/09		3	Mar 10/89
	38A	Oct 26/09		4	Mar 10/89
	38B	Oct 26/09		5	Mar 10/89
	39	Oct 26/09		6	Mar 10/89
	40	Feb 07/00		7	Mar 10/89
	41	Oct 21/10		8	Mar 10/89
	42	Oct 14/08		9	Mar 10/89
	43	Oct 14/08		10	Apr 21/03
	44	Oct 14/08		11	Apr 21/03
	44A	Oct 14/08		12	Apr 21/03
	44B	Oct 14/08		12A	Apr 21/03
	44C	Oct 26/09		12B	Apr 21/03
	44D	Oct 14/08		13	Apr 21/03
	45	Apr 15/08		14	Apr 21/03
	46	Apr 15/08		14A	Apr 21/03
	47	Apr 15/08		14B	Apr 21/03
	48	Oct 26/09		14C	Apr 21/03
	49	Apr 15/08		14D	Apr 21/03
	50	Oct 26/09		15	Apr 21/03
	51	Oct 26/09		16	Apr 21/03
	52	Oct 26/09		17	Apr 21/03
	53	Oct 14/08		18	Apr 21/03
	54	Oct 14/08		18A	Apr 21/03
	55	Apr 29/11		18B	Apr 21/03
	56	Nov 07/19		18C	Apr 21/03
	56A	Nov 07/19		18D	Apr 21/03
	56B	Nov 07/19		19	Apr 21/03
	57	Jul 16/04		20	Apr 21/03
	58	Oct 26/09		20A	Apr 21/03
	59	Nov 07/19		20B	Apr 21/03
	60	May 05/10		20C	Apr 21/03
	61	May 05/10		20D	Apr 21/03
	62	Oct 30/12		21	Apr 21/03
	63	Oct 19/16		22	Apr 21/03
	64	Oct 19/16		22A	Apr 21/03
				22B	Apr 21/03
				22C	Apr 21/03
				22D	Apr 21/03
PERFORMANCE				23	Apr 21/03
Contents	i	Sep 25/90		24	Apr 21/03
	ii	Apr 19/89		24A	Apr 21/03
	iii	Apr 19/89		24B	Apr 21/03
	iv	Apr 21/03		24C	Apr 21/03
	v	Apr 21/03		24D	Apr 21/03
	vi	Apr 21/03		24E	Apr 21/03
	vii	Apr 21/03			
	viii	Apr 21/03			
	ix	Apr 21/03			
	x	Apr 21/03			

EFFECTIVE PAGES

Page 4

DOT Approved
Nov 07/19
44,600/45,100 US



MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

	<u>Page</u>	<u>Date</u>		<u>Page</u>	<u>Date</u>
PERFORMANCE	24F	Apr 21/03	PERFORMANCE	68	Sep 17/90
	24G	Apr 21/03		69	Sep 17/90
	24H	Apr 21/03		70	Sep 17/90
	25	Apr 21/03		71	Sep 17/90
	26	Apr 21/03		72	Sep 17/90
	26A	Sep 25/90		73	Feb 11/94
	26B	Nov 01/91		74	Sep 17/90
	26C	Nov 01/91		75	Feb 11/94
	26D	Nov 01/91		76	Apr 19/89
	27	Feb 11/94		76A	Apr 19/89
	28	Mar 10/89		76B	Apr 19/89
	29	Sep 17/90		77	Mar 10/89
	30	Sep 17/90		78	Apr 19/89
	31	Sep 17/90		79	Mar 10/89
	32	Mar 10/89		80	Apr 19/89
	33	Mar 10/89		80A	Apr 19/89
	34	Feb 11/94		80B	Apr 19/89
	35	Feb 11/94		81	Mar 10/89
	36	Feb 11/94		82	Mar 10/89
	37	Feb 11/94		83	Mar 10/89
	38	Feb 11/94		84	Mar 10/89
	39	Feb 11/94		85	Mar 10/89
	40	Feb 11/94		86	Apr 19/89
	41	Feb 11/94		87	Mar 10/89
	42	Feb 11/94		88	Apr 19/89
	43	Feb 11/94		88A	Apr 19/89
	44	Feb 11/94		88B	Apr 19/89
	45	Feb 11/94		89	Mar 10/89
	46	Feb 11/94		90	Apr 19/89
	47	Feb 11/94		90A	Apr 19/89
	48	Feb 11/94		90B	Sep 17/90
	49	Feb 11/94		91	Sep 17/90
	50	Feb 11/94		92	Mar 10/89
	51	Feb 11/94		93	Mar 10/89
	52	Sep 17/90		94	Mar 10/89
	53	Sep 17/90		95	Feb 11/94
	54	Mar 10/89		96	Mar 10/89
	55	Mar 10/89		97	Mar 10/89
	56	Mar 10/89		98	Mar 10/89
	57	Feb 11/94		99	Mar 10/89
	58	Feb 11/91		100	Mar 10/89
	59	Mar 10/89		101	Feb 11/94
	60	Mar 10/89		102	Mar 10/89
	61	Mar 10/89		103	Mar 10/89
	62	Feb 11/94		104	Feb 07/00
	63	Feb 11/94		105	Feb 07/00
	64	Mar 10/89		106	Sep 17/90
	65	Mar 10/89		107	Sep 17/90
	66	Feb 07/00		108	Sep 17/90
	67	Feb 07/00		109	Sep 17/90



MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

	<u>Page</u>	<u>Date</u>		<u>Page</u>	<u>Date</u>
PERFORMANCE	110	Sep 17/90	PERFORMANCE	151	Mar 10/89
	111	Feb 11/94		152	Mar 10/89
	112	Sep 17/90		153	Mar 10/89
	113	Feb 11/94		154	Mar 10/89
	114	Apr 19/89		155	Mar 10/89
	114A	Apr 19/89		156	Apr 19/89
	114B	Apr 19/89		157	Mar 10/89
	115	Mar 10/89		158	Apr 19/89
	116	Apr 19/89		158A	Apr 19/89
	117	Mar 10/89		158B	Apr 19/89
	118	Apr 19/89		159	Mar 10/89
	118A	Apr 19/89		160	Mar 10/89
	118B	Apr 19/89		161	Mar 10/89
	119	Mar 10/89		162	Mar 10/89
	120	Mar 10/89		163	Mar 10/89
	121	Mar 10/89		164	Mar 10/89
	122	Mar 10/89		165	Nov 01/91
	123	Mar 10/89		166	Mar 10/89
	124	Apr 19/89			
	125	Mar 10/89	LIST OF		
	126	Apr 19/89	SUPPLEMENTS	1	Oct 19/15
	126A	Apr 19/89			
	126B	Apr 19/89	SUPPLEMENT 1		
	127	Mar 10/89	Contents	i	Oct 21/10
	128	Apr 19/89			
	128A	Apr 19/89	SUPPLEMENT 1	1	Oct 19/15
	128B	Apr 19/89		2	Oct 19/15
	129	Mar 10/89			
	130	Mar 10/89	SUPPLEMENT 1A		
	131	Mar 10/89	Contents	i	Oct 19/15
	132	Mar 10/89			
	133	Mar 10/89	SUPPLEMENT 1A	1	Oct 19/15
	134	Mar 10/89		2	Oct 19/15
	135	Mar 10/89			
	136	Mar 10/89	SUPPLEMENT 2		
	137	Mar 10/89	Contents	i	Mar 10/89
	138	Mar 10/89			
	139	Feb 11/94	SUPPLEMENT 2	1	Mar 10/89
	140	Mar 10/89		2	Mar 10/89
	141	Mar 10/89			
	142	Mar 10/89	SUPPLEMENT 4		
	143	Mar 10/89	Contents	i	Mar 10/89
	144	Mar 10/89			
	145	Feb 11/94	SUPPLEMENT 4	1	Mar 10/89
	146	Mar 10/89		2	Mar 10/89
	147	Mar 10/89		3	Feb 11/94
	148	Mar 10/89		4	Mar 10/89
	149	Mar 10/89		5	Feb 11/94
	150	Mar 10/89		6	Mar 10/89

EFFECTIVE PAGES

Page 6

DOT Approved
Aug 31/18
44,600/45,100 US



MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

	<u>Page</u>	<u>Date</u>		<u>Page</u>	<u>Date</u>
SUPPLEMENT 4	7	Feb 11/94	SUPPLEMENT 12		
	8	Mar 10/89	Contents	i	Apr 21/99
	9/10	Feb 11/94			
	11/12	Feb 11/94	SUPPLEMENT 12	1	Apr 21/99
	13/14	Mar 10/89		2	Nov 07/89
				2A	Sep 25/90
SUPPLEMENT 5				2B	Apr 21/99
Contents	i	Mar 10/89		3	Jan 23/91
				4	Jan 23/91
SUPPLEMENT 5	1	Jan 18/02		5	Jan 23/91
	2	Mar 10/89			
	3	Mar 10/89	SUPPLEMENT 13		
			Contents	i	May 01/95
SUPPLEMENT 6					
Contents	i	Apr 19/89	SUPPLEMENT 13	1	May 01/95
				2	May 01/95
SUPPLEMENT 6	1	Apr 19/89		3	May 01/95
	2	Apr 19/89		4	May 01/95
	3	Apr 19/89		5	May 01/95
	4	Apr 19/89		6	May 01/95
	5	Apr 19/89		7	May 01/95
	6	Apr 19/89		8	May 01/95
	7	Apr 19/89		9	May 01/95
	8	Apr 19/89		10	May 01/95
	9	Apr 19/89		11	May 01/95
	10	Apr 19/89		12	May 01/95
	11	Apr 19/89		13	May 01/95
	12	Apr 19/89		14	May 01/95
	13	Apr 19/89		15	May 01/95
	14	Apr 19/89		16	May 01/95
	15	Apr 19/89		17	May 01/95
	16	Apr 19/89		18	May 01/95
	17	Apr 19/89		19	May 01/95
	18	Apr 19/89		20	May 01/95
	19	Apr 19/89		21	May 01/95
	20	Apr 19/89		22	May 01/95
	21	Apr 19/89		23	May 01/95
	22	Apr 19/89		24	May 01/95
	23	Apr 19/89		25	May 01/95
				26	May 01/95
SUPPLEMENT 7				27	May 01/95
Contents	i	Mar 10/89		28	May 01/95
				29	May 01/95
SUPPLEMENT 7	1	Mar 10/89		30	May 01/95
	2	Mar 10/89		31	May 01/95
				32	May 01/95
				33	May 01/95



MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

	<u>Page</u>	<u>Date</u>		<u>Page</u>	<u>Date</u>
SUPPLEMENT 14			APPENDIX 1	55-3	Oct 25/02
Contents	i	Nov 08/11		56-1	Apr 21/03
				56-2	Apr 21/03
SUPPLEMENT 14	1	Jun 20/02		57-1	Oct 25/02
	2	Apr 15/08		57-2	Oct 25/02
	3	Nov 08/11		57-3	Oct 25/02
				57-4	Oct 25/02
SUPPLEMENT 15				57-5	Oct 25/02
Contents	i	Apr 15/08		57-6	Oct 25/02
SUPPLEMENT 15	1	May 05/10			
	2	Apr 15/08			
	3	Apr 15/08			
	4	Apr 15/08			
SUPPLEMENT 16					
Contents	i	Apr 15/08			
SUPPLEMENT 16	1	Apr 15/08			
	2	Apr 15/08			
SUPPLEMENT 17					
Contents	i	Nov 08/11			
SUPPLEMENT 17	1	Nov 08/11			
	2	Nov 08/11			
APPENDIX 1					
Contents	i	Oct 25/02			
	ii	Apr 21/03			
APPENDIX 1	1	Apr 21/03			
	2	Apr 21/03			
	23-1	Jan 14/05			
	23-2	Jan 14/05			
	32-1	Oct 25/02			
	33-1	Oct 25/02			
	33-2	Oct 25/02			
	51-1	Aug 31/18			
	51-2	Apr 29/11			
	51-3	Aug 31/18			
	52-1	Oct 25/02			
	52-2	Oct 25/02			
	52-3	Oct 25/02			
	52-4	Oct 25/02			
	52-5	Oct 25/02			
	53-1	Oct 25/02			
	53-2	Oct 25/02			
	55-1	Oct 25/02			
	55-2	Oct 25/02			

EFFECTIVE PAGES

Page 8

DOT Approved
Aug 31/18
44,600/45,100 US

NORMAL PROCEDURES

TABLE OF CONTENTS

	Page
1. INTRODUCTION	1
1A. BEFORE ENTERING AIRPLANE	1
2. SYSTEMS OPERATION – POWER PLANT	1
A. Before Starting Engines	1
B. Starting Engine Using Ground Air Supply	3
C. Starting Engine Using APU Air Supply	4A
D. Starting Engine Using Cross Bleed Air	5
E. Failure to Start	6
F. Air Turbine Starter Duty Cycle	6
G. After Starting Engines	6B
H. Engine Ground Running in Crosswinds or Tailwinds	10B
I. Before Take-Off	10B
J. After Take-Off	10C
K. Before Landing	10C
L. After Landing	10C
M. Engine Shutdown	10D
3. SYSTEMS OPERATION – AIR CONDITIONING AND PRESSURIZATION	12
A. After Engine/APU Start	12
B. Air Conditioning on Ground Using APU	12
C. Before Take-Off	13
D. After Take-Off	14
E. Before Landing	15
4. SYSTEMS OPERATION – ANTI-ICE	16
A. Before Starting Engines	16
B. Before Flight (Engines Running)	16
C. Before Take-Off	20
D. After Take-Off (If applicable)	20
E. Icing Conditions During Flight	21
F. After Landing	22A
5. SYSTEMS OPERATION – AUTOMATIC FLIGHT CONTROL	23
A. Before Take-Off	23
B. In Flight	24
C. Before Landing	24
6. SYSTEMS OPERATION – AUXILIARY POWER UNIT (APU)	25
A. Starting the APU on the Ground	25
B. Starting the APU in Flight	27
C. Stopping the APU on Ground or in Flight	28

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

	Page
7. SYSTEMS OPERATION - CAUTION AND WARNING	28A
A. Before First Flight of Each Day (Hydraulic Systems Pressurized) ..	28A
B. Before Starting Engines with AC Electrical Power Available	28B
C. Before Take-Off	28B
D. During Take-Off	28B
8. SYSTEMS OPERATION - DOORS	30
A. Before Take-Off	30
9. SYSTEMS OPERATION - ELECTRICAL	31
A. Before Starting Engines	31
B. After Starting Engines	31
10. SYSTEMS OPERATION - FLIGHT CONTROL	33
A. Before Take-Off	33
B. During Flight	35
C. After Landing Roll-Out	35
11. SYSTEMS OPERATION - FUEL	36
A. Before Take-Off	36
B. During Cruise	37
C. Before Landing	37
12. SYSTEMS OPERATION - HYDRAULICS	38
A. Before Take-Off	38
B. After Take-Off	38
C. Before Landing	38
13. SYSTEMS OPERATION - LANDING GEAR WHEELS AND BRAKES	39
A. Before Entering Airplane	39
B. Before Taxi	39
C. Before Landing	40
D. Procedures for Operating from Wet, Snow Covered or Slush Covered Surfaces	40B
E. Cooling of Wheels, Brakes and Tires	42
14. SYSTEMS OPERATION - LIGHTS	48
A. Before Take-Off	48
B. After Landing	48
C. Before Shutting Down Engines	48

**canadair
challenger**
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

	Page
15. SYSTEMS OPERATION – CREW OXYGEN	49
A. Before Take-Off	49
16. SYSTEMS OPERATION – MACH TRIM	51
A. Before Take-Off	51
17. SYSTEMS OPERATION – STALL PROTECTION	52
A. Before Entering Aircraft	52
B. Before Engine Start	53
18. TAXIING	55
A. Thrust Reversers	55
B. Nose Wheel Steering	55
C. Anti-Ice	55
D. Brakes	55
19. TAKE-OFF PROCEDURE	56
A. Procedure	56
20. LANDING PROCEDURE	56B
A. Procedure	56B
21. GO-AROUND PROCEDURE	58
A. From a Gear-Down, Flaps at 45 degrees Approach	58
22. SEVERE TURBULENCE PENETRATION PROCEDURES	59
A. Airspeed	59
B. Attitude	59
C. Stabilizer	59
D. Altitude	60
E. Thrust	60
F. Autopilot	60
G. Thunderstorms	60
H. Buffet Boundary Chart	60

canadair
challenger
MODEL CL-600-2A12
AIRPLANE FLIGHT MANUAL
PSP 601-1B-1

	Page
23. CONSOLIDATED CHECK LIST	62
A. Introduction	62
B. Before Entering Airplane	62
C. APU Start	63
D. Before Starting Engines	64
E. Starting Engines	65
F. After Starting Engines	66
G. Before Take-Off	68
H. After Take-Off	69
I. During Cruise	69
J. Before Landing	70
K. After Landing	71
L. Shutting Down Engines	71
M. Shutting Down APU	72
N. Before Leaving the Airplane	72

LIST OF ILLUSTRATIONS

Figure Number	Title	Page
1	Start Time vs Ambient Temperature	6A
2	Brake Cooling Charts	45
3	Brake Cooling Charts - Airplanes Incorporating Brake Shields and Deflectors	47
4	Oxygen Pressure/Content Conversion	50
5	Buffet Boundary	61

4. SYSTEMS OPERATION - ANTI-ICE (Cont'd)

E. ICING CONDITIONS DURING FLIGHT

NOTE

Icing conditions exist in flight at a TAT of 10°C (50°F) or below and visible moisture in any form is encountered (such as clouds, rain, snow, sleet or ice crystals), except when the SAT is -40°C (-40°F) or below.

WARNING

Delaying the use of cowl anti-ice may result in engine ice ingestion, resulting in possible severe engine damage and / or flameout.

Delaying the use of wing anti-ice may result in small amounts of ice accumulation on the wing leading edge.

Small accumulations of ice on the wing leading edge can change the stall characteristics, the stall speed and the stall margin provided by the stall protection system.

At or above 22,000 feet, when ice is indicated by the ice detection system,
or
Below 22,000 feet, when in icing conditions, when ice is indicated by the ice detection system, or prior to extending flaps for approach when TAT is 10°C (50°F) or below, accomplish the following:

- (1) Thrust Check N₂ RPM 78% minimum.
- (2) ANTI-ICE COWL LEFT
and RIGHT switch/lights .. Press in ON lights on.
- (3) ANTI-ICE ISOL OPEN
switch/light Check ISOL OPEN light out.
- (4) ANTI-ICE WING
control switch NORMAL Check L FAIL and R FAIL lights on briefly then out. Check L HEAT and R HEAT lights on and DUCT FAIL, leading edge OVHT and SENSOR FAIL lights out.

4. SYSTEMS OPERATION - ANTI-ICE (Cont'd)

E. ICING CONDITIONS DURING FLIGHT (Cont'd)

NOTE

When wing anti-ice is selected prior to extending flaps for approach when TAT is 10°C (50°F) or below, it may be selected OFF when the L HEAT and R HEAT lights on the anti-ice panel turn on and:

- ICE is not annunciated by the ice detection system, and
- Not in icing conditions.

If L HEAT or R HEAT lights do not come on:

- (5) Thrust Increase Check L HEAT and R HEAT lights on.

If L HEAT or R HEAT lights remain out:

- (6) Leave icing conditions.

4. SYSTEMS OPERATION - ANTI-ICE (Cont'd)

E. ICING CONDITIONS DURING FLIGHT (Cont'd)

NOTE

1. Flaps should not be extended in icing conditions except as required for take-off, approach and landing. However, if flaps are deployed in icing conditions for extended periods or in severe icing, light to moderate buffet may be encountered. No handling difficulties will result and normal landing flaps can be used. If the buffet is alleviated by reducing the flap setting, a landing in this configuration may be made at the discretion of the pilot. Refer to PERFORMANCE section for factors to be applied to approach speed and landing distance.
2. Higher than normal engine vibration of a fluctuating nature may be experienced in icing conditions. If the vibration caution light comes on, refer to ABNORMAL PROCEDURES - POWER PLANT MALFUNCTION.
3. During single engine operation in icing conditions with wing anti-ice system on, open anti-ice isolation valve to prevent asymmetric anti-icing. N₂ RPM in excess of 78% may be required to maintain L HEAT and R HEAT lights on.
4. Use of cowl and wing anti-ice systems affects engine and airplane performance (refer to PERFORMANCE for applicable factors).
5. If the airplane flies out of icing conditions and the ice detector system senses no ice present, the white ICE lights go out.

F. AFTER LANDING

If no icing, precipitation or other conditions that could cause fogging or misting exist:

- (1) ANTI-ICE, WSHLD LEFT and
RIGHT control switches OFF LEFT and RIGHT, FRONT and SIDE
NO HT lights on.