DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

4A10
Revision 27

BOEING
DC-7
DC-7B
DC-7C

September 27, 2010

AIRCRAFT SPECIFICATION NO. 4A10

Type Certificate Holder	The Boeing Company 4000 Lakewood Boulevard Long Beach, California 90808
Type Certificate Ownership Record	McDonnell Douglas Corporation, Long Beach, California merged with the Boeing Company in 1997. Transferred Type Certificate to The Boeing Company on September 27, 2010. Douglas Aircraft Company, Inc., Santa Monica, California merged with McDonnell Aircraft Corporation August 25, 1967

I - Model DC-7, Approved November 12, 1953

Engines: Item 101(a) or (b).

Fuel: Aviation gasoline: Grade 115/145

Engine limits: (Straight line manifold pressure variation with altitudes shown.)
(See NOTE 2 for additional limitations and placards.)

	HP	RPM	MP IN.HG.	ALT.
Wright 972TC18DA2 or 972TC18DA4				
Low impeller gear ratio 6.46:1				
Take-off (two minutes) (dry)	3250	2900	56.5	S.L.
Take-off (two minutes) (dry) (critical altitude)	3250	2900	53.0	5000'
Maximum continuous	2600	2600	47.5	S.L.
Maximum continuous	2650	2600	45.0	6500'
High impeller gear ratio 8.67:1				
Take-off (two minutes) (dry)	2535	2600	49.5	12800'
Take-off (two minutes) (dry) (critical altitude)	2550	2600	49.0	15200'
Maximum continuous	2405	2600	48.5	9550'
Maximum continuous	2450	2600	47.0	16400'

Wright 972TC18DA4 engines when operated at 972TC18DA2 powers are considered equal to, or better than, 972TC18DA2 engines.

Airspeed limits (T.I.A.S.)

Maximum Zero Fuel and Oil Gross Weight	88,350#, 90,250# or 91,300#
Vno (Normal Operating)	310 mph (269 knots) S.L. to 13000' (1) Mach No. = .52
Vne (Never Exceed)	360 mph (313 knots) S.L. to 11000' (1) Mach No. = .585
Va (Maneuvering)	228 mph (198 knots)

Page No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Rev. No.	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Vfe (Flaps Down 0° to 30°)	200 mph (174 knots)
Vfe (Flaps Down 30° to 50°)	180 mph (156 knots)
Vlo (Landing Gear Operation)	200 mph (174 knots)

I - Model DC-7 (cont'd)

Vle (Landing Gear Extension) (2)	200 mph (174 knots)
Vll (Landing Light Extension)	250 mph (217 knots)

(1) For speeds between altitudes shown and 25000 ft., see FAA approved Airplane Flight Manual.

(2) Main gear, when operated as "Speed Brake,"
300 mph (260 knots) S.L. to 21000' Alt.
Vne 21000' to 25000' Alt.

C. G. range

Applies to 88,350 lbs., 90,250 lb. and 91,300 lb. zero fuel and oil gross weight aircraft.
Landing gear retraction moment - 234,800 in. lb. (Moves the C.G. forward)

Gross Weight	Landing Gear Extended *(1)*				Landing Gear Retracted *(2)*			
	Forward *(3)*		Aft		Forward *(3)*		Aft	
	% MAC	Sta.	% MAC	Sta.	% MAC	Sta.	% MAC	Sta.
Up to & including 89,300 lbs.	11.0	413.2	32.5	448.4	8.0	408.3	32.5	448.4
122,200 lbs.	17.0	423.0	32.5	448.4	15.1	419.9	32.5	448.4

(1) Applies for Take-off and Landing
(2) Applies for Enroute Operation
(3) Straight line variation in forward C.G. between weights shown.

Maximum weights

Landing: 95,000 lb. or 97,000 lb. (See NOTE 4 for details).
Zero fuel and oil gross weight: 88,350 lb., 90,250 lb. or 91,300 lb.
(All weight in the airplane above this weight must be in fuel and oil)
(See NOTES 1 and 4 for additional details).
Take-off: See Table below and NOTE 4. Dump valves are required in accordance with NOTE 1(e).
3-engine ferrying: See NOTE 3.

TAKE-OFF WEIGHT		
Engine Installation	Zero, Fuel, and Oil Gross Weight	Propeller Installation Ham. Std. 34E60 with 6921-8 blades
Wright 972TC18DA2	88,350#	114,600# (1)
972TC18DA4	90,250# or 91,300#	122,200# (1) (2)

(1) Dry power and 20° take-off flap setting.
(2) With automatic feathering propellers.

Minimum crew

For all revenue flights (passenger and/or cargo)
3. (Pilot and copilot (+48.0) and flight engineer (+69.0))
For all other flights (including test, ferry and training flights)
2. (Pilot and copilot (+48.0))
Additions to the above minimums may be specified by the FAA for long range flights and/or other special conditions.

Maximum passengers

70 - 99 (Paragraph 4b.362(c) of Amend. 4b-4 effective December 20, 1951) (See NOTE 1(f) regarding approved interior arrangements.)

Maximum baggage

Information relative to procedures to be followed in determining maximum cargo compartment capacities based upon fuselage strength and maximum floor loading for interior arrangements with various fore and aft seat spacings and with four (4) or five (5) abreast seating may be found in Douglas Service Bulletin DC-7 #248, reissued October 15, 1958. Also see NOTE 1(f).

Fuel capacity

See NOTE 1(b) and (c) for data on "System" and "Usable" fuel; NOTE 1(d) for required distribution of fuel load; NOTE 1(e) for "Undumpable" fuel.)

Eight Wing Tank Airplane - 5512 Gallon System:	Total	Usable
2 outer wing tanks (#1 and #4 main)	695 gal. ea.	695 gal. ea. (+460.0)
2 inboard inner wing tanks (#2 and #3 main)	719 gal. ea.	713 gal. ea. (+451.0)

2 outboard inner wing tanks (#1 and #4 alt.)	580 gal. ea.	576 gal. ea. (+452.0)
2 inner wing fuel cells (#2 and #3 alt.)	762 gal. ea.	762 gal. ea. (+468.0)

Eight Wing Tank Airplane - 4512 Gallon System:

I - Model DC-7 (cont'd)

2 outer wing tanks (#1 and #4 main)	695 gal. ea.	695 gal. ea. (+460.0)
2 inboard inner wing tanks (#2 and #3 main)	508 gal. ea.	502 gal. ea. (+441.0)
2 outboard inner wing tanks (#1 and #4 alt.)	526 gal. ea.	523 gal. ea. (+449.0)
2 inner wing fuel cells (#2 and #3 alt.)	527 gal. ea.	524 gal. ea. (+449.0)

Oil capacity — See NOTE 1(b) regarding "System" oil.
40 gal. in each nacelle (Douglas Dwg. #5461656 (+345.0) & (+379.0)
46 gal. in each nacelle (Douglas Dwg. #5461656) (+345.0) & (+379.0)
(Required on all airplanes having fuel system of 4722 gallons and up).

Serial Nos. eligible — 44122 and up (See Item 401 and NOTE 4 for complete list.)

Required equipment — In addition to the pertinent required basic equipment specified in CAR 4b, the following items of equipment must be installed:
1(a); 2(a) or (c); 3(a); 101(a); 102(a) and (c) or (d) and (b) or (c); 103(a); 104(a), (b) or (d); 105(a); 201(a), (b), (c), (d) or (e); 202(a); 203(a); 204(a); 205(a); 206(a); 301(a), (b), (c), (d) or (e); 303)a); 401(a), (b), (c) or (d); 403(a) or (b); 404(a); 406(a) or (b).

II - Model DC-7B Approved May 25, 1955 (See NOTES 1(g), 4 and 7 for aircraft modified to cargo configuration).

Engines — Item 101(b),101(c) or 101(d)

Fuel — Aviation gasoline: Grade 100/130, 108/135 or 115/145

Engine limits — (Straight line manifold pressure variation with altitudes shown.)
(See NOTE 2 for additional limitations and placards.)

	HP	RPM	MP IN.HG.	ALT.
Wright 972TC18DA4 or 988TC18EA4 or 988TC18EA4. (Item 1(b) required)				
Low impeller gear ratio 6.46:1				
Take-off (two minutes) (dry)	3250	2900	56.5	S.L.
Take-off (two minutes) (dry) (critical altitude)	3250	2900	53.5	5500'
Maximum continuous	2700	2600	49.0	S.L.
Maximum continuous	2700	2600	47.0	5800'
High impeller gear ratio 8.67:1				
Take-off (two minutes) (dry)	2535	2600	49.5	13300'
Take-off (two minutes) (dry) (critical altitude)	2550	2600	49.0	15200'
Maximum continuous	2405	2600	48.5	10050'
Maximum continuous	2450	2600	47.0	16400'
Wright 972TC18DA4, 988TC18EA1 or 988TC18EA4. (Grade 100/130 or 108/135 Fuel)				
(Note: See take-off weight table)				
Low impeller gear ratio 6.46:1				
Take-off (1 1/2 minutes) (dry)	2880	2900	51.0	S.L.
Take-off (1 1/2 minutes) (dry) (critical altitude)	2950	2900	48.0	8500'
Maximum continuous	2380	2600	44.0	S.L.
Maximum continuous	2450	2600	41.5	9400'

High impeller gear ratio: Operation not permitted with Grade 100/130 or 108/135 fuel.

Wright 988TC18EA1 and/or 988TC18EA4 engines when operated at 972TC18DA4 powers are considered equal to, or better than, 972TC18DA4 engines.

Airspeed limits (T.I.A.S.) — Maximum Zero Fuel and Oil Gross Weight 96,000#

Vno (Normal Operating)	310 mph (269 knots) S.L. to 13000' (1) Mach No. = .52
Vne (Never Exceed)	360 mph (313 knots)

		S.L. to 11000' (1) Mach No. = .585
	Va (Maneuvering)	231 mph (201 knots)

II - Model DC-7B (cont'd)

Airspeed limits (cont'd)

Vfe (Flaps Down 0° to 20°)	220 mph (191 knots)
Vfe (Flaps Down 20° to 30°)	200 mph (174 knots)
Vfe (Flaps Down 30° to 50°)	187 mph (162 knots)
Vlo (Landing Gear Operation)	200 mph (174 knots)
Vle (Landing Gear Extension) (2)	200 mph (174 knots)
Vll (Landing Light Extension)	250 mph (217 knots)

(1) For speeds between altitudes shown and 25000 ft., see FAA approved Airplane Flight Manual.

(2) Main gear, when operated as "Speed Brake,"
300 mph (260 knots) S.L. to 21000' Alt.
Vne 21000' to 25000' Alt.

C. G. range

Applies to 96,000 lbs. zero fuel and oil gross weight aircraft.
Landing gear retraction moment - 241,000 in. lb. (Moves the C.G. forward)

Gross Weight	Landing Gear Extended *(1)*				Landing Gear Retracted *(2)*			
	Forward *(3)*		Aft		Forward *(3)*		Aft	
	% MAC	Sta.	% MAC	Sta.	% MAC	Sta.	% MAC	Sta.
Up to & including								
91,630 lbs.	11.0	413.2	32.5	448.4	8.0	408.3	32.5	448.4
126,000 lbs.	16.9	422.9	32.5	448.4	16.1	421.5	32.5	448.4

(1) Applies for Take-off and Landing
(2) Applies for Enroute Operation
(3) Straight line variation in forward C.G. between weights shown.

Maximum weights

Landing: 102,000 lbs. *(See NOTE 4 for details including increased weights for cargo operation).*
Zero fuel and oil gross weight: 96,000 lbs.
(All weight in the airplane above this weight must be in fuel and oil)
(See NOTES 1 and 4 for additional details).
Take-off: *See Table below and NOTE 4. Dump valves are required in accordance with NOTE 1(e).*
3-engine ferrying: *See NOTE 3.*

TAKE-OFF WEIGHT		
Engine Installation	Zero, Fuel, and Oil Gross Weight	Propeller Installation Ham. Std. 34E60 with 6921-8 blades
Wright 972TC18DA4 988TC18EA1 or 988TC18EA4	96,000# or 98,000# *(10)*	116,900# (1)(4) or (1)(2)(4)(9) 117,900* (1)(5) or (1)(2)(5)(9) 124,272# (1)(2)(7) 124,450# (1)(2)(6) 126,000# (1)(2) or (2)(8)

(1) Dry power and 20° take-off flap setting.
(2) With automatic feathering propellers.
(3) Deleted January 7, 1960.
(4) Without nacelle (saddle) fuel tanks.
(5) With nacelle (saddle) fuel tanks.
(6) Wt. limit when 4512 gal. fuel system and 46 gal. oil nacelle tanks installed.
(7) Wt. limit when 4512 gal. fuel system and 40 gal. nacelle oil tanks installed.
(8) Dry power and 10° take-off flap setting.
(9) When Grade 100/130 or 108/135 fuel is used. (See engine limits).
(10) DC-7B Cargo (See table in NOTE 4 for serial numbers eligible).

Minimum crew

For all revenue flights (passenger and/or cargo)
3. (Pilot and copilot (+48.0) and flight engineer (+69.0))
For all other flights (including test, ferry and training flights)
2. (Pilot and copilot (+48.0))
Additions to the above minimums may be specified by the FAA Flight Standards Division for long range flights and/or other special conditions.

II - Model DC-7B (cont'd)

Maximum passengers: 70 - 99 (Paragraph 4b.362(c) of Amend. 4b-4 effective December 20, 1951) (*See NOTE 1(f) regarding approved interior arrangements.)*

Maximum baggage: Information relative to procedures to be followed in determining maximum cargo compartment capacities based upon fuselage strength and maximum floor loading for interior arrangements with various fore and aft seat spacings and with four (4) or five (5) abreast seating may be found in Douglas Service Bulletin DC-7 #248, reissued October 15, 1958. Also see NOTE 1(f).

Fuel capacity: See NOTE 1(b) and (c) for data on "System" and "Usable" fuel; NOTE 1(d) for required distribution of fuel load; NOTE 1(e) for "Undumpable" fuel.)

	Total	Usable
Eight Wing Tank Airplane - 4512 Gallon System:		
2 outer wing tanks (#1 and #4 main)	695 gal. ea.	695 gal. ea. (+460.0)
2 inboard inner wing tanks (#2 and #3 main)	508 gal. ea.	502 gal. ea. (+441.0)
2 outboard inner wing tanks (#1 and #4 alt.)	526 gal. ea.	523 gal. ea. (+449.0)
2 inner wing fuel cells (#2 and #3 alt.)	527 gal. ea.	724 gal. ea. (+449.0)
Eight Wing Tank Airplane - 5512 Gallon System:		
2 outer wing tanks (#1 and #4 main)	695 gal. ea.	695 gal. ea. (+460.0)
2 inboard inner wing tanks (#2 and #3 main)	719 gal. ea.	713 gal. ea. (+451.0)
2 outboard inner wing tanks (#1 and #4 alt.)	580 gal. ea.	576 gal. ea. (+452.0)
2 inner wing fuel cells (#2 and #3 alt.)	762 gal. ea.	762 gal. ea. (+468.0)
Eight Wing Tank Airplane - 6378 Gallon System:		
2 outer wing tanks (#1 and #4 main)	695 gal. ea.	695 gal. ea. (+460.0)
2 inboard inner wing tanks (#2 and #3 main)	719 gal. ea.	713 gal. ea. (+451.0)
2 outboard inner wing tanks (#1 and #4 alt.)	793 gal. ea.	789 gal. ea. (+452.0)
2 inner wing fuel cells (#2 and #3 alt.)	982 gal. ea.	982 gal. ea. (+463.0)
Eight Wing Tank Airplane - 6474 Gallon System:		
2 outer wing tanks (#1 and #4 main)	695 gal. ea.	695 gal. ea. (+460.0)
2 inboard inner wing tanks (#2 and #3 main)	719 gal. ea.	713 gal. ea. (+451.0)
2 outboard inner wing tanks (#1 and #4 alt.)	841 gal. ea.	837 gal. ea. (+455.0)
2 inner wing fuel cells (#2 and #3 alt.)	982 gal. ea.	982 gal. ea. (+463.0)

Oil capacity: See NOTE 1(b) regarding "System" oil)
46 gal. in each nacelle (Douglas Dwg. #5461656-501) (+345.0) & (+379.0)
26 gal. in wing fillet (Required on all airplanes incorporating 46 gal. nacelle oil tanks and a fuel system greater than 5512 gal.) (+565.0)
56 gal. in each nacelle (Douglas Dwg. #5533656) (+345.0) & (+379.0)
(Required on aircraft incorporating the 6474 gal. fuel system)

Serial Nos. eligible: 44700 and up (See Item 401 and NOTE 4 for complete list.)

Required equipment: In addition to the pertinent required basic equipment specified in CAR 4b, the following items of equipment must be installed:
1(a) and (b); 2(a) or (c); 3(a) or (b); 101(b), (c) or (d); 102(a), (c) and (f) or 102(g), and (i) or 102(c), (e) and (f), or 102(c) and (d) or 102(b) and (d); 103(a); 104(a), (b) or (d); 105(a); 201(a), (b), (c), (d) or (e); 202(a); 203(a); 204(a); 205(b), (c) or (e); 206(a), (b), (c) or (d); 301(a), (b), (c), (d) or (e); 303(a); 401(e), (f), (g), (h), (i), (p), (s), (t) or (x); 403(a) or (b); 404(a); 406(a) or (b).

III - Model DC-7C, Approved May 15, 1956 *(See NOTES 1(g), 4 and 7 for aircraft modified to cargo)*

Engines: Item 101(c) or 101(d)
Fuel: Aviation gasoline: Grade 115/145, 100/130 or 108/135

III - Model DC-7C (cont'd)

Engine limits

(Straight line manifold pressure variation with altitudes shown.)
(See NOTE 2 for additional limitations and placards.)

	HP	RPM	MP IN.HG.	ALT.
Wright 988TC18EA1 or 988TC18EA4				
(Grade 115/145 fuel)				
(See below for modified ratings)				
Low impeller gear ratio 6.46:1				
Take-off (five minutes) (dry)	3400	2900	58.5	S.L.
Take-off (five minutes) (dry) (critical altitude)	3400	2900	56.0	4000'
Maximum continuous	2860	2650	51.0	S.L.
Maximum continuous	2920	2650	49.0	4800'
High impeller gear ratio 8.67:1				
Take-off (five minutes) (dry)	2540	2600	49.5	13500'
Take-off (five minutes) (dry) (critical altitude)	2550	2600	49.0	15200'
Maximum continuous	2410	2600	48.5	10000'
Maximum continuous	2450	2600	47.0	16400'

NOTE: When the fuel injection pump timing is modified to 15° -15° the following listed reduced power ratings must be used:

Low impeller gear ratio 6.46:1				
Take-off (1 1/2 minutes) (dry)	3250	2900	56.5	S.L.
Take-off (1 1/2 minutes) (dry) (critical altitude)	3250	2900	53.5	5500'
Maximum continuous	2700	2600	49.0	S.L.
Maximum continuous	2750	2600	47.0	5800'
High impeller gear ratio 8.67:1				
Maximum continuous	2405	2600	48.5	10050'
Maximum continuous	2450	2600	47.0	16400'

Engines so modified will be identified by having the letter "B" stamped on the data plate immediately following the engine serial number and the appropriate rating restamped.

Wright 988TC18EA1 or 988TC18EA4				
(Grade 100/130 or 108/135 Fuel)				
(Note: See take-off weight table)				
Low impeller gear ratio 6.46:1				
Take-off (1 1/2 minutes) (dry)	2880	2900	51.0	S.L.
Take-off (1 1/2 minutes) (dry)	2950	2900	48.0	8500'
Maximum continuous	2380	2600	44.0	S.L.
Maximum continuous	2450	2600	41.5	9400'

High impeller gear ratio: Operation not permitted with Grade 100/130 or 108/135 fuel.

Airspeed limits (C.A.S.)

Maximum Zero Fuel Oil Gross Weight	101,500#
Vno (Normal Operating)	310 mph (269 knots) S.L. to 13000' *(1)* Mach No. = .52
Vne (Never Exceed)	360 mph (313 knots) S.L. to 11000' (1) Mach No. = .585
Va (Maneuvering)	220 mph (191 knots)
Vfe (Flaps Down 0° to 20°)	220 mph (191 knots)
Vfe (Flaps Down 20° to 30°)	200 mph (174 knots)
Vfe (Flaps Down 30° to 50°)	187 mph (162 knots)
Vlo (Landing Gear Operation)	200 mph (174 knots)
Vle (Landing Gear Extension) *(2)*	200 mph (174 knots)
Vll (Landing Light Extension)	250 mph (217 knots)

III - Model DC-7C (cont'd)

Airspeed limits (C.A.S.)

(1) or speeds between altitudes shown and 25000 ft., see FAA approved Airplane Flight Manual.

(2) Main gear, when operated as "Speed Brake,"

300 mph (261 knots)	*S.L. to 17,000' Alt.*
292 mph (254 knots)	*17,000' to 22,500' Alt.*
Vne	*22,500' to 25,000' Alt.*

C. G. range

Applies to 101,500 lbs. zero fuel and oil gross weight aircraft.
Landing gear retraction moment - 224,000 in. lb. (Moves the C.G. forward)

Gross Weight	Landing Gear Extended *(1)*				Landing Gear Retracted *(2)*			
	Forward *(3)*		Aft		Forward *(3)*		Aft	
	% MAC	Sta.	% MAC	Sta.	% MAC	Sta.	% MAC	Sta.
Up to & including 103,150 lbs.	14.4	417.5	32.5	448.0	11.7	413.0	32.5	448.0
140,000 lbs.	19.3	425.7	32.5	448.0	18.3	424.1	32.5	448.0
143,000 lbs.	21.0	428.6	29.5	443.0	20.0	427.0	29.5	443.0
144,750 lbs. *(4)*	22.4	431.1	26.9	438.6	21.4	429.4	26.9	438.6

(1) Applies for Take-off and Landing
(2) Applies for Enroute Operation
(3) Straight line variation in forward C.G. between weights shown.
(4) For cargo aircraft eligible for 144,750 lb. take off weight. (See Structural Limits Table, NOTE 4.)

Maximum weights

Landing: 109,000 lbs. or 111,000 lbs. (*See NOTE 4 for details including increased weights for cargo operation).*
Zero fuel and oil gross weight: 101,500 lbs.
(All weight in the airplane above this weight must be in fuel and oil in the wing)
(See NOTES 1 and 4 for additional details).
Take-off: *See Table below and NOTE 4. Dump valves are required in accordance with NOTE 1(a).*
3-engine ferrying: *See NOTE 3.*

TAKE-OFF WEIGHT		
Engine Installation	Zero, Fuel, and Oil Gross Weight	Propeller Installation Ham. Std. 34E60 with 7019-2 blades
Wright 988TC18EA1 or 988TC18EA4	101,500# or 106,400# *(6)*	129,000# *(1)(2)(4)* 131,350# *(1) (5)* 141,750 lbs. *(1)(2)* 143,000 lbs. *(2)(3)* 144,750 lbs. *(2)(3)(6)*

(1) Dry power and 20° takeoff flap setting.
(2) With automatic feathering propellers.
(3) Dry power and 10° take-off flap setting
(4) When Grade 100/130 or 108/135 fuel is used. Maximum landing wt. 109,000# (See Engine Limits)
(5) Without automatic feathering propellers.
(6) DC-7C cargo (See table in NOTE 4 for serial numbers eligible).

Minimum crew

For all revenue flights (passenger and/or cargo)
3 crewmembers. (Pilot and copilot (+8.0) and flight engineer (+29.0))
For all other flights (including test, ferry and training flights)
2 crewmembers. (Pilot and copilot (+8.0))
Additions to the above minimums may be specified by the FAA for long range flights and/or other special conditions.

Maximum passengers

70 - 99 (Paragraph 4b.362(c) of Amend. 4b-4 effective December 20, 1951) *(See NOTE 1(f) regarding approved interior arrangements.)*

III - Model DC-7C (cont'd)

Maximum baggage — Information relative to procedures to be followed in determining maximum cargo compartment capacities based upon fuselage strength and maximum floor loading for interior arrangements with various fore and aft seat spacings and with four (4) or five (5) abreast seating may be found in Douglas Service Bulletin DC-7 #328, dated October 15, 1958. *Also see NOTE 1(f).*

Fuel capacity — See NOTE 1(b) and (c) for data on "System" and "Usable" fuel; NOTE 1(d) for required distribution of fuel load; NOTE 1(e) for "Undumpable" fuel.)

Eight Wing Tank Airplane - 7824 Gallon System:	Total	Usable
2 outer wing tanks (#1 and #4 main)	695 gal. ea.	695 gal. ea. (+460.0)
2 inboard inner wing tanks (#2 and #3 main)	719 gal. ea.	713 gal. ea. (+451.0)
2 outboard inner wing tanks (#1 and #4 alt.)	841 gal. ea.	837 gal. ea. (+455.0)
2 inner wing fuel cells (#2 and #3 alt.)	1657 gal. ea.	1657 gal. ea. (+463.0)

Oil capacity — See NOTE 1(b) regarding "System" oil)
56 gal. in each nacelle (Douglas Dwg. #5533656)(+345.0) & (+379.0)
26 gal. in wing fillet (+565.0)

Serial Nos. eligible — 44872 and up *(See Item 401 and NOTE 4 for complete list.)*

Required equipment — In addition to the pertinent required basic equipment specified in CAR 4b, the following items of equipment must be installed:
1(b) or (c); 2(a), (b) or (c); 3(a) or (b); 101(c) or (d); 102(h), (i) and (j); 103(a); 104(a), (b) or (d); 105(b); 201(f) or (g); 202(b); 203(b); 204(b); 205(f), (g) (h) or (i); 206(e) or (h); 301(a), (b), (c), (d), (e) or (f); 303(b); 401(j), (k), (l), (m), (n), (o), (q), (r), (u), (v) or (w); 403(c) or (d); 404(a); 406(c).

SPECIFICATIONS PERTINENT TO ALL MODELS

Datum — 63 in. aft of nose (Station 0) (Model DC-7 and DC-7B)
103 in. aft of nose (Station 0) (Model DC-7C)
(With Douglas radome nose installed, add 12.8 inches to datum.)

MAC — 163.6 in. (L.E. of MAC +395.2) (Model DC-7 and DC-7B)
168.8 in. (L.E. of MAC +393.2) (Model DC-7C)

Leveling means — Bracket at Sta. 387.4 (below floor) and sta. 4 and 22 (nose wheel well) (DC-7 and DC-7B)
Bracket at Sta. 387.4 (below floor) and Sta. -36 and -20.6 (nose wheel well) (DC-7C)

Control surface movements

Aileron	Drooped 1° w/r to wing T.E., wheel neutral. 19° up, 19° down from neutral drooped position.
Aileron spring tab	Faired w/r to aileron T.E., controls neutral ± 21 1/2° ± 1/2° from neutral position.
Aileron trim tab	Faired w/r to aileron T.E. ± 15° ± 15° ± 1/2°, L.H. Aileron only
Rudder	± 20° ± 1/2° from neutral faired position. (DC-7 and DC-7B) ± 17° ± 1/2° from neutral faired position. (DC-7C)
Rudder spring tab	± 20° ± 1/2° from neutral faired position.
Rudder trim	± 20° ± 1/2° from neutral faired position. With rudder in neutral.

All Models (cont'd)	Elevator	T.E. faired with tail cone, control column neutral (13°30' fwd. of vertical) Down 15° ± 1/2° from neutral, control column forward 24°30' from vertical. Up 25° ± 1/2° from neutral, control column 8°5' aft from vertical.
	Elevator spring tab	Up 2° +0°-1/2°, controls neutral - springs each will produce 5# preload at T.E.; 5.7# on DC-7B and DC-7C. Down 19° ± 1/2° from faired position, control full aft. Up 9° ± 1/2° from faired position, control full forward.
	Elevator trim tab	When indicator zeroed, T.E. down 2° from faired position Down 11° ± 1/2° from neutral faired position. Up 4° ± 1/2° from neutral faired position. On DC-7B and DC-7C and when shortened elevator trim tabs are installed on DC-7 aircraft per Douglas Dwg. No. 5500480, the following tab settings are applicable: Down 13° ± 1/2° from neutral faired position. Up 4° ± 1/2° from neutral faired position.

Certification basis

Type Certificate No. 4A10 (Transport Category, CAR 4b, as amended July 20, 1950, and amendments 4b-1, 4b-3, Paragraph 4b.362(a), (b) and (c) of 4b-4, and 4b.5) The forward and aft lower belly cargo compartments are Class "D" Compartments. Smoke detectors, per Amendment 4b-2 effective August 25, 1955, or extinguishing provisions are not required.) See NOTE 6 for ICAO eligibility.
Compliance with ditching provisions of 4b.261 has been demonstrated.
Maximum approved operational altitude 25,000 ft. This altitude may be increased to a maximum of 28,000 ft. when an FAA approved oxygen system, meeting the requirements of CAR 4b.651 effective July 20, 1950, has been installed. The oxygen system installed in the aircraft should be reviewed for compliance with these requirements.

Production basis

Production Certificate No. 27.

Export eligibility

Eligible for export to all countries subject to the existing export procedures except as follows:

(a) Canada - Landplane only eligible.

(b) Great Britain - Complies with U.S. requirements, and with British ARB Special conditions including fatigue requirements as interpreted by ARB communications to the FAA dated 9/18/56 and 10/18/56. Maximum weights for export airplane are contained in FAA Approved Airplane Flight Manual (Item 401.m) but when airplane is operated in the U.S. the weights must not exceed those shown in this specification.

EQUIPMENT:

Propellers and Propeller Accessories

1. Propellers (including electrical anti-icing provisions installed on propeller assembly such as boots, slip rings, blade and hub electrical equipment.)
   (a) 4 Ham. Std. propellers, hubs 34E60, blades 6921-8 — 3193 lbs. (+262.0)
   Diameter: Max. 13'6-1/8", min. allowable for repairs 13' 2-3/8". No further reduction permitted.
   Pitch settings at 42" sta.: Reverse -14°, Min. low +29.5° Feathered +94° (approx.)
   (See NOTE 2(b) for placard)
   (b) 4 Spinners, Ham. Std. 502875, 508529 or 526379, with Douglas Cowling Interliners. Required with Item 101(b), (c) or (d) — 144 lbs. (+272.0)

Propellers and Propeller Accessories (cont'd)		
	(c) 4 Ham. Std. hubs 34E60, blades 7019-2 (DC-7C)	3240 lbs. (+262.0)
	Diameter: Max. 13'11-7/8", min. allowable for repairs 13' 8-1/2". No further reduction permitted.	
	Pitch settings at 42" sta.: Reverse -14°, Min. low +27.5° Feathered +94° (approx.)	
	(See NOTE 2(c) for placard)	
2.	Propeller governors	
	(a) 4 Ham. Std. 5U18-40, -41, -46, -66, -70, -72, -106, -107 or -113 equipped with Deterjet Model DJ-1025 governor by-pass valve.	54 lbs. (+293.0)
	(b) 4 Ham. Std. 5U18-58 or -105 equipped with Deterjet Model DJ-1025 governor by-pass valve	56 lbs. (+293.0)
	(c) 4 Ham. Std. 5AA22-1, 5AA22-2, 5AA22-4, 5AA22-5.	
3.	Propeller feathering pumps	
	(a) 4 Pesco 1E-777-UL-1	56 lbs. (+367.0)
	(b) 4 Adel 51300	100 lbs. (+367.0)
Engine and Engine Accessories - Fuel and Oil Systems		
101.	(a) 4 Wright Double Row Turbo Cyclone 972TC18DA2 with 16:7 propeller reduction gearing	14200 lbs. (+307.0)
	(b) 4 Wright Double Row Turbo Cyclone 972TC18DA4 with 16:7 propeller reduction gearing	14200 lbs. (+307.0)
	(c) 4 Wright Double Row Turbo Cyclone 988TC18EA1 with 16:7 propeller reduction gearing	14580 lbs. (+307.0)
	(d) 4 Wright Double Row Turbo Cyclone 988TC18EA4 with 16:7 propeller reduction gearing	14700 lbs. (+307.0)
102.	System fuel and oil	
	(a) System fuel, 5512 gal. capacity eight wing fuel tanks (62.4 gals.)	374 lbs. (+460.0)
	(b) System oil, 40 gal. oil tank installation (86.8 gal.)	651 lbs. (+324.0)
	(c) System oil, 46 gal. oil tank installation (86.0)	645 lbs. (+324.0)
	(d) System fuel, 4512 gal. capacity eight wing fuel tanks (59.4 gal.)	356 lbs. (+446.5)
	(e) System fuel, 6378 gal. capacity eight wing fuel tanks (58.4 gals.) (DC-7B)	350 lbs. (+458.0)
	(f) System oil, wing fillet 26 gal. tank (50% oil - 50% gas) (3.1 gal.) (DC-7B)	21 lbs. (+472.0)
	(g) System fuel, 6474 gal. capacity eight wing fuel tanks (63.6 gals.) (DC-7B)	382 lbs. (+462.0)
	(h) System fuel, 7824 gal. capacity eight wing fuel tanks (70.4 gals.) (DC-7C)	422 lbs. (+463.0)
	(i) System oil, 56 gal. oil tank installation (86.6 gal.) (DC-7B and DC-7C)	648 lbs. (+324.0)
	(j) System oil, 26 gal. wing fillet tank (3.7 gal.) (DC-7C)	25 lbs. (+472.0)
	50% oil, 50% gasoline - 67°F	
	65% oil, 35% gasoline - 37°F	
	80% oil, 20% gasoline - 27°F	
103.	(a) 4 oil coolers, AiResearch 87410-24 or 151240-24	220 lbs. (+352.0)
104.	Starters	
	(a) 4 Eclipse 36E00-4	113 lbs. (+351.0)
	(b) 4 Jack & Heintz JH-6ESR12	105 lbs. (+351.0)
	(c) Deleted December 6, 1954	
	(d) 4 Jack & Heintz JH-6CE	108 lbs. (+351.0)
105.	Fuel dump valve and controls system	
	(a) Eight wing tank system (Douglas Dwg. #5393033 and 5397701)	147 lbs. (+427.0)
	(b) Eight wing tank system (Douglas Dwg. #5393033-511 and 5397701-505) (DC-7C)	158 lbs. (+424.0)

Landing Gear

201.	4 Main wheel-brake assemblies, 17.00-20, Type III	
	(a) Goodyear Wheel Assembly No. 9560208 Brake Assembly No. 9560229 or 9560245 (Maximum take-off weight 126,000 lbs., landing 102,000 lbs.)	1018 lbs. (+474.0)
	(b) Goodyear Wheel Assembly No. 9560208 Brake Assembly No. 9560231 (Skydrol) or No. 9560246 (Skydrol) (Maximum take-off weight 126,000 lbs., landing 102,000 lbs.)	1018 lbs. (+474.0)
	(c) Goodyear, Wheel Assembly No. 9540862 Brake Assembly No. 9560231 (Skydrol) or No. 9560246 (Skydrol) Maximum take-off weight 126,000 lbs., landing 102,000 lbs.)	1064 lbs. (+474.0)
	(d) Goodyear Wheel Assembly No. 9540753 Brake Assembly No. 9560883 (Inboard) Brake Assembly No. 9560886 (Outboard) (Maximum take-off weight 126,000 lbs., landing 102,000 lbs.)	1120 lbs. (+474.0)
	(e) Goodyear Wheel Assembly No. 9540662 Brake Assembly No. 9560245 (Maximum take-off weight 126,000 lbs., landing 102,000 lbs.)	1064 lbs. (+474.0)
	(f) Goodyear (DC-7C) Wheel Assembly No. 9540934 Brake Assembly No. 9560286 (Skydrol)	988 lbs. (+474.0)
	(g) Goodyear (DC-7C) Wheel Assembly No. 9540934 Brake Assembly No. 9560285	988 lbs. (+474.0)
202.	4 Main wheel tires (NOTE: Satisfactory tire inflation pressures are given in the Airplane Maintenance Manual.)	
	(a) 20-ply rating, 15:50x20, Type III, Nylon with regular tubes	744 lbs. (+474.0)
	(b) 22-ply rating, 17:00x20, Type III, Nylon tubeless (DC-7C)	676 lbs. (+474.0)
203.	Nose wheel 44", Type I	
	(a) Goodyear Model 44NBM Wheel Assembly No. 9540758	72 lbs. (+39.0)
	(b) Goodrich 16:00-16, Type III (DC-7C) Wheel Assembly #H-3-866 (Douglas Dwg. #3535153)	50 lbs. (-1.0)
204.	Nose wheel tire	
	(a) 14-ply rating, 44", Type I, Nylon, with regular tube	135 lbs. (+39.0)
	(b) 14-ply rating, 15:00 x 16, Type III, Nylon tubeless (DC-7C)	99 lbs. (-1.0)
205.	Main gear shock strut assembly	
	(a) 2 Cleveland 9243A (Douglas Dwg. #5479610-1) (Maximum take-off weight 122,200 lbs., landing 97,000 lbs.)	1094 lbs. (+476.0)
	(b) 2 Cleveland 9243BA (Douglas Dwg. #5479610-5501) (Skydrol) (Maximum take-off weight 126,000 lbs., landing 102,000 lbs.)	1105 lbs. (+476.0)
(c)	2 Cleveland 9483A (Douglas Dwg. #5500288) (Maximum take-off weight 126,000 lbs., landing 102,000 lbs.)	1131 lbs. (+476.0)
(d)	2 Cleveland 9243AA (Douglas Dwg. #5479610-5001) (Skydrol) (Maximum take-off weight 122,200 lbs., maximum landing weight 97,000 lbs.)	1103 lbs. (+476.0)
(e)	2 Cleveland 9243B (Douglas Dwg. #5479610-501) (Maximum take-off weight 126,000 lbs., maximum landing weight 102,000 lbs.)	1075 lbs. (+476.0)
(f)	2 Cleveland 9515A (Douglas Dwg. #5532246) (DC-7C) Maximum take-off weight 143,000 lbs., maximum landing weight 111,000 lbs.)	1126 lbs. (+476.0)
(g)	2 Cleveland 9515AA (Douglas Dwg. #5532246-5001) (DC-7C) (Maximum take-off weight 143,000 lbs., maximum landing weight 111,000 lbs.)	1132 lbs. (+476.0)
(h)	2 Cleveland 9515A (Douglas Dwg. #5532246) modified per Douglas Dwg. 5776766 or 5776025) (Maximum take-off weight 144,750 lbs.) (maximum landing weight 111,000 lbs.) (DC-7C)	1126 lbs. (+475.8)

Landing Gear (cont'd)

(i)	2 Cleveland 9515AA (Douglas Dwg. #5532246-5001) modified per Douglas Dwg. 5776766 or 5776025 (Maximum take-off gross weight 144,750 lbs.) (Maximum landing weight 111,000 lbs.) (DC-7C)	1132 lbs. (+475.8)
206.	Nose gear shock strut assembly	
(a)	Cleveland 9242A (Douglas Dwg. #5479590)	276 lbs. (+50.0)
(b)	Cleveland 9242BA (Douglas Dwg. #5479590-5501)(Skydrol)	278 lbs. (+50.0)
(c)	Cleveland 9242B (Douglas Dwg. #5479590-501)	276 lbs. (+50.0)
(d)	Cleveland 9242AA (Douglas Dwg. #5479590-5001)	278 lbs. (+50.0)
(e)	Cleveland 9516A (Douglas Dwg. #5532242) (DC-7C)	302 lbs. (+9.5)
(f)	Cleveland 9242C (Douglas Dwg. #5479590-503)	285 lbs. (+50.0)
(g)	Cleveland 9242CA (Douglas Dwg. #5479590-5503) (Skydrol)	290 lbs. (+50.0)
(h)	Cleveland 9516AA (Douglas Dwg. #5532242-5001) (DC-7C)(Skydrol)	305 lbs. (+9.5)

Electrical Equipment

301.	Generators	
(a)	4 General Electric, 2CM244A1 or A5	258 lbs. (+350.0)
(a)	4 Eclipse 30-E02-5C or later	250 lbs. (+350.0)
(c)	4 General Electric 2CM244A2 or A6	254 lbs. (+350.0)
(d)	4 General Electric 2CM244C1A or C2	268 lbs. (+350.0)
(e)	4 General Electric 2CM244A2A or A6A	258 lbs. (+350.0)
(f)	3 General Electric 2CM244C1A	201 lbs. (+356.0)
303.	Batteries	
(a)	2 Exide 6FH-13	164 lbs. (+81.0)
(b)	2 Exide 6FH-13 (DC-7C)	164 lbs. (+41.0)
(c)	2 Oldham 6BPA5-4 (DC-7C)	164 lbs. (+41.0)
(d)	2 Electric Auto-Lite T-88 (DC-7C)	164 lbs. (+41.0)
(e)	2 Japan Storage 6FIJ-13-888 (DC-7C)	170 lbs. (+41.0)

Interior Equipment

401. FAA Approved Airplane Flight Manual. (A manual containing information required for the Airplane Flight Manual may be carried in lieu thereof in aircraft operated under the provisions of the Federal Air Regulation 121.) The following table identifies the Airplane Flight Manual and the revisions thereto currently approved for each airplane.

	Airplane Serial Number	Douglas Report No.	Latest Approved Rev. No.	Date Latest Ap. Rev.
(a)	44122-44146 45098-45106	SM-14980 AA (DC-7)	21	3-21-67
(b)	44171-44174	SM-15129 NAL (DC-7)	16	3-21-67
(c)	44261-44264 44435 44679-44684	SM-18252 Delta (DC-7)	19	3-21-67
(d)	44265-44287 44289 44903-44904 45143-45149 45151-45154 45356-45358 45360 45482-45490	SM-18268 UAL (DC-7)	15	3-21-67
(e)	44864-44870	SM-18874 PAA (DC-7B)	11	3-21-67
(f)	44852-44858 44860-44863 45082-45089 45330-45349 45447-45451 45453, 45454 45456	SM-18875 EAL (DC-7B)	14	3-21-67
(g)	44700-44704 45244	SM-18876 PAG (DC-7B)	11	3-21-67

Interior Equipment (cont'd)

Airplane Serial Number	Douglas Report No.	Latest Approved Rev. No.	Date Latest Ap. Rev.
(h) 44910-44912	SM-19577 SAA (DC-7B)	8	3-21-67
45477			
(i) 44921-44925	SM-19618 AAL (DC-7B)	11	3-21-67
45232-45239			
45397-45407			
(j) 44873-44881	SM-19821 PAA, PAB	19	4-17-67
44883-44886			
45090-45097	CMA (DC-7C)		
45121-45125			
45127-45130			
(k) 44926-44933	SM-20002 SAS (DC-7C)	21	4-17-67
45211-45215			
45325			
(l) 45068-45071	SM-22568 BNF (DC-7C)	17	4-17-67
45073, 45074			
(m) 45111-45120	SM-22604 BOAC (DC-7C)	11	3-21-67
(n) 45061, 45062	SM-22637 SWA (DC-7C)	21	4-17-67
45190, 45191			
45553			
(o) 45158, 45159	SM-22638 SAB (DC-7C)	16	4-17-67
45161, 45162			
45308-45310			
45495			
(p) 45193-45196	SM-22697 CAL (DC-7B)	6	3-21-67
45525			
(q) 45203	SM-22727 NWA (DC-7C)	22	4-17-67
45205-45210			
45463-45467			
(r) 45180-45189	SM-22751 KLM (DC-7C)	17	4-17-67
45545-45549			
(s) 45311-45314	SM-22809 Delta (DC-7B)	5	7-25-67
45350-45355			
(t) 45362-45365	SM-22900 NAL (DC-7B)	5	3-21-67
(u) 45228-45230	SM-22936 ALI (DC-7C)	13	4-17-67
45541, 45542			
(v) 45367, 45446	SM-22951 TAI (DC-7C)	10	5-1-67
(w) 45468-45471	SM-22999 JAL (DC-7C)	14	4-17-67
(x) 45150, 45155	SM-23723 UAL (DC-7B)	4	3-21-67
45156, 45357			
45359, 45361			

402. Automatic pilot

Weight and C.G. shown do not include radio rack items of following installations which are listed under Electrical Equipment of Douglas Master Equipment List.

(a) Sperry A-12 (DC-7) (3 servos Sperry 679803-167 plus 664575 or 678917-167 plus 664575, 1 servo 658648-41 plus 658774) 157 lbs. (+279.0)

(1) (a) Servo stall forces measured at pilot's controls:
Elevator: Maximum 31 lbs., Minimum 25 lbs.
(Forces are exclusive of elevator downspring effect)
Aileron: Maximum 29 lbs., Minimum 20 lbs.
Rudder: Maximum 66 lbs., Minimum 51 lbs.

(b) Corresponding servo stall torques measured at servo:
Elevator: Maximum 162 in. lbs., Minimum 130 in. lbs.
Aileron: Maximum 106 in. lbs., Minimum 74 in. lbs.
Rudder: Maximum 159 in. lbs., Minimum 122 in. lbs.
(Servo torques are measured with the control system cable disconnected)
(Minimum stall forces are satisfactory for automatic approach and beam guidance control.)

(2) Maximum speed for autopilot operation is 310 mph (269 knots) CAS.
(See FAA Approved Airplane Flight Manual for altitude loss during automatic pilot malfunctions.)

(b) Pioneer PB-10 (3 servos Pioneer 15601-1-A, 1 servo 15620-2-A) 157 lbs. (+333.0)
(1) (a) Servo stall forces measured at pilot's controls:
Elevator: Maximum 33 lbs., Minimum 26 lbs.
(Forces are exclusive of elevator downspring effect)
Aileron: Maximum 35 lbs., Minimum 17 lbs.
Rudder: Maximum 62 lbs., Minimum 48 lbs.
(b) Corresponding servo stall torques measured at servo:
Elevator: Maximum 263 in. lbs., Minimum 205 in. lbs.
Aileron: Maximum 574 in. lbs., Minimum 287 in. lbs.
Rudder: Maximum 350 in. lbs., Minimum 270 in. lbs.
(Servo torques are measured with the control system cable disconnected)
(Minimum stall forces have not been demonstrated for flight path control)
(2) Maximum speed for automatic pilot operation is 310 mph (269 knots) CAS.
(See FAA Approved Airplane Flight Manual for altitude loss during automatic pilot malfunction.)

(c) Sperry A-12 (For all DC-7B and for DC-7 Serial No. 44435 only) 157 lbs. (+279.0)
(2 servos, aileron and rudder, 678919-167 plus 664575 or 679803-167 plus 664575,
1 servo, elevator, 678919-168 plus
664575 or 679803-168 plus 664575, 1 servo, elevator tab, 658648-41 plus 658774).
(1) Servo stall forces measured at servo with control system cables disconnected
(Minimum stall forces are satisfactory for automatic approach and beam guidance control.)
Elevator: Maximum 144 in. lbs., Minimum 119 in.lbs.
Aileron: Maximum 106 in. lbs., Minimum 75 in. lbs.
Rudder: Maximum 159 in. lbs., Minimum 128 in. lbs.
Corresponding servo forces measured at pilot's controls (exclusive of system friction and elevator and rudder spring effects):
Elevator: Maximum 28 lbs., Minimum 23 lbs.
Aileron: Maximum 29 lbs., Minimum 20 lbs.
Rudder: Maximum 66 lbs., Minimum 53 lbs.
(2) Maximum speed for autopilot operation is 310 mph (269 knots) CAS.
(See FAA Approved Airplane Flight Manual for altitude loss during automatic pilot malfunction.)

(d) Sperry A-12 (for DC-7C) (3 servos, aileron, rudder and elevator, 193 lbs. (+210.0)
679803-161 with 664575 drum or 678919-161 with 664575 drum.
1 servo unit, elevator trim tab 658648-41 with 658771 drum.
Douglas Dwg. #5481884-503 and #3612243)
(1) Servo stall torques measured at the servos with control system cables disconnected (Minimum stall forces are satisfactory for automatic approach and beam guidance control)
Elevator: Maximum 173 in. lbs., Minimum 112 in. lbs.
Aileron: Maximum 134 in. lbs., Minimum 97 in. lbs.
Rudder: Maximum 220 in. lbs., Minimum 160 in. lbs.
(2) Maximum speed for operation with autopilot is 310 mph (269 knots) CAS.
(See FAA Approved Airplane Flight Manual for altitude loss during automatic pilot malfunction.)

(e) Pioneer PB-10 (for DC-7B) 157 lbs. (+333.0)
(3 servos 15611-1B, 1 elevator tab servo 15620-2A).
(1) Servo stall torques measured at servos with control cables disconnected.
(These forces have not been demonstrated for Flight Path Control)
Elevator: Maximum 285 in. lbs., Minimum 205 in. lbs.
Aileron: Maximum 460 in. lbs., Minimum 365 in. lbs.
Rudder: Maximum 445 in. lbs., Minimum 350 in. lbs.
(2) See Airplane Flight Manual for maximum operating speed with automatic pilot operation and for altitude loss resulting from malfunction of automatic pilot system.

(f) Sperry A-12 (For DC-7C) 198 lbs. (+240.0)
(2 servos-aileron and rudder, 678919-161 or 679803-161, with
664575 drums, 1 servo-elevator, either 658680-461 plus Douglas
Dwg. #2612468, or 1776288-461; with drum, either 664575 plus
Douglas Dwg. #2612467, or 1776287; 1 elevator tab servo
658648-41 with drum 658774).

(1) Servo stall torques measured at servos with control cables disconnected:
(Minimum stall forces are satisfactory for automatic approach and beam guidance control.)
Aileron: Maximum 134 in. lbs., Minimum 97 in. lbs.
Rudder: Maximum 210 in. lbs., Minimum 156 in. lbs.
Elevator: Torque is controlled by the limiting mechanism and is not adjustable.
(2) See Airplane Flight Manual for maximum operating speed with automatic pilot operation and for altitude loss resulting from malfunction of automatic pilot system.

(g) Pioneer PB-10A (For DC-7C) 162 lbs. (+330.0)
(2 servos 15613-1B (aileron and rudder); 1 servo 15601-1A (elevator) and 1 elevator tab servo 15620-2A) (Douglas Dwg. #5611982-505 with modification, Douglas Dwg. #2612484).
(1) Servo stall torques measured at the servos with control system cables disconnected:
(These forces are satisfactory for flight path control).
Aileron: Maximum 540 in. lbs., Minimum 400 in. lbs.
Rudder: Maximum 500 in. lbs., Minimum 340 in. lbs.
Elevator: Torque is controlled by the limiting mechanism and is not adjustable.
(2) See Airplane Flight Manual for maximum operating speed with automatic pilot operation and for altitude loss resulting from malfunction of automatic pilot system.

(h) Sperry A-12 (DC-7C) 201 lbs. (+240.0)
(2 Servos - aileron and rudder - 678919-161 or 679803-161, with 664575 drums; 1 servo - elevator, either 658680-461 plus DACO Dwg. #2612468, or Sperry 1776288-461, with Drum 664575 plus DACO Dwg. 2612467 or Sperry 1776287; 1 elevator tab servo 669388-41 with drum 675011)
(1) Servo stall torques measured at servos with control cables disconnected.
Aileron: Maximum 134 in. lbs., Minimum 97 in. lbs.
Rudder: Maximum 210 in. lbs., Minimum 156 in. lbs.
Elevator: Torque is controlled by the limiting mechanism and is not adjustable.
(Minimum stall forces are satisfatory for automatic approach and beam guidance control).
(2) See Airplane Flight Manual for maximum operating speed with automatic pilot operation and for altitude loss resulting from malfunction of automatic pilot system.

403. Windshield wipers
(a) ALCO (Douglas Dwg. #5332419) 10 lbs. (+40.0)
(b) ALCO (Douglas Dwg. #5332419-5500) (Skydrol) 10 lbs. (+40.0)
(c) ALCO (Douglas Dwg. #5332419-5500) (Skydrol) (DC-7C) 10 lbs. (+26.0)
(d) ALCO (Douglas Dwg. #5332419-500) (DC-7C) 10 lbs. (+26.0)

404. Instruments - in accordance with the following drawings on file with the Western Regional FAA Office:
(a) Douglas Dwg. #7483145

405. Emergency evacuation devices
(a) Slide (AAL Dwg. #ADE-5389 or EAL 87-SL1050) 27 lbs. (+720.0)
(b) Slide (AAL Dwg. #FDD-3419), (SAS #11D11094) or PAA #L-1970, L-3380-200 or L-3382-500) 24 lbs. (+933.0)
(c) Emergency ladder (Douglas Dwg. #5354942) 22 lbs. (+717.0)
(d) Slide (PAA #L-1970, or #L-3382-100, or -300, or -400) 29 lbs. (+720.0)
(e) Slide (Douglas Dwg. #5580979, AAL Dwg. #FFD-3419) 24 lbs. (+830.0)
(f) Slide (AAL Dwg. #FDD-3419) or (EAL #87-SL-1051) 24 lbs. (+907.0)
(g) Deleted April 18, 1956
(h) Emergency ladder (Douglas Dwg. #3352240) 18 lbs. (+760.0)
(i) Slide (DACO #2613245) or (UAL #6F-5127-10 or 11) 23 lbs. (+720.0)
(j) Slide (DACO #5613248) or (UAL #6F-5127-12) 27 lbs. (+933.0)
(k) Emergency ladder (DACO #3352240) (DC-7B Cargo) 18 lbs. (+120.0)
(l) Emergency ladder (DACO #3352240) 18 lbs. (+150.0)
(m) Emergency ladder (DACO #3352240) (DC-7C) 18 lbs. (+110.0)
(n) Emergency ladder (DACO #3352240) (DC-7C) 18 lbs. (+870.0)
(o) Emergency ladder (DACO #3352240) (DC-7C) 18 lbs. (+118.0)
(p) Emergency ladder (DACO #3352240) (DC-7C) 18 lbs. (+910.0)

406. Hydraulic fluid in system and reservoir
(a) Skydrol (14.5 U.S. gals.) 130 lbs. (+332.5)
(b) Mineral oil (14.5 U.S. gals.) 105 lbs. (+340.5)
(c) Skydrol (16.5 U.S. gals.) (DC-7C) 148 lbs. (+331.5)
(d) Mineral oil (16.5 U.S. gals.) (DC-7C) 120 lbs. (+331.5)

Deicing Equipment

501.	(a) 2 Wing heaters, Surface Combination Corp. J88A92 (DACO #5406845-9), L88A92 (DACO #5406945-11) or M88A92 (DACO #5406945-17) or N88A92 (DACO #5406945-19)	138 lbs. (+417.0)
	(b) Empennage heater, Surface Combustion Corp. J88A92 (DACO #5406945-9), L88A92 (DACO #5406945-11) or M88A92 (DACO #5406945-17) or N88A92 (DACO #5406945-19)	69 lbs. (+1025.0)
502.	(a) Carburetor anti-icing fluid (17.8 gals.)	118 lbs. (+620.0)
503.	(a) Propeller electrical anti-icing equipment, less equipment on propellers	53 lbs. (+283.0)
	(b) Propeller electrical anti-icing equipment, less equipment on propellers (DC-7C)	60 lbs. (+282.0)

NOTE 1. (a) Current weight and balance report including list of equipment included in certificated weight empty, and loading instructions, must be in each aircraft at the time of original certification and at all times thereafter (except in the case of air carrier operators having an approved weight control system). Manufacturer's Master Equipment List contains list of approved equipment in addition to equipment listed in this publication.

(b) "System Fuel and Oil" (Item 102), which must be included in the empty weight, is that amount required to fill both systems and the tanks up to the tank outlets to the engines, when the airplane is in the level attitude. The propeller feathering oil in aircraft incorporating Hamilton Standard propellers is not considered usable oil and is included in the "System Oil". The nacelle oil tank capacities shown in this specification include only the usable oil for which the tanks are to be placarded. All hydraulic system fluid (See Item 406) must also be included in the empty weight of the airplane.

(c) The "unusable fuel" is that amount of fuel in the tanks which is unavailable to the engines under critical flight conditions as defined in CAR 4b.416 and may be obtained by taking the difference between the "total" and "usable" tank capacities shown under "Fuel Capacity." The "unusable fuel" must either be included in the airplane empty weight or be suitably accounted for in the airplane weight and balance report.

(d) Structural Limitations on Fuel Loading and Usage. All fuel must be distributed equally on both sides of the airplane. All main tanks must be filled equally first, then alternates. Fuel must be used in the reverse order from fuel loading except for take-off, climb and landing, at which time the main tanks must be used. Not more than 75 gallons (450 lbs.) of fuel should be used from each main tank on take-off prior to changing to alternates. Satisfactory alternate fuel loading and usage procedures have been approved and placed in the FAA approved Airplane Flight Manual. These alternate procedures may be used in lieu of the above.

(e) Fuel dumping - Fuel dump valves (Item 105) must be installed for operation of the airplane at weights in excess of maximum landing weight. Refer to FAA Approved Airplane Flight Manual for limitations and cautionary procedures to be observed during the dumping of fuel. When dump system (Item 105) is installed, the amount of usable fuel remaining in the fuel tanks after dumping is as follows:

(1)	Eight Wing Tank Airplane	5512 Gal. System	4512 Gal. Systems
	Outer wing (#1 and #4 main)	141 gal. ea.	141 gal. ea.
	Inboard inner wing (#2 and #3 main)	137 gal. ea.	147 gal. ea.
	Outboard inner wing (#1 and #4 alt.)	0 gal. ea.	0 gal. ea.
	Inboard wing fuel cells (#2 and #3 alt.)	54 gal. ea.	39 gal. ea.
(2)	Eight Wing Tank Airplane	6378 or 6474 Gal. System	
	Outer wing (#1 and #4 main)	148 gal. ea.	
	Inboard inner wing (#2 and #3 main)	158 gal. ea.	
	Outboard inner wing (#1 and #4 alt.)	0 gal. ea.	
	Inboard wing fuel cells (#2 and #3 alt.)	54 gal. ea.	
(3)	Ten Wing Tank Airplane (DC-7C)	7824 Gal. System	
	Outer wing (#1 and #4 main)	156 gal. ea.	
	Inboard inner wing (#2 and #3 main)	158 gal. ea.	
	Outboard inner wing (#1 and #4 alt.)	0 gal. ea.	
	Inboard wing fuel cells (#2 and #3 alt.)	90 gal. ea.	

The total undumpable fuel and oil must be included in the landing weight.

When Wright DA3 or DA4 engines are installed on aircraft originally incorporating DA2 engines and the power utilized is greater than that approved for the DA2 engine, the standpipes in the main tank must be of sufficient height to result in 148 gallons of undumpable fuel in each of #1 and #4 main tanks and 158 gallons of undumpable fuel in each of #2 and #3 main tanks.

(f) For the interior arrangement of a particular airplane, see approved Douglas Report SM-14762 (DC-7 and DC-7B) or SM-19487 (DC-7C). "Loading Chart and Actual Weight and Balance." That report shows the location of all passenger and crew member seats; location and capacity of all cargo and baggage compartments, buffets, storage spaces and coatrooms; and location and capacity of lounges and lavatories for each of the different sleeper and dayplane arrangements covered by the above-mentioned report. Lounges, lavatories, and baggage or cargo compartments must be placarded for the capacities specified in the above report. The airplane must always be loaded within the C.G. limits specified in this specification, accounting for crew and passenger movement, and use of fuel and oil.

(g) For interior configuration of DC-7 airplanes converted to cargo see approved Douglas Report SM-23562, "Loading Chart and Actual Weight and Balance for DC-7 Airplanes Converted to Cargo." This report shows the location of all crew member seats and location and capacity of all cargo compartments. Cargo compartments must be placarded for the capacities specified in the above report.

NOTE 2. The following placard shall be placed on the instrument panel in full view of the pilot or when appropriate, the instruments should be properly marked:
(a) "This airplane shall be operated in compliance with the operating limitations specified in the FAA Approved Airplane Flight Manual."
(b) "Avoid continuous ground operation between 1300 and 1600 rpm." (With Item 1(a).)
(c) "Avoid continuous ground operation between 1200 and 1550 rpm." (With Item 1(c).)

NOTE 3. (a) Ferry permits may be issued to all Model DC-7 series airplanes on which one engine is inoperative, with its propeller removed or feathered under the following conditions:
(1) Operation of aircraft shall be in accordance with pertinent limitations contained in the applicable portion of the FAA Approved Airplane Flight Manual pertinent appendices, and existing instructions.
(2) (a) Maximum take-off weight 100,000 lbs. *(DC-7 and DC-7B)
(b) Maximum take-off weight 105,000 lbs. *(DC-7C)
*(Except when limited by runway length specified in FAA Approved Airplane Flight Manual).
(3) (a) C.G. range: 13% (Sta. 416.5) to 22% (Sta. 413.2) (Gear Down) (Model DC-7 and DC-7B)
(b) C.G. range: 14.6% (Sta. 417.8) to 24% (Sta. 433.7) (Gear Down) (Model DC-7C)

NOTE 4: The following table lists the maximum zero fuel and oil, landing and take-off weights of the DC-7 Series aircraft as it is limited by structural strength. Although an aircraft may be eligible, from a structural standpoint, for certain take-off weights, the take-off weight may be limited from a performance standpoint due to the propeller and engine combination that is installed and the flap setting used. Therefore, the table of take- off weights under maximum weights should also be adhered to in determining the maximum permissible take-off weight of various aircraft.

MAXIMUM STRUCTURAL LIMITS			
Airplane Serial Numbers	Zero Fuel; Oil and ADI Fluid	Landing Weight	Takeoff Weight
MODEL DC-7			
44122-44128	88,350#	95,000#	122,200# (1)
44142	88,350# 90,250# *(4)*	95,000# 97,000# *(4)*	122,200# *(1)*
44129-44141 44171-44174 44261-44264	88,350#	95,000#	116,622# *(2)* 116,800# *(3)*
44129-44141	90,250# *(4)*	97,000# *(4)*	118,522# *(2)(4)* 118,700# *(3)(4)*
44143-44146 44265-44287 44289, 44435	90,250#	97,000#	122,200# *(1)*
44679-44684	90,250#	97,000#	118,522# *(2)*
44903, 44904 45098-45106 45143-45149 45151-45154 45356, 45358 45360 45482-45490	91,300#	97,000#	122,200# *(1)*

MODEL DC-7B			
Airplane Serial Numbers	Zero Fuel; Oil and ADI Fluid	Landing Weight	Takeoff Weight
44700-44702 44704 44852-44870 44910-44912 45082, 45083 45085-45089 45193-45196 45235-45237 45244 45311-45314 45330-45355 45362-45365 45389 45401, 45402 45404-45407 45447-45451 45453, 45454 45456 45477, 45525	96,000#	102,000#	124,272# *(2)* 124,450# *(3)* 126,000# *(1), (5) or (7)*
MODEL DC-7B (Cargo) *(11) (14) (18)*			
Airplane Serial Numbers	Zero Fuel; Oil and ADI Fluid	Landing Weight	Takeoff Weight
44703 44921-44925 45232-45234 45238, 45239 45397, 45398 45400, 45403	98,000#	104,000#	126,000# *(1), (5) or (7)*
45150, 45155 45156, 45357 45359, 45361	98,000#	104,000#	126,000# *(1), (5) or (7) and (12)*
MODEL DC-7C *(15)*			
44875-44880	101, 500#	109,000# 111,000 *(9)(10)*	140,000# *(8)* 143,000# *(8)(9)*
44873, 44874 44885, 44886 44928-44933	101,500#	109,000# 111,000# *(9)(10)*	143,000# *(8)*
45061	101,500#	109,000# 111,000# *(9)(10)*	143,000# *(8)* 144,750# *(18)*
45068-45071 45074 45090-45097 45111-45118 45121-45125 45127 45161, 45162 45180-45183 45205, 45325	101,500#	109,000# 111,000# *(10)*	143,000# *(8)*
45158, 45159	101,500#	109,000# 111,000# *(10)*	143,000# *(8)* 144,750# *(18)*
45187, 45189 45206, 45210 45211 45230 45308-45310	101,500#	111,000#	143,000# *(8)*

MODEL DC-7C *(15) (cont'd)*			
45367, 45446	101,500#	111,000#	143,000# *(8)* 144,750# *(18)*
45468, 45469 45495 45541, 45542 45545-45549 45553	101,500#	111,000#	143,000# *(8)*
MODEL DC-7 CARGO *(13)(14)(16)(18)*			
44881, 44883 44884, 44926 44927, 45062 45119, 45120 45191, 45203 45207, 45208 45212-45214 45228, 45229 45464-45466 45471	106,400#	113,000#	143,000# *(8)*
45130 45184-45186 45188, 45190 45463, 45467 45470	106,100#	113,000#	143,000# *(8)* 144,750# *(17)*

(1) With 8 wing tank 5512 gallon fuel system installation.

(2) With 8 wing tank 4512 gallon fuel system and 40 gallon oil tank (Item 102b) installation.

(3) With 8 wing tank 4512 gallon fuel system and 46 gallon oil tank (Item 102c) installation.

(4) These aircraft have all the structural provisions for the higher zero fuel and landing weights except the rework described on Douglas Drawings 5500249 "Rework - Front Spar Ldg. Gear Fitting Inst." and 5500485 "Service Rework - Center Spar Landing Gear Fitting Area." Upon completion of the rework, the higher zero fuel and landing weights may be realized. Where indicated, the take-off weight may also be increased.

(5) With 8 wing tank 6378 gallon fuel system installation.

(6) Deleted January 7, 1960.

(7) With 8 wing tank 6474 gallon fuel system.

(8) With 8 wing tank 7824 gallon fuel system installation.

(9) Rework described on Douglas Dwgs. 5479663 "F" Change, "Rib Installation - Outer Wing Rear Tank Section" and 5482259 "AF" Change "Panel Inst. - Outer Wing Rear Section Top Skin and Stringers" must be accomplished. (Ref.: Douglas Service Letter A-213- 2326/WES to PAA dated August 9, 1956). (10) Rework described on Douglas Drawing 4654428, "Service Rework, Rear Spar Vertical Stiffener Attach. Sta. 55 C.V.", must be accomplished. (See Douglas Service Letter A-215-8217/ERM to DC-7C operators, dated 4/19/57, Service Bulletin DC-7 #240 and Drawing 5532261 "CV" Change).

(11) DC-7B aircraft modified per approved Douglas type design data for cargo operation

(12) Basic DC-7 aircraft converted to DC-7B (cargo). These aircraft must have new nameplates installed per Douglas Dwg. No. 2768055 to indicate the change in model designation and date of conversion.

(13) DC-7C aircraft modified per approved Douglas type design data for cargo operation.

(14) When operating as a passenger carrying airplane, the fuselage loading, including the weight of passengers, baggage or cargo, seats and all other interior equipment must not exceed the loading limit of the fuselage.

(15) For airplanes with Serial Nos. 45111-45118, 45180-45183, 45187, 45189, 45545-45549, the zero fuel weight may be increased to 102,500 lbs. when the aircraft is loaded so that the floor structural loading does not exceed the equivalent of 28.8 lbs./in. from Sta. 63 to Sta. 880 (5 abreast seating at 33" O.C.); 23 lb./in. from Sta. 880 to Sta. 913 (4 abreast seating at 33" O.C.); 118 lb./in. from Sta. 913 to Sta. 948 (2 abreast seating at 33" O.C.). Maximum cargo placards:
Fwd. belly compartment 6000 lbs.; aft belly compartment 6230 lbs. The appropriate loading schedule must be prepared to assure that these limits are not exceeded.

(16) DC-7C, Serial Nos. 45062, 45128, 45130, 45190, 45212 and 45463 through 45467 were modified per approved type design data to incorporate a large cargo door and cargo floors and delivered to the owner for further modifications for carrying cargo or passengers. The FAA Approved Airplane Flight Manual was revised to prohibit the carriage of passengers or cargo. Upon completion of approved modifications for passenger or cargo operation, the FAA Approved Airplane Flight Manual must be appropriately revised. If these aircraft are to be used in cargo operation, compliance with CAR 4b.359, .382 and .384 must be demonstrated.

(17) Rework required in accordance with Douglas Drawing No. 2776260 "Wing Assem. - Center Wing" and Douglas Drawing No. 5776025 "Gear Assemb. - Landing".

(18) Rework required in accordance with Douglas Drawing No. 5776766, "Service Rework - Increased M.T.O.G.W.", and Douglas DC-7 Service Bulletin No. 240 must also be accomplished.

(19) Certain aircraft were modified per approved Type Design Data so that the main cabin cargo compartment complies with the Class "E" category requirements of CAR 4b.383(e). The modification included (1) ventilating system air shutoff valve assemblies, Douglas P/N 276176-5; (2) sealed bulkhead between the crew and main cargo compartment; (3) C-O-TWO-74800 smoke detector indicator and piping per Douglas Drawings 5761887 (DC-7B) or 2770709 (DC-7C), and (4) fire resistant lining of the main cabin fuselage structure. Some of the aircraft incorporated part of the above and others did not incorporate any of the above installations. Compliance with the appropriate sections of CAR 4b.382 to .384 must be demonstrated if these aircraft are to be operated as cargo carriers.

NOTE 5. In accordance with the agreement between the Department of Defense and the Civil Aeronautics Board, all air carrier operators utilizing aircraft which have been modified under the Civil Reserve Air Fleet Program, Part I, Phase II, may deduct the added weight of the military modifications up to a maximum of 50 pounds for each aircraft so modified.

NOTE 6. The Model DC-7B airplane has been found to comply with the standards of Category A of Annex 8 to the Convention of International Civil Aviation, entitled "Airworthiness of Aircraft," as amended to March 1951, with the following exceptions:

(a) Chapter 7 Sub-Part 7.2.5.3 Paragraph 4, unless oil filter screens per Douglas Dwgs. 5461656 are incorporated.

(b) Chapter 9 Sub-Part 9.4.2.2(d), unless fuel capacity placard adjacent to fuel selector controls per Douglas Drawing 2461348 is incorporated.

(c) Chapter 9 Sub-Part 9.3 "Aeroplane Flight Manual," unless Airplane Flight Manual amended to include Section III D for ICAO Requirements.

NOTE 7. In accordance with special Civil Air Regulations SR-411B, aircraft operated by air carriers for cargo operation only, are permitted to increase zero fuel and landing weights by 5% of the maximum zero fuel weight. For DC-7B cargo aircraft covered by this specification the maximum zero fuel, oil and ADI fluid weight may be increased to 102,900 lbs. and the maximum landing weight to 108,900 lbs. For DC-7C cargo aircraft covered by this specification the maximum zero fuel, oil and ADI fluid weight may be increased to 111,720 lbs. and the maximum landing weight to 118,320 lbs. In addition to the operator's normal inspection program, aircraft operated in accordance with SR-411B must be inspected in accordance with Douglas Report SM-23577, "Special Inspection Procedure," as revised and approved by the FAA. Requests for changes in the inspection procedure must be forwarded to the manufacturer for recommendations and submitted to the FAA for approval.

.....END.....