DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

1A20
Revision 6
Bombardier
CL-44D4
CL-44J

March 24, 1998

TYPE CERTIFICATE DATA SHEET NO.1A20

This data sheet which is a part of type certificate No. 1A20 prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder — Bombardier Inc.
P.O. Box 6087, Station Centre-ville
Montreal, Quebec, Canada H3C 3G9

I - Model CL-44D4 (Transport Category), Approved 24 May 1961 by the FAA and 23 May 1961 by the Canadian Department of Transport (DOT).

Engines — 4 Rolls-Royce Tyne 515 (Turboprop)
Reduction gearing 0.064:1

Fuel — For approved fuels additives and deviations to fuel specifications see DOT approved Airplane Flight Manual.

Oil (Engine & Gearbox) — Esso Aviation Turbo oil 35
Enco Turbo oil 35
Humble Turbo oil 35
Penola Turbo oil 35
Castrol 98
(Constant Speed Drive) — MIL-L-7808

Engine limits
Static Sea Level Ratings

	Shaft Horse-power	Jet Thrust (lb.)	Max. Engine Speed (r.p.m.) LP	Max. Engine Speed (r.p.m.) HP	Max. TGT °C	Max. TGT °C when Rolls Royce Modification No. 1426 is incorporated.
Takeoff (5 min.)	5095	1065	15250	18150	735*	665**
Max. continuous	4685	940	14500	17950	715*	645**
Max. transient for starting (5 sec.)					800	725
Max. Reverse Pitch: Braking (1 min.)			13250	16600	685*	620

* *These limits are applicable at sea level. Above sea level, the limits increase by 2 1/2°C per 1000 ft. altitude.*

** *TGT limits are applicable at sea level. Above sea level the limits increase by 2 1/2°C per 1000 ft. altitude if fuel trimmer control is used, or by 1 1/2°C per 1000 ft. if fuel control is used.*

il Inlet Temperature

Minimum for starting	-30°C
Minimum for opening up	-15°C
Maximum allowable:	
With Castrol 98	105°C
With any other approved oil	100°C

Engine limits (cont'd)

Oil Pressure Limits:

Normal (at 90°C):	40-65 p.s.i. at 14,500 LP r.p.m.
Minimum (at 100°C):	40 p.s.i. at 14,500 LP r.p.m.
Minimum to complete flight:	38 p.s.i. at 11,000 LP r.p.m. and above, 30 p.s.i. at all r.p.m. below 11,000 LP r.p.m.

Air Turbine Starter (At ground air connection)

Maximum pressure	.34 p.s.i.g.
Maximum temperature	270°C
Minimum temperature	20°C
Normal Operating Time	30 Sec.
Maximum Operating Time Limit	40 Sec.

Starter Inlet Temperature and Corresponding Pressure Limits:

Maximum	310°C (26 p.s.i.g.)
Intermediate	150°C (32 p.s.i.g.)
Minimum	-30°C (32 p.s.i.g.)

Propeller and propeller limits

4 DeHavilland propellers Model PD 228/476/2, four blades
Diameter: 16 ft. (+0.14 in., -1.00 in.)
Pitch settings at Station 72.0 in.:

Maximum reverse	- 17°
Ground Idle	- 7°
Flight Idle	+12°
Feather	+83°

Airspeed limits (CAS)

Maximum Operating Limitation Vmo/Mmo

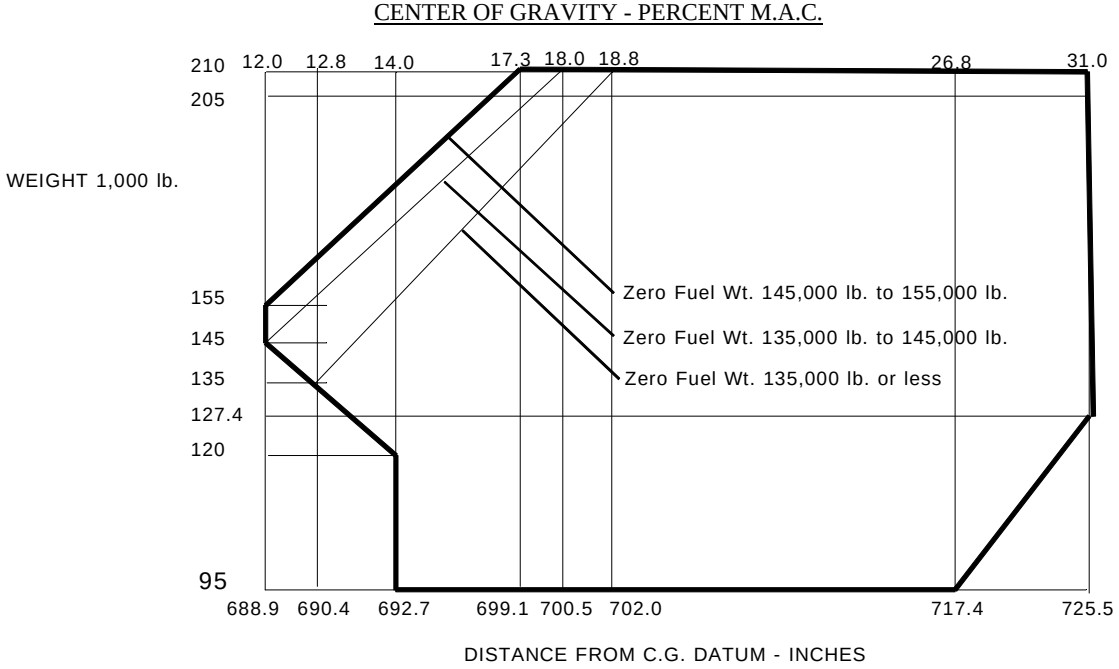
Altitude in 10,000 ft.	S.L. to 10		10 to 15		15 to 20		20 to 25		25 to 30
Zero Fuel Weight	m.p.h. (knots)								Mach
155,000 to 160,000	288	(250)	290	(252)	292 (See Note 7)	(254)	296	(257)	.62
153,000	290	(252)	292	(254)	294	(256)	298	(259)	.62
151,000	293	(255)	296	(257)	298	(259)	301	(262)	.62
149,000	296	(257)	298	(259)	300	(261)	304	(264)	.62
147,000	299	(260)	301	(262)	304	(264)	307	(267)	.62
145,000	301	(262)	304	(264)	306	(266)	309	(269)	.62
143,000	305	(265)	307	(267)	309	(269)	313	(272)	.62
141,000	307	(267)	309	(269)	312	(271)	315	(274)	.62
139,000	311	(270)	313	(272)	315	(274)	319	(277)	.62
137,000	313	(272)	315	(274)	317	(276)	321	(279)	.62
135,000 or less	316	(275)	319	(277)	321	(279)	324	(282)	.62

Vfe (Flaps extended 5°)	264 m.p.h. (230 knots) (Mach .50)
Vfe (Flaps extended 15°)	264 m.p.h. (230 knots)
Vfe (Flaps extended 30°)	228 m.p.h. (198 knots)
Vfe (Flaps extended 45°)	172 m.p.h. (150 knots)
Va (Maneuvering)	241 m.p.h. (210 knots)
Vlo (Landing gear operating)	207 m.p.h. (180 knots)
Vle (Landing gear extended)	211 m.p.h. (184 knots)
Vmca (Minimum control, air) S.L. ISA	118 m.p.h. (103 knots)
Maximum landing light operating speed	190 m.p.h. (165 knots)
Maximum landing light extended speed	241 m.p.h. (210 knots)
Maximum spoiler operating speed	230 m.p.h. (200 knots)
Maximum fuel dump chute extended speed	241 m.p.h. (210 knots)

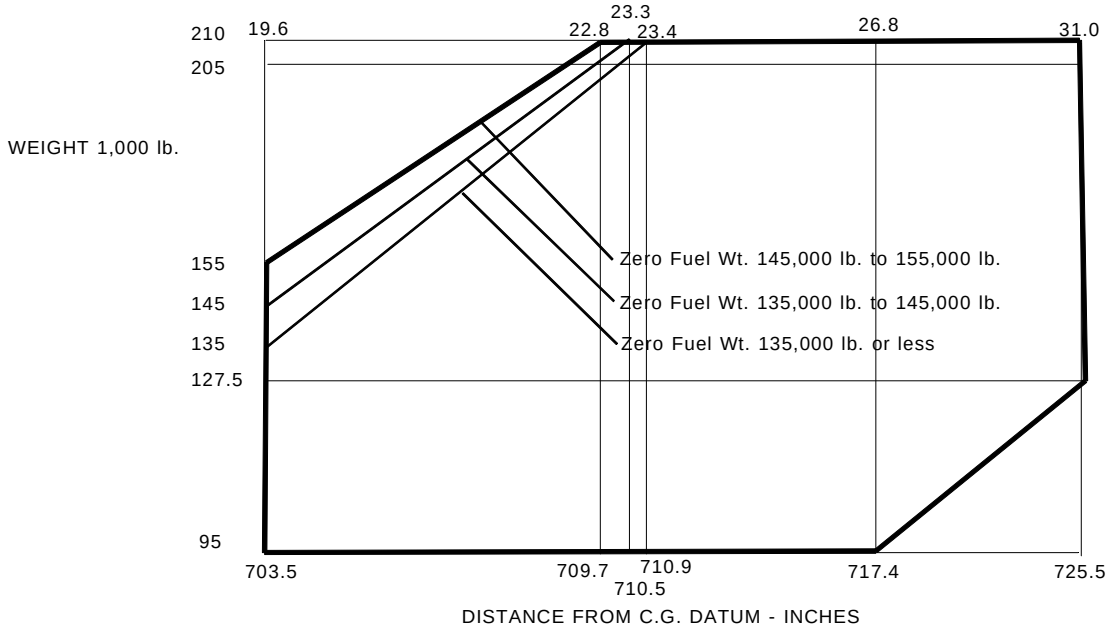
C.G. range

Center-of gravity limits, with landing gear extended, are shown in the following tables; straight line variations exist between the quoted values. Gear retraction moment is +237,609 in.-lb.; retraction of the gear moves the C.G. aft approximately 1% MAC.

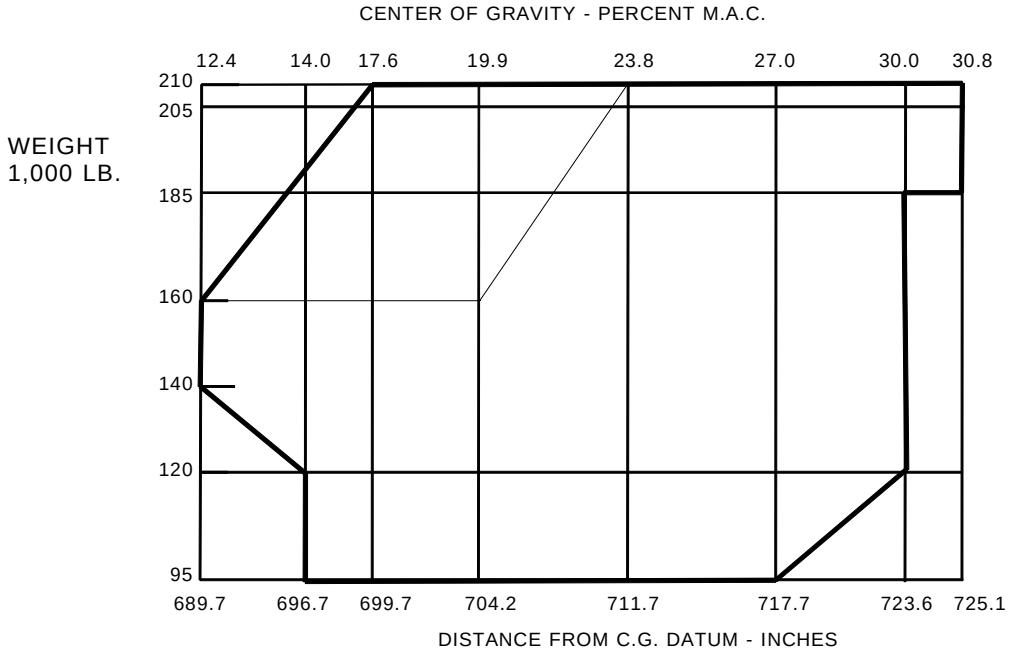
C.G. Envelope for Aircraft with Basic Configuration, Zero Fuel Weight of 155,000 lb. or less.



C.G. Envelope for Aircraft with Modified Swing Tail Compartment, Zero Fuel Weight of 155,000 lbs. or less



C.G. Envelope for Aircraft with Basic Configuration of Modified Swing Tail Compartment, Zero Fuel Weight Between 155,000 lb. and 160,000 lb.



FORWARD LIMIT:

(a) Basic Interior Configuration:

	Gross Weight	Limits
Zero Fuel Weight 135,000 lb. or less	95,000	14.0% MAC (Sta. 692.7)
	120,000	14.0% MAC (Sta. 692.7)
	135,000	12.8% MAC (Sta. 690.4)
	145,000	13.6% MAC (Sta. 692.0)
	155,000	14.4% MAC (Sta. 693.5)
	165,000	15.3% MAC (Sta. 695.2)
	205,000	18.4% MAC (Sta. 701.2)
	210,000 (see NOTE 8)	18.8% MAC (Sta. 702.0)
Zero Fuel Weight 135,000 lb. to 145,000 lb.	135,000	12.8% MAC (Sta. 690.4)
	145,000	12.0% MAC (Sta. 688.9)
	155,000	13.0% MAC (Sta. 690.8)
	165,000	13.9% MAC (Sta. 692.5)
	205,000	17.6% MAC (Sta. 699.7)
	210,000 (see NOTE 8)	18.0% MAC (Sta. 700.5)
Zero Fuel Weight 145,000 lb. to 155,000 lb.	145,000	12.0% MAC (Sta. 688.9)
	155,000	12.0% MAC (Sta. 688.9)
	165,000	13.0% MAC (Sta. 690.8)
	205,000	16.8% MAC (Sta. 698.1)
	210,000 (see NOTE 8)	17.3% MAC (Sta. 699.1)
Zero Fuel Weight 155,000 lb. to 160,000 (see NOTE 7)	155,000	12.4% MAC (Sta. 689.7)
	160,000	12.4% MAC (Sta. 689.7)
	205,000	17.1% MAC (Sta. 698.7)
	210,000	17.6% MAC (Sta. 699.7)

(b) Modified Swing Tail Compartment for aircraft incorporating Canadair Service bulletin CL-44D4-245, and CL-44D4-303. The following limits apply when the swing-tail cargo load is in excess of 3,000 lb. on airplanes with the standard swing-tail compartment configuration or in excess of 1,000 lb. on airplanes with the swing-tail compartment modified to incorporate the dropped floor with passenger service facilities.

	Gross Weight	Limits
Zero Fuel Weight 135,000 lb. or less	95,000	19.6% MAC (Sta. 703.5)
	120,000	19.6% MAC (Sta. 703.5)
	135,000	19.6% MAC (Sta. 703.5)
	145,000	20.2% MAC (Sta. 704.7)
	155,000	20.6% MAC (Sta. 705.9)
	165,000	21.2% MAC (Sta. 706.9)
	205,000	23.2% MAC (Sta. 710.5)
	210,000 (see NOTE 8)	23.4% MAC (Sta. 710.9)
Zero Fuel Weight 135,000 lb. to 145,000 lb.	135,000	19.6% MAC (Sta. 703.5)
	145,000	19.6% MAC (Sta. 703.5)
	155,000	20.2% MAC (Sta. 704.7)
	165,000	20.8% MAC (Sta. 705.8)
	205,000	23.0% MAC (Sta. 710.1)
	210,000 (see NOTE 8)	23.3% MAC (Sta. 710.5)
Zero Fuel Weight 145,000 lb. to 155,000 lb.	145,000	19.6% MAC (Sta. 703.5)
	155,000	19.6% MAC (Sta. 703.5)
	165,000	20.2% MAC (Sta. 704.7)
	205,000	22.5% MAC (Sta. 709.1)
	210,000 (see NOTE 8)	22.8% MAC (Sta. 709.7)
Zero Fuel Weight 155,000 lb. to 160,000 (see NOTE 7)	155,000	19.9% MAC (Sta. 704.2)
	160,000	19.9% MAC (Sta. 704.2)
	205,000	23.4% MAC (Sta. 710.9)
	210,000	23.8% MAC (Sta. 711.7)

AFT LIMIT:

(a) Aircraft operating with Zero Fuel Weight up to 155,000 lb.

Gross Weight	Limits
95,000	26.8% MAC (Sta. 717.4)
127,400	31.0% MAC (Sta. 725.5)
205,000	31.0% MAC (Sta. 725.5)
210,000 (See NOTE 8)	31.0% MAC (Sta. 725.5)

(b) Aircraft operating with Zero Fuel Weight between 155,000 lb. and 160,000 lb. (See NOTE 7).

Gross Weight	Limits
95,000	27.0% MAC (Sta. 717.7)
120,000	30.0% MAC (Sta. 723.6)
185,000	30.8% MAC (Sta. 725.1)
205,000	30.8% MAC (STA. 725.1)
210,000	30.8% MAC (Sta. 725.1)

Datum

The datum for the center-of-gravity limits is at Station 0, which is 633.0 inches forward of a jig point located on the underside of the fuselage immediately forward of the front spar on the aircraft center line. The jig point is a Philips head screw in the skin joint.

Mean Aerodynamic Chord (MAC)

192.86 inches (L.E. of M.A.C. is 665.72 inches aft of Station 0).

Maximum weight

Taxi	206,000 lb.
	211,000 lb. (See NOTE 8)
Take-off	205,000 lb.
	210,000 lb. (see NOTE 8)
Landing	165,000 lb.
Maximum Zero Fuel	155,000 lb.
	160,000 lb. (See NOTE 7)

All weights in excess of zero fuel weight must consist of usable fuel. See Airspeed Limits for variation of limit airspeeds with zero-fuel weight.

Minimum crew

3: Pilot, Co-pilot and System Operator.

Maximum passengers

Certification of original type design for cargo only. Maximum Supplemental Type Certificate configuration approved prior to FAR 25.2 is for 178 passengers.

Maximum cargo

Permissible cargo load and distribution varies with interior configuration. See NOTE 2 for permissible loading for approved configuration. See NOTE 4(a) for cargo compartment classification.

Fuel capacity

	Total gal.		Usable gal.		
	Imp.	U.S.	Imp.	U.S.	ARM
2 outboard main tanks	3810	4575	3760	4516	734.5
2 inboard main tanks	3802	4566	3736	4486	709.0
c/s auxiliary tank	1636	1965	1626	1954	695.4
2 outboard auxiliary	874	1050	870	1044	765.5
Total	10122	12156	9992	12000	

See CL-44D4 NOTE 1(c) for "Systems fuel" data.

Oil capacity

	Total pt.			Usable pt.			
	Imp.	U.S.	lb.	Imp.	U.S.	lb.	ARM
2 outboard engines	124	148.8	150	40	48.0	48.4	(555.0)
2 inboard engines	124	148.8	150	40	48.0	48.4	(513.0)

See CL-44D4 NOTE 1(d) for "System oil" data.

Maximum approved operating altitude

30,000 ft. if suitable supplementary oxygen dispensing units are provided for flight altitudes above 10,000 ft. If no oxygen dispensing units are provided, maximum operating flight altitude is 10,000 ft.

Other operating limitations

This aircraft must be operated in accordance with the limitations listed in the Department of Transport Approved Airplane Flight Manual.

Control surface movements

Elevators	UP	30°	Down	15°	(from neutral)
L.H. Elevator servo tabs	UP	14°	Down	26°	(rig 1° down)
R.H. Elevator servo tabs	UP	16°	Down	24°	(rig 1° up)
Elevator trim tabs	UP	17-1/2°	Down	22-1/2°	(from neutral)
Rudder	Right	16°	Left	16°	(from neutral)
Rudder servo tabs	Right	18°	Left	18°	(from neutral)
Rudder connected tabs	UP	22°	Down	18°	(rig 2° up)
Aileron	UP	21°	Down	15°	(from neutral)
Aileron servo tabs	UP	25°	Down	21°	(rig 2° up)
Flaps	UP	0°	Down	45°	
Spoilers	UP	48°	Down	0°	

Tab angles measured with control surfaces neutral.

Serial Nos. eligible	9, 14 to 39. The Canadian Department of Transport Certificate of Airworthiness for export endorsed as noted under "Import Eligibility" must be submitted for each individual aircraft for which application for certification is made.
Import eligibility	A U.S. Airworthiness Certificate may be issued on the basis of the Canadian Department of Transport "Certificate of Airworthiness for Export" signed by the Minister of Transport or his authorized representative. This form must contain the following statement: This certifies that the aircraft described below has been manufactured in conformity with data forming the basis for D.O.T. Type Approval No. A55 (FAA Type Certificate No. 1A20)."
Certification basis	CAR 4b dated 31 December 1953; amendments 4b-1 through 4b-10; amendment 4b-11 with the exception of items 6, 9, 17, 26, 27, 28, 33 and 44; and special regulation SR-422B. Type Certificate No. 1A20 issued 24 May 1961. Date of Application for Type Certificate 1 August 1957. Compliance with the following optional requirements has been established: Ditching, CAR 4b.361--Structural approval only-- eligible for ditching approval when the required ditching equipment and storage provisions are approved. Ice Protection, CAR 4b.640.
Equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification including DOT approved Flight Manual (Canadair Service Publication No. 153 latest approved revision for the CL44D4). Canadair Report No. RAL-44-102 latest revised "Equipment Qualification List for CL44D4", lists all required equipment that must be installed as well as optional equipment installations approved by DOT. In addition the following items of equipment are required: Stall warning devise as follows:

Drawing No.	Part	P/N
44-53055	Transducer	44-50750-8
44-53013	Potentiometer	44-50750-10
44A-51410	Stick Shaker	44-50750-2
44D-51061	Computer	44-50750-162

II - Model CL-44J (Transport Category), Approved 28 January 1972 by the FAA and 8 July 1970 by the Canadian Department of Transport (DOT).

Engines	4 Rolls-Royce Tyne 515 (Turboprop) Reduction gearing 0.064:1
Fuel	For approved fuels additives and deviations to fuel specifications see DOT approved Airplane Flight Manual
Oil (Engine & Gearbox)	Esso Aviation Turbo oil 35 Enco Turbo oil 35 Humble Turbo oil 35 Penola Turbo oil 35 Castrol 98
(Constant Speed Drive)	MIL-L-7808

Engine limits

Static Sea Level Ratings

	Shaft Horse-power	Jet Thrust (lb.)	Max. Engine Speed (r.p.m.) LP	HP	Max. TGT °C	Max. TGT °C when Rolls Royce Modification No. 1426 is incorporated.
Takeoff (5 min.)	5095	1065	15250	18150	735*	665**
Max. continuous	4685	940	14500	17950	715*	645**
Max. transient for starting (5 sec.)					800	725
Max. Reverse Pitch: Braking (1 min.)			13250	16600	685*	620

**These limits are applicable at sea level. Above sea level, the limits increase by 2 1/2°C per 1000 ft. altitude.*

***TGT limits are applicable at sea level. Above sea level the limits increase by 2 1/2°C per 1000 ft. altitude if fuel trimmer control is used, or by 1 1/2°C per 1000 ft. if fuel control is used.*

Oil Inlet Temperature

Minimum for starting	- 30°C
Minimum for opening up	-15°C
Maximum allowable:	
With Castrol 98	105°C
With any other approved oil	100°C

Oil Pressure Limits:

Normal (at 90°C):	40-65 p.s.i. at 14,500 LP r.p.m.
Minimum (at 100°C):	40 p.s.i. at 14,500 LP r.p.m.
Minimum to complete flight:	38 p.s.i. at 11,000 LP r.p.m. and above, 30 p.s.i. at all r.p.m. below 11,000 r.p.m.

Air Turbine Starter (At ground air connection)

Maximum pressure	.34 p.s.i.g.
Maximum temperature	270°C
Minimum temperature	20°C
Normal Operating Time	30 Sec.
Maximum Operating Time Limit	40 Sec.

Starter Inlet Temperature and Corresponding Pressure Limits:

Maximum	310°C (26 p.s.i.g.)
Intermediate	150°C (32 p.s.i.g.)
Minimum	-30°C (32 p.s.i.g.)

Propeller and propeller limits

4 DeHavilland propellers Model PD 228/476/2, four blades
Diameter: 16 ft. (+0.14 in., -1.00 in.)
Pitch settings at Station 72.0 in.:

Maximum reverse	-17°
Ground Idle	- 7°
Flight Idle	+12°
Feather	+83°

Airspeed limits Maximum Operating Limitation Vmo/Mmo
(CAS) (a) With Landing Fuel Weight of 25,000 lb. or less.

Altitude in 10,000 ft.	S.L. to 10		10 to 15		15 to 20		20 to 25 Lesser of Vmo		Mmo
Zero Fuel Weight	m.p.h. (knots)								Mach
160,000	288	(250)	290	(252)	292	(254)	296	(257)	(.62)

(b) With Landing Fuel Weight of 25,000 lbs. or less and Canadair Service Bulletin CL44-476 Incorporated.

Altitude in 10,000 ft.	S.L. to 10		10 to 15		15 to 20		20 to 25 Lesser of Vmo		Mmo
Zero Fuel Weight	m.p.h. (knots)								Mach
160,000	288	(250)	290	(252)	292	(254)	296	(257)	(.62)
158,000	290	(252)	292	(254)	295	(256)	298	(259)	(.62)
155,000	293	(255)	296	(257)	298	(259)	301	(262)	(.62)
153,000	296	(257)	298	(259)	300	(261)	304	(264)	(.62)
150,000	299	(260)	301	(262)	304	(264)	307	(267)	(.62)
147,000	303	(263)	305	(265)	307	(267)	311	(270)	(.62)
145,000	305	(265)	307	(267)	309	(269)	313	(272)	(.62)
143,000	307	(267)	309	(269)	312	(271)	315	(274)	(.62)
140,000	311	(270)	313	(272)	315	(274)	319	(277)	(.62)
138,000	313	(272)	315	(274)	318	(276)	321	(279)	(.62)
135,000 or less	316	(275)	319	(277)	321	(279)	324	(282)	(.62)

(c) With landing fuel weight between 25,000 lbs. and 30,000 lbs. (with Canadair SB CL44-477 Incorporated).

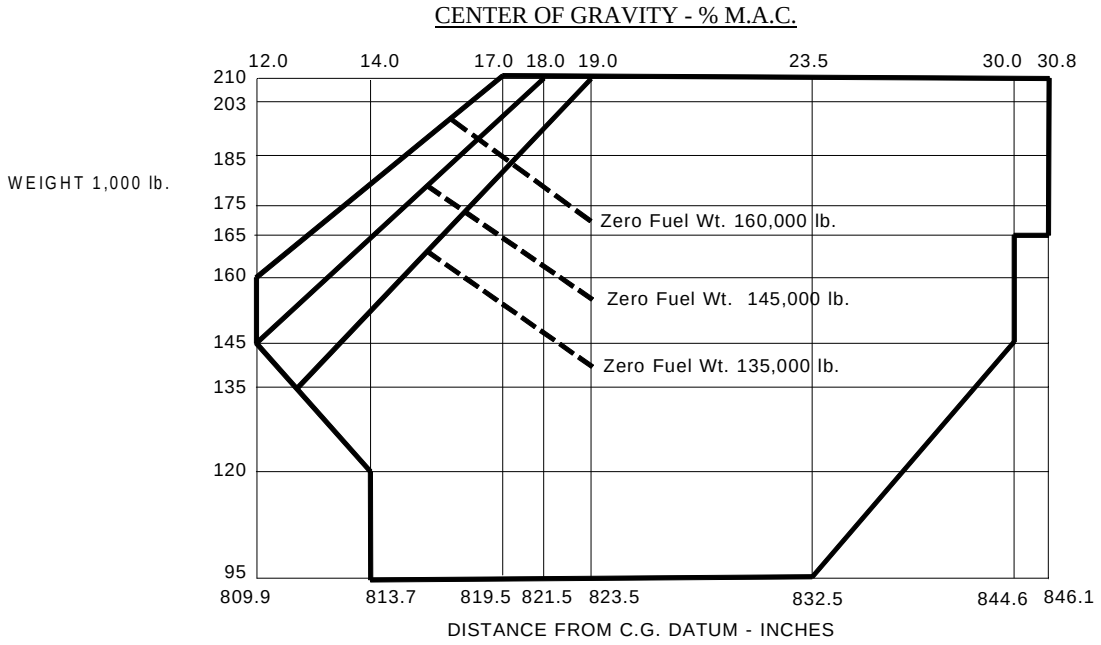
Altitude in 10,000 ft.	S.L. to 10		10 to 15		15 to 20		20 to 25 Lesser of Vmo		Mmo
Zero Fuel Weight	m.p.h. (knots)								Mach
160,000	288	(250)	290	(252)	292	(254)	296	(257)	(.62)
155,000	288	(250)	290	(252)	292	(254)	296	(257)	(.62)
153,000	290	(252)	292	(254)	295	(256)	298	(259)	(.62)
150,000	293	(255)	296	(257)	298	(259)	301	(262)	(.62)
147,000	297	(258)	299	(260)	301	(262)	305	(265)	(.62)
145,000	299	(260)	301	(262)	304	(264)	307	(267)	(.62)
143,000	301	(262)	304	(264)	306	(266)	309	(269)	(.62)
140,000	305	(265)	307	(267)	309	(269)	313	(272)	(.62)
138,000	307	(267)	309	(269)	312	(271)	315	(274)	(.62)
135,000	311	(270)	313	(272)	315	(274)	319	(277)	(.62)

Vfe (Flaps extended 5°)	264 m.p.h. (230 knots) (Mach .50)
Vfe (Flaps extended 15°)	264 m.p.h. (230 knots)
Vfe (Flaps extended 30°)	228 m.p.h. (198 knots)
Vfe (Flaps extended 45°)	172 m.p.h. (150 knots)
Va (Maneuvering)	241 m.p.h. (210 knots)
Vlo (Landing gear operating)	207 m.p.h. (180 knots)
Vle (Landing gear extended)	211 m.p.h. (184 knots)
Vmca (Minimum control, air) S.L. ISA	118 m.p.h. (103 knots)
Maximum landing light operating speed	190 m.p.h. (165 knots)
Maximum landing light extended speed	241 m.p.h. (210 knots)
Maximum spoiler operating speed	230 m.p.h. (200 knots)
Maximum fuel dump chute extended speed	241 m.p.h. (210 knots)

C.G. range

Center-of gravity limits, with landing gear extended, are shown in the following tables; straight line variations exist between the quoted values. Gear retraction moment is +237,609 in.-lb.; retraction of the gear moves the C.G. aft approximately 1% MAC.

C.G. Envelope for CL-44J Cargo Configuration
(See NOTE 4(b))



FORWARD LIMIT: (Geardown)

Cargo Configuration (see Note 4 (b)	Gross Weight	Limits
Zero Fuel Weight 135,000 lb. or less	95,000	14.0% MAC (Sta. 813.7)
	120,000	14.0% MAC (Sta. 813.7)
	135,000	12.8% MAC (Sta. 811.4)
	145,000	13.7% MAC (Sta. 813.1)
	160,000	15.1% MAC (Sta. 815.8)
	203,000	19.0% MAC (Sta. 823.5)
Zero Fuel Weight 135,000 lb. to 145,000 lb.	135,000	12.8% MAC (Sta. 811.4)
	145,000	12.0% MAC (Sta. 809.9)
	160,000	13.4% MAC (Sta. 812.5)
	203,000	17.4% MAC (Sta. 820.4)
	210,000	18.0% MAC (Sta. 821.5)
Zero Fuel Weight 145,000 lb. to 160,000 lb.	145,000	12.0% MAC (Sta. 809.9)
	160,000	12.0% MAC (Sta. 809.9)
	203,000	16.4% MAC (Sta. 818.5)
	210,000	17.0% MAC (Sta. 819.7)
	210,000	

AFT LIMIT (Gear Down)

Cargo Configuration (See Note 4 (b).)		
Zero Fuel Weight 135,000 lb. or less	95,000	23.5% MAC (Sta. 832.5)
	145,000	30.0% MAC (Sta. 844.6)
	165,000	30.8% MAC (Sta. 846.1)
	175,000	30.8% MAC (Sta. 846.1
	185,000	30.8% MAC (Sta. 846.1)
	203,000	30.8% MAC (Sta. 846.1)

AFT LIMIT (Gear Down) (cont'd)
Cargo Configuration (See Note 4 (b).)

Zero Fuel Weight 135,000 lb. to 145,000 lb.	95,000	23.5% MAC (Sta. 832.5)
	145,000	30.0% MAC (Sta. 844.6)
	165,000	30.0% MAC (Sta. 844.6)
	175,000	30.8% MAC (Sta. 846.1)
	185,000	30.8% MAC (Sta. 846.1)
Zero Fuel Weight 145,000 lb. to 160,000 lb.	95,000	23.5% MAC (Sta. 832.5)
	145,000	30.0% MAC (Sta. 844.6)
	165,000	30.0% MAC (Sta. 844.6)
	175,000	30.0% MAC (Sta. 844.6)
	185,000	30.8% MAC (Sta. 846.1)
	203,000	30.8% MAC (Sta. 846.1)
	210,000	30.8% MAC (Sta. 846.1)

Datum

The datum for the center-of-gravity limits is at Station 0, which is 754.00 inches forward of a jig point located on the underside of the fuselage immediately forward of the front spar on the aircraft center line. The jig point is a Philips head screw in the skin joint.

Mean Aerodynamic Chord (MAC)

192.86 inches (L.E. of M.A.C. is 786.72 inches aft of Station 0).

Maximum weight

Taxi	211,000 lb.
Take-off	210,000 lb.
Landing	175,000 lb.
Maximum Zero Fuel	160,000 lb.

All weights in excess of zero fuel weight must consist of usable fuel. See Airspeed Limits for variation of limit airspeeds with zero-fuel weight.

Minimum crew

3: Pilot, Co-pilot and System Operator.

Maximum passengers

Certification of original type design for cargo only.

Maximum cargo

Permissible cargo load and distribution varies with interior configuration. See NOTE 2 for permissible loading for approved configuration. See NOTE 4(b) for cargo compartment classification.

Fuel capacity

	Total Gal.		Usable Gal.		
	Imp.	U.S.	Imp.	U.S.	ARM
2 outboard main tanks	3,810	4,575	3,760	4,516	855.5
2 inboard main tanks	3,802	4,566	3,736	4,486	830.0
2 outboard auxiliary	874	1,050	870	1,044	786.5
Total	8,486	10,191	8,366	10,046	

See CL-44J NOTE 1(c) for "System fuel" data.

Oil capacity

	Total Gal. Imp Pts. (lb.)		Usable pt. Imp. Pts. (lb.)		ARM
2 outboard engines	124	150	40	48.4	676.0
2 inboard engines	124	150	40	48.4	634.0

See CL-44J NOTE 1(d) for "System oil" data.

Maximum approved operating altitude

25,000 ft. if suitable supplementary oxygen dispensing units are provided for flight altitudes above 10,000 ft. If no oxygen dispensing units are provided, maximum operating flight altitude is 10,000 ft.

Other operating limitations

This aircraft must be operated in accordance with the limitations listed in the Department of Transport Approved Airplane Flight Manual.

Serial Nos. eligible

9, 14 to 39. The Canadian Department of Transport Certificate of Airworthiness for export endorsed as noted under "Import Eligibility" must be submitted for each individual aircraft for which application for certification is made.

Import eligibility

A U.S. Airworthiness Certificate may be issued on the basis of the Canadian Department of Transport "Certificate of Airworthiness for Export" signed by the Minister of Transport or his authorized representative. This form must contain the following statement: This certifies that the aircraft described below has been manufactured in conformity with data forming the basis for D.O.T. Type Approval No. A55 (FAA Type Certificate No. 1A20)."

Certification basis

CAR 4b dated 31 December 1953; amendments 4b-1 through 4b-10; amendment 4b-11 with the exception of items 6, 9, 17, 26, 27, 28, 33 and 44; and special regulation SR-422B. Type Certificate No. 1A20 issued 24 May 1961. Date of Application for Type Certificate 1 August 1957.

Compliance with the following optional requirements has been established: Ditching, CAR 4b.361--Structural approval only-- eligible for ditching approval when the required ditching equipment and storage provisions are approved. Ice Protection, CAR 4b.640.

Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification including DOT approved Flight Manual (Canadair Service Publication No. 188, latest approved revision for the CL-44J). Canadair Report No. RAL-44-102 latest revised "Equipment Qualification List for CL-44J", lists all required equipment that must be installed as well as optional equipment installations approved by DOT.

In addition the following items of equipment are required:

Stall warning devise as follows:

Drawing No.	Part	P/N
44-53055	Transducer	44-50750-8
44-53013	Potentiometer	44-50750-10
44A-51410	Stick Shaker	44-50750-2
44D-51061	Computer	44-50750-162

DATA PERTINENT TO ALL MODELS

Leveling means

Plumb bob suspension point in the roof of crew compartment over a target plate fixed in the floor, (Ref.: Sta. 198.3).

Control surface movements

Elevators	UP	30°	Down	15°	(from neutral)
L.H. Elevator servo tabs	UP	14°	Down	26°	(rig 1° down)
R.H. Elevator servo tabs	UP	16°	Down	24°	(rig 1° up)
Elevator trim tabs	UP	17-1/2°	Down	22-1/2°	(from neutral)
Rudder	Right	16°	Left	16°	(from neutral)
Rudder servo tabs	Right	18°	Left	18°	(from neutral)
Rudder connected tabs	UP	22°	Down	18°	(rig 2° up)
Aileron	UP	21°	Down	15°	(from neutral)
Aileron servo tabs	UP	25°	Down	21°	(rig 2° up)
Flaps	UP	0°	Down	45°	
Spoilers	UP	48°	Down	0°	

Tab angles measured with control surfaces neutral.

NOTE 1. Applicable to Model CL-44D4

(a) Current weight and balance report, including list of equipment included in certificated empty weight, and loading instructions when necessary, must be in each aircraft at the time of original certification, and at all times thereafter except in the case of operators having an approved weight control system.

(b) The airplane must be loaded so that the C.G. is within the specified limits at all times with the effects of fuel use taken into account. The fuel loading and consumption must be in accordance with schedule given in Tables 1 through 4 of Section 2 of the DOT approved Flight Manual.

(c) Systems fuel, which must be included in the empty weight, is the amount of fuel required to fill the system piping, plus the unusable fuel in the fuel tanks. The amount of "System Fuel" is as follows:

31.2 U.S. gal.	26.0 Imp. gal.) in the system piping	(CG ARM 733.4 in.)
154.8 U.S. gal.	(129.0 Imp. gal.) in the Tanks	(CG ARM 723.4 in.)
186.0	(155.0	(CG ARM 725.1 in.)

(d) System oil, which must be included in empty weight, is the amount of oil normally trapped in the propellers, plus the amount normally trapped in the engines after oil drainage. The total amount of "System Oil" is as follows:

61.4 U.S. pt. (51.2 Imp. Pt.) (total) in outboard engines	(CG ARM 569 in.)
61.4 U.S. pt. (51.2 Imp. Pt.) (total) in inboard engines	(CG ARM 527 in.)
75.6 U.S. pt. (63.0 Imp. Pt.) (total) in outboard propellers	(CG ARM 534 in.)
75.6 U.S. pt. (63.0 Imp. Pt.) (total) in inboard propellers	(CG ARM 492 in.)

Applicable to Model CL-44J, Cargo Variant

(a) Current weight and balance report, including list of equipment included in certificated empty weight, and loading instructions when necessary, must be in each aircraft at the time of original certification, and at all times thereafter except in the case of operators having an approved weight control system.

(b) The airplane must be loaded so that the C.G. is within the specified limits at all times with the effects of fuel use taken into account. The fuel loading and consumption must be in accordance with schedule given in Tables 1 through 4 of Section 2 of the DOT approved Flight Manual.

(c) Systems fuel, which must be included in the empty weight, is the amount of fuel required to fill the system piping, plus the unusable fuel in the fuel tanks. The amount of "System Fuel" is as follows:

31.2 U.S. gal.	(26.0 Imp. gal.) in the system piping	(CG ARM 854.4 in.)
144.0 U.S. gal.	(120.0 Imp. gal.) in the Tanks	(CG ARM 844.4 in.)
175.2 U.S. gal.	(146.0 Imp. gal.) total amount of system fuel	(CG ARM 846.1 in.)

(d) System oil, which must be included in empty weight, is the amount of oil normally trapped in the propellers, plus the amount normally trapped in the engines after oil drainage. The total amount of "System Oil" is as follows:

61.4 U.S. pt. (51.2 Imp. Pt.) (total) in outboard engines	(CG ARM 690 in.)
61.4 U.S. pt. (51.2 Imp. Pt.) (total) in inboard engines	(CG ARM 648 in.)
75.6 U.S. pt. (63.0 Imp. Pt.) (total) in outboard propellers	(CG ARM 655 in.)
75.6 U.S. pt. (63.0 Imp. Pt.) (total) in inboard propellers	(CG ARM 613 in.)

NOTE 2. Applicable to Model CL-44D4

The following placards must be displayed as indicated:

(a) Systems Operator's Panel
"FUEL JETTISONING
MAXIMUM SPEED..... 209 KTS. (IAS)

CLIMB ATTITUDE	ALL OTHER
1 OR MORE	FLIGHT CONDITION
INOPERATIVE	FLAPS
ENGINES:	0° OR
FLAPS 15°	15°

(b) Forward Lower Cargo Compartment:

MAXIMUM CAPACITY	10,775 lb.
ALLOWABLE FLOOR LOADING	75 lb./sq. ft.

(c) Aft Lower Cargo Compartment:

MAXIMUM CAPACITY	11,560 LB.
ALLOWABLE FLOOR LOADING	75 lb./sq. ft.

(d) Main Fuselage Compartment: Permissible loads for the swing tail and aft fuselage vary with the configuration of the swing tail compartment. One of more of the following placards apply:

Placard No. 1 applies to the basic interior configuration.

Placard No. 2 applies when the aft section of the main fuselage compartment is modified in accordance with Canadair Service Bulletin No. CL44D4-303.

Placard No. 3 applies to aircraft incorporating structural provisions for increased swing tail compartment cargo capacity per Part 1 of Canadair Service Bulletin No. CL44D4-245. The cargo load of Compartment N may be increased above 3,000 pounds provided the following limitations are observed:

(1) The total weight of cargo in Compartment N must not exceed 4,200 lb.

(2) The center-of-gravity of the compartment load must lie between Station 1237 and 1290, and not less than 20 inches to starboard of compartment centerline.

(3) The forward center-of-gravity limits of Page 5, Item (b), apply.

Placard No. 4 applies to those aircraft which incorporate structural provisions for increased swing tail compartment cargo capacity per Part B of Canadair Service Bulletin No. CL44D4-245. The cargo load of Compartment N may be increased above 1,000 pounds provided the following limitations are observed:

(1) The total weight of cargo and passenger service facilities (i.e., galleys, toilets, partitions, etc.) in Compartment N must not exceed 4,200 lb.

(2) Cargo in Compartment N loaded forward of Station 1303 must not exceed 3,200 lb.

(3) The total longitudinal moment of cargo and of passenger service facilities in Compartment N, measured with respect to Station 1228.5, must not exceed 258,000 inch pounds.

(4) The total lateral moment of cargo and of passenger service facilities in Compartment N, measured with respect to the hinge line BL 68 RH, must not exceed 201,500 inch pounds.

(5) The seat rails in Compartment N must not be used for crash restraint of cargo in excess of 1,400 lb.

(6) The forward center-of-gravity limits of Page 5, Item (b), apply.

In Placard Nos. 1 through 4, the maximum allowable floor loadings shown for all compartments except F and G are limited by floor panel strength. The floor supporting structure for all compartments is approved for a maximum allowable loading equivalent to 300 lb./sq. feet.

Placard No. 1

Limits of Compartment				Placard		
Fwd. (Station)	Aft (Station)	Compartment	Maximum Capacity (lb.)	Total Load Forward of Aft. Sta. including load in lower cargo compartment must not exceed	Total Load aft of Fwd. Sta. including load in lower compartment must not exceed	Maximum allowable floor loading lb./sq.ft.
247	331	B	7700	9160		200
331	421	C	8250	15460		200
421	511	D	8250	21760		200
511	601	E	8250	28060		200
601	691	F	8250	35160		300
691	781	G	8250		37490	300
781	871	H	8250		30060	200
871	961	J	8250		23760	200
961	1051	K	8250		17460	200
1051	1141	L	5830		11160	200
1141	1237	M	4950		6840	200
1237	1406	N	3000		3000	150

Placard No. 2

Limits of Compartment				Placard		
Fwd. (Station)	Aft (Station)	Compartment	Maximum Capacity (lb.)	Total Load Forward of Aft. Sta. including load in lower cargo compartment must not exceed	Total Load aft of Fwd. Sta. including load in lower compartment must not exceed	Maximum allowable floor loading lb./sq.ft.
247	331	B	7700	9160		200
331	421	C	8250	15460		200
421	511	D	8250	21760		200
511	601	E	8250	28060		200
601	691	F	8250	35160		300
691	781	G	8250		37110	300
781	871	H	8250		29680	200
871	961	J	8250		23380	200
961	1051	K	8250		17080	200
1051	1141	L	5830		10780	200
1141	1237	M	4950		5800	200
1237	1303	N	1000		1000	150

Placard No. 3

Limits of Compartment				Placard		
Fwd. (Station)	Aft (Station)	Compartment	Maximum Capacity (lb.)	Total Load Forward of Aft. Sta. including load in lower cargo compartment must not exceed	Total Load aft of Fwd. Sta. including load in lower compartment must not exceed	Maximum allowable floor loading lb./sq.ft.
247	331	B	7700	9160		200
331	421	C	8250	15460		200
421	511	D	8250	21760		200
511	601	E	8250	28060		200
601	691	F	8250	35160		300
691	781	G	8250		38690	300
781	871	H	8250		31260	200
871	961	J	8250		24960	200
961	1051	K	8250		18660	200
1051	1141	L	5830		12360	200
1141	1237	M	4950		8040	200
1237	1406	N	3000		4200	150

Placard No. 4

Limits of Compartment				Placard		
Fwd. (Station)	Aft (Station)	Compartment	Maximum Capacity (lb.)	Total Load Forward of Aft. Sta. including load in lower cargo compartment must not exceed	Total Load aft of Fwd. Sta. including load in lower compartment must not exceed	Maximum allowable floor loading lb./sq.ft.
247	331	B	7700	9160		200
331	421	C	8250	15460		200
421	511	D	8250	21760		200
511	601	E	8250	28060		200
601	691	F	8250	35160		300
691	781	G	8250		38690	300
781	871	H	8250		31260	200
871	961	J	8250		24960	200
961	1051	K	8250		18660	200
1051	1141	L	5830		12360	200
1141	1237	M	4950		8040	200
1237	1303	N	1000		4200	150
1303	1406					40

Applicable to Model CL-44J, cargo variant

(a) Flight Crew Compartment

(1) Systems Operator's Panel

"FUEL JETTISONING
MAXIMUM SPEED..... 209 KTS. (IAS)

CLIMB ATTITUDE 1 OR MORE INOPERATIVE ENGINES: FLAPS 15°	ALL OTHER FLIGHT CONDITIONS FLAPS 0° OR 15°

(2) In pilot's view:

"THIS AIRCRAFT APPROVED FOR CARGO OPERATION ONLY".

(b) Forward Lower Cargo Compartment:

MAXIMUM CAPACITY	13,000 LB.
ALLOWABLE FLOOR LOADING	75 LB./SQ. FT.

(c) Aft Lower Cargo Compartment:

MAXIMUM CAPACITY	13,160 LB.
ALLOWABLE FLOOR LOADING	75 LB./SQ. FT.

(d) Main Fuselage Compartment:

Limits of Compartment				Placard		
Fwd. (Station)	Aft (Station)	Compartment	Maximum Capacity (lb.)	Total Load Forward of Aft. Sta. including load in lower cargo compartment must not exceed	Total Load aft of Fwd. Sta. including load in lower compartment must not exceed	Maximum allowable floor loading lb./sq.ft. (Plywood floor Panels)
159	223	A	800	800	- - - -	75
223	331	B	8360	8360	- - - -	200
331	421	C	8250	14660	- - - -	200
421	511	D	8250	20960	- - - -	200
511	601	E	8250	27260	- - - -	200
601	691	F	8250	33560	- - - -	200
691	781	G	8250	39955	- - - -	300
781	871	H	8250	48050	- - - -	300
871	963	I	8400	- - - -	36460	200
963	1053	K	8250	- - - -	30020	200
1053	1143	L	8250	- - - -	23720	200
1143	1233	M	8250	- - - -	17420	200
1233	1323	N	5900	- - - -	11120	200
1323	1413	O	5000	- - - -	6840	200
1419	1588	P	3000	- - - -	3000	150

(1) Compartment "A" is located in the lower hold and is restricted to a floor load of 150 lb./ft. run with a maximum of 800 lb.

(2) The maximum allowable floor loadings shown for all compartments are limited by floor panel strength. With the exception of Compartments "A" and "P", the floor supporting structure for all compartments is approved for a maximum allowable loading equivalent to 300 p.s.f.

NOTE 3. Special Fatigue or Retirement Considerations Applicable

(a) The basic airframe is life limited to 40,000 hours, or 13,500 landings, whichever occurs first, subject to the special inspections of Canadair Service Information Circulars Nos. 176-CL-44D4 and 268-CL-44D4.

(b) When an airplane Model CL-44D4 is converted to a Model CL-44J, the life limit of the Model J must be reduced by the service hours and landings accumulated on the model D4 at the time of conversion.

(c) Control rod end fittings, P/N 28-90031, of the elevator control system must be replaced at intervals of 10,000 hours in accordance with Service Bulletin No. CL-44D4-201.

(d) Airplane Models CL-44D4 and CL-44J whose serial numbers are listed in Canadair Service Information Circular No. 380-CL44, are eligible for removal of the basic airframe life limitation, reference items (a) and (b). Eligibility is contingent upon compliance with the requirements of Canadair S.I.C. No. 380-CL44, at or before the basic airframe life limitation of paragraph (a) is reached.

NOTE 4. Applicable to Model CL-44D4

(a) The fuselage above the floor is approved as a Class "E" Cargo compartment provided the transparent material of window and exits, if installed, is shielded by fire- resistant covers, Canadair P/N 44D-41754.

Applicable to Model CL-44J, Cargo Variant

(b) The fuselage above the floor is approved as a Class "E" cargo compartment provided the aircraft is modified in accordance with Canadair Modification Summary No. CL-44D4-688.

NOTE 5. The fuselage on each production aircraft must be pressurized to 1.33 times relief valve pressure. (Fatigue specimen was pressurized to 1.33 time relief valve pressure prior to fatigue tests).

NOTE 6. Deleted

NOTE 7. Applicable to Model CL-44D4

Only aircraft with Canadair Service Bulletin No. CL44-227 with Supplement No. 1 and Revision "A" and "B" and CL44-451 with Revision "A" incorporated, may operate with zero fuel weight in excess of 155,000 lb.

NOTE 8. Applicable to Model CL-44D4

Only aircraft with Canadair Service Bulletin No. CL44-227 with Supplement No. 1 and Revisions "A" and "B" incorporated, may operate at a maximum take-off weight of up to 210,000 lb. and a taxi weight of up to 211,000 lb.

NOTE 9. Applicable to Model CL-44J, Cargo Variant

Aircraft with modification defined by Canadair Modification Summary CL-44D-688 incorporated are approved for the carriage of cargo only.

.....END.....