

State Aviation Administration of Ukraine

TYPE CERTIFICATE DATA SHEET № TL 0001

Boeing 737

Type Certificate Holder: The Boeing Company
P.O. Box 3707
Seattle, Washington 98124, USA

Models: 737-200, 737-300, 737-400, 737-500
737-700, 737-800, 737-900ER

Issue 8

14 June 2013

This Data Sheet which is integral part of Type Certificate No. TL 0001 prescribes the conditions and limitations under which the product(s) for which the Type Certificate was issued meet(s) the airworthiness requirements and environmental protection requirements, stated in Certification basis mentioned in this Data Sheet.

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SECTION II: 737-700/-800/-900ER MODELS



SECTION I: 737-200/-300/-400/-500 MODELS**Model 737-200**

Category of aircraft:	Transport category airplane	
Approval by State Aviation Administration (SAA):	31 May 1995	
Aircraft Engines:	2 turbofan engines Pratt & Whitney JT8D-7, JT8D-7A, JT8D-7B, JT8D-9, JT8D-9A, JT8D-15, JT8D-15A, JT8D-17 or JT8D-17A. Engines intermix eligibility and limitations are specified in the FAA approved Airplane Flight Manual (see Note I.1). Type of JT8D-7, JT8D-7A, JT8D-7B, JT8D-9, JT8D-9A, JT8D-15, JT8D-15A, JT8D-17 and JT8D-17A engines is approved by state aviation administration (SAA) on 31 May 1995 (Type Certificate No.TD 0003).	
Engines Ratings:	Takeoff static thrust, standard day, sea level conditions (5 min) kg (lb.)	Maximum continuous static thrust, standard day, sea level conditions kg (lb.)
JT8D-7, -7A, -7B	6 360 (14 000)	5 730 (12 600)
JT8D-9, -9A	6 590 (14 500)	5 730 (12 600)
JT8D-15, -15A	7 045 (15 500)	6 250 (13 750)
JT8D-17, -17A	7 270 (16 000)	6 910 (15 200)
Engine operation:	Operation of engines must be performed in accordance with procedures of the appropriate Airplane Flight Manual approved by FAA (see Note I.1). For engines operating limits see Type Certificate Data Sheet No.TD 0003 or appropriate Airplane Flight Manual (see Note I.1).	
Fuels and additives:	Main grades of fuel and additives are specified in the FAA approved Pratt & Whitney Service Bulletin No.2016 and its further issues. Fuels TS-1 (GOST 10227, DSTU320.0014993.011-99) and RT (GOST 10227, DSTU 320.00149943.007-97) Additives Liquid "I", Liquid "I-M", TGF, TGF-M Use of fuels and additives of CIS production is performed under the Engines Inspection Program No.95-105 developed by Pratt & Whitney and approved by FAA and SAA.	



Oils:	Approved grades of oil are specified in the Pratt & Whitney Service Bulletin No.238. Grades of synthetic oil must correspond to the Pratt & Whitney Specification No.521 and its further issues.
Thrust Settings:	The appropriate thrust setting curves (EPR or Pt7) specified in the FAA approved Airplane Flight Manual (see Note I.1) or Appendices to AFM must be used for control of engine thrust.
Auxiliary Power Unit:	One Honeywell GTCP 85-129, or Honeywell GTCP 36-280, or Hamilton Sundstrand APS 2000
Airspeed Limits:	See the FAA Approved Airplane Flight Manual (see Note I.1).
Maximum Operating Altitude:	10 660 m (35 000 ft.) - 11 270 m (37 000 ft.) if it is authorized by appropriate Airplane Flight Manual (see Note I.1).
Maximum Passengers:	119

Model 737-300

Category of aircraft:	Transport category airplane
Approval by State Aviation Administration (SAA):	31 May 1995
Aircraft Engines:	2 turbofan engines CFM56-3-B1, CFM56-3B-2 or CFM56-3C-1. Engine limitations are specified in the FAA approved Airplane Flight Manual (see Note I.1). Type of CFM56-3C-1 engine is approved by SAA on 28 April 1993; types of CFM56-3-B1 and CFM56-3B-2 engines are approved by SAA on 31 March 1997 (Type Certificate No.TD 0001).

Engines Ratings:	Takeoff static thrust, standard day, sea level conditions (5 min) kg (lb.)	Maximum continuous static thrust, standard day, sea level conditions kg (lb.)
CFM56-3C-1	10 024,4 (22 100)*	9 298,6 (20 500)*
CFM56-3-B1	9 114,7 (20 100)	8 570,9 (18 900)
CFM56-3B-2	10 024,4 (22 100)	9 298,6 (20 500)

* - CFM 56-3C-1 throttle limiter limits thrust to the value equivalent to 10 024 kg (22 100 lb)



Engine operation:	Operation of engines must be performed in accordance with procedures of the appropriate Airplane Flight Manual approved by FAA (see Note I.1).	
	For engines operating limits see Type Certificate Data Sheet No. TD 0001 or appropriate Airplane Flight Manual (see Note I.1).	
Fuels and additives:	Fuels Jet A1, Jet A1, and Jet B which meet Specification for commercial jet fuels ASTM-D-1655 or G.E. Specification D50PF2, and fuel RT which meets GOST 10227 or DSTU 320.00149943.007-97 are authorized for use without limitation.	
	Fuel TS-1 which meets GOST 10227 or DSTU 320.0014993.011-99 may be used with periodical inspection in accordance with the program developed by CFMI and approved by FAA.	
	Fuels which meet MIL-T-5624 (grades JP-4 or JP-5) or MIL-T-83133 (grade JP-8) may be used as alternative.	
	Use of additives - in accordance with FAA approved AFM (see Note I.1).	
Oils:	Approved grades of oil are specified in the CFMI Service Bulletin No. 79-1 (CFM56-3/3B/3C). Type B only.	
Thrust Settings:	The appropriate thrust setting curves (% N1) specified in the FAA approved Airplane Flight Manual (see Note I.1) or Appendices to AFM must be used for control of engine thrust.	
Auxiliary Power Unit:	One Honeywell GTCP 85-129, or Honeywell GTCP 36-280, or Hamilton Sundstrand APS 2000	
Airspeed Limits*:	V _{MO} [CAS] km/h (knots)	M _{MO}
	630 (340)	0.82
	* - For other airspeed limits see the appropriate FAA Approved Airplane Flight Manual (see Note I.1).	
Maximum Operating Altitude:	11 270 m (37 000 ft.)	
Maximum Passengers:	149	



Model 737-400

Category of aircraft:	Transport category airplane	
Approval by State Aviation Administration (SAA):	28 April 1993	
Aircraft Engines:	2 turbofan engines CFM56-3C-1 or CFM56-3B-2. Engine limitations are specified in the FAA approved Airplane Flight Manual (see Note I.1). Type of CFM56-3C-1 engine is approved by SAA on 28 April 1993; type of CFM56-3B-2 engine is approved by SAA on 31 March 1997 (Type Certificate No.TD 0001).	
Engines Ratings:	Takeoff static thrust, standard day, sea level conditions (5 min) kg (lb.)	Maximum continuous static thrust, standard day, sea level conditions kg (lb.)
CFM56-3C-1	10 024,4 (22 100)	9 298,6 (20 500)
CFM56-3B-2	10 024,4 (22 100)	9 298,6 (20 500)
Engine operation:	Operation of engines must be performed in accordance with procedures of the appropriate Airplane Flight Manual approved by FAA (see Note I.1). For engines operating limits see Type Certificate Data Sheet No.TD 0001 or appropriate Airplane Flight Manual (see Note I.1).	
Fuels and additives:	Fuels Jet A1, Jet A1, and Jet B which meet Specification for commercial jet fuels ASTM-D-1655 or G.E. Specification D50PF2, and fuel RT which meets GOST 10227 or DSTU 320.00149943.007-97 are authorized for use without limitation. Fuel TS-1 which meets GOST 10227 or DSTU 320.0014993.011-99 may be used with periodical inspection in accordance with the program developed by CFMI and approved by FAA. Fuels which meet MIL-T-5624 (grades JP-4 or JP-5) or MIL-T-83133 (grade JP-8) may be used as alternative. Use of additives - in accordance with FAA approved AFM (see Note I.1).	
Oils:	Approved grades of oil are specified in the CFMI Service Bulletin No.79-1 (CFM56-3/3B/3C). Type B only.	
Thrust Settings:	The appropriate thrust setting curves (% NI) specified in the FAA approved Airplane Flight Manual (see Note I.1) or Appendices to AFM must be used for control of engine thrust.	



Auxiliary Power Unit:	One Honeywell GTCP 85-129, or Honeywell GTCP 36-280, or Hamilton Sundstrand APS 2000	
Airspeed Limits*:	V _{MO} [CAS] km/h (knots)	M _{MO}
	630 (340)	0.82

*: For other airspeed limits see the appropriate FAA Approved Airplane Flight Manual (see Note I.1).

Maximum Operating Altitude: 11 270 m (37 000 ft.)

Maximum Passengers: 188

Model 737-500

Category of aircraft: Transport category airplane

Approval by State Aviation Administration (SAA): 19 November 2001

Aircraft Engines: 2 turbofan engines CFM56-3C-1 or CFM56-3-B1. Engine limitations are specified in the FAA approved Airplane Flight Manual (see Note I.1).

Type of CFM56-3C-1 engine is approved by SAA on 28 April 1993; type of CFM56-3-B1 engine is approved by SAA on 31 March 1997 (Type Certificate No.TD 0001).

Engines Ratings:	Takeoff static thrust, standard day, sea level conditions (5 min) kg (lb.)	Maximum continuous static thrust, standard day, sea level conditions kg (lb.)
CFM56-3C-1	9 114,7 (20 100)*	8 570,9 (18 900)*
CFM56-3-B1	9 114,7 (20 100)	8 570,9 (18 900)

* - CFM 56-3C-1 throttle limiter limits thrust to the value equivalent to 9 114,7 kg (20 100 lb.)

Engine operation: Operation of engines must be performed in accordance with procedures of the appropriate Airplane Flight Manual approved by FAA (see Note I.1).

For engines operating limits see Type Certificate Data Sheet No.TD 0001 or appropriate Airplane Flight Manual (see Note I.1).



Fuels and additives:

Fuels Jet A1, Jet A1, and Jet B which meet Specification for commercial jet fuels ASTM-D-1655 or G.E. Specification D50PF2, and fuel RT which meets GOST 10227 or DSTU 320.00149943.007-97 are authorized for use without limitation.

Fuel TS-1 which meets GOST 10227 or DSTU 320.0014993.011-99 may be used with periodical inspection in accordance with the program developed by CFMI and approved by FAA.

Fuels which meet MIL-T-5624 (grades JP-4 or JP-5) or MIL-T-83133 (grade JP-8) may be used as alternative.

Use of additives - in accordance with FAA approved AFM (see Note I.1).

Oils:

Approved grades of oil are specified in the CFMI Service Bulletin No.79-1 (CFM56-3/3B/3C). Type B only.

Thrust Settings:

The appropriate thrust setting curves (% NI) specified in the FAA approved Airplane Flight Manual (see Note I.1) or Appendices to AFM must be used for control of engine thrust.

Auxiliary Power Unit:

One Honeywell GTCP 85-129, or
Honeywell GTCP 36-280, or
Hamilton Sundstrand APS 2000

Airspeed Limits*:

V_{MO} [CAS]
km/h (knots)

M_{MO}

630 (340)

0.82

*: For other airspeed limits see the appropriate FAA Approved Airplane Flight Manual (see Note I.1).

Maximum Operating Altitude: 11 270 m (37 000 ft.)

Maximum Passengers: 140



Data pertinent to all 737-200/-300/-400/-500 models

C.G. Range:	Refer to the FAA approved Airplane Flight Manual (see Note I.1).										
Datum:	The airplane reference origin of coordinates is a point located 5.286 m (540 in.) forward of the center section wing front spar centerline, at buttock line zero, (i.e., aircraft fore/aft centerline as viewed in plane view) and at water line zero which is 13.716 m (208.1 in.) below passenger floor (see Weight and Balance Control and Loading Manual, Boeing documents No.D6-15066). Horizontal distance from the airplane reference origin of coordinates to nose wheel mount axle is 6.35 m (250 in.) for 737-200 series airplanes; 5.267 m (207.7 in.) for 737-300 series airplanes; 3.447 m (135.7 in.) for 737-400 series airplanes; 6,64 m (261.7 in.) for the 737-500.										
Contaminated runway surface limitation:	The depth of contaminations on runway may not be greater than: <ul style="list-style-type: none"> - standing water, slush, wet snow: 1.25 cm (0.5 in), - loose dry snow: 10.00 cm (4 in). Operation on icy runway is prohibited.										
Crosswind limits:	Maximum crosswind component at an angle of 90 degrees to runway: <table border="0" style="margin-left: 40px;"> <thead> <tr> <th style="text-align: left;">Runway conditions</th> <th style="text-align: right;">Crosswind component at 10 m over runway m/s (knots)</th> </tr> </thead> <tbody> <tr> <td>- Wet:</td> <td style="text-align: right;">13 (25)</td> </tr> <tr> <td>- Standing water:</td> <td style="text-align: right;">9 (16)</td> </tr> <tr> <td>- No melting snow:</td> <td style="text-align: right;">11 (21)</td> </tr> <tr> <td>- Melting snow:</td> <td style="text-align: right;">4 (7)</td> </tr> </tbody> </table>	Runway conditions	Crosswind component at 10 m over runway m/s (knots)	- Wet:	13 (25)	- Standing water:	9 (16)	- No melting snow:	11 (21)	- Melting snow:	4 (7)
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- Wet:	13 (25)										
- Standing water:	9 (16)										
- No melting snow:	11 (21)										
- Melting snow:	4 (7)										
Other limitations:	Refer to the appropriate Sections of FAA approved Airplane Flight Manual and Supplement ARU1, approved by SAA.										
Maximum Weights:	Refer to the appropriate FAA approved Airplane Flight Manual (see Note I.1).										
Maximum baggage/cargo:	Refer to the appropriate Weight & Balance Manual, Boeing Document No.D6-15066.										
Minimum crew for all flights:	2 (Pilot and Copilot).										
Fuel and oil capacities:	Refer to the appropriate Weight & Balance Manual, Boeing Document No.D6-15066.										
Minimum Required fuel:	Refer to the appropriate FAA approved Airplane Flight Manual (see Note I.1).										



Certification Basis:

- (a) Civil aircraft airworthiness requirements (NLGS-3) with Amendment 16 inclusive.
- (b) Annex 16 to Convention on International Civil Aviation, volume 1, issue 2, 1988.

Level of airworthiness adequate to requirements of NLGS-3, currently in force in Ukraine, and Annex 16 to Convention on International Civil Aviation is established on the base of the certification work results done by Aviation Register of Interstate Aviation Committee (see Type certificates No.19-737 dated 22 December 1992, and No.21-737-200 dated 30 December 1992) and Aviation Register of State Department of Air Transport Department of Ukraine.

Notes applicable to 737-200/-300/-400/-500 models

Note I.1. Operating and Maintenance Instructions:

- (a) FAA approved Airplane Flight Manual:
- Boeing Doc. No.D6-8737 - for 737-200 model,
 - Boeing Doc. No.D6-8730 - for 737-300 model,
 - Boeing Doc. No.D6-8734 - for 737-400 model;
 - Boeing Doc. No.D6-8735 - for 737-500 model;
- (b) Airplane Flight Manual Supplement ARU1 for Doc. № D6-8737, Doc. № D6-8730, Doc. № D6-8734 and Doc. № D6-8735 for Ukraine;
- (c) Operating Manual, Boeing document No.D6-27370;
- (d) Maintenance Manual - Boeing document No.D6-120XX with the revised page 12-50-0 approved by SAA for 737-200 model and Boeing document No.D6-37540 for 737-300, 737-400 and 737-500 models;
- (e) Weight and Balance Control and Loading Manual, Boeing document No.D6-15066. Weight and Balance Control and Loading Manual is composed of the Main Manual and additional aircraft report. The valid Manual, which establishes the list of equipment included to the certified empty weight, must be carried on board of each airplane, except when operator has approved system of weight control.

- Note I.2.** All placards required in either the FAA Approved AFM, the applicable operating rules or the Certification Basis must be installed in the airplane.
- All the placards related to emergency evacuation and emergency equipment must be written in Ukrainian and English languages.

Note I.3. The retirement times of fatigue critical parts⁽³⁾

Life limits for main/nose landing gears

Model	Weight Range kg (lb)		Life Limits flights	
	Taxi	Landing	Main	Nose
- 200 BGW	43 100 - 50 000 (95 000 - 111 200)	40 700 - 46 700 (89 700 - 103 000)	81 000 ⁽¹⁾	81 000
200 HGWA	61 400 - 63 000	51 700	100 000 ⁽¹⁾⁽²⁾	90 000
200 HGWB	(135 500 - 139 000)	(114 000)		
-300	61 400-63000 (135 500 - 139 000)	51 700 (114 000)	75 000	
-400	64 800 (143 000)	54 800 (121 000)	75 000	



-500	60 800 (134 000)	49 900 (110 000)	75 000
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- (1) - Trunnion pins 65-46113-3 and -5 are to be replaced at 76 000 flights.
 (2) - Forward trunnion fuse bolts 65-42196-4, -5 and 69-58854-2, used on 737-200 airplanes, are to be replaced at 83 000 flights.
 (3) - For more detailed information on components lives see Boeing Service Letter 737-SL-32-21.

- Note I.4.** Models designation of the 737-200, 737-300, 737-400 and 737-500 series airplanes are shown by the "Dash No." of the prefix "737", i.e. 737-205: "2" - represents the "-200" Series, "05" - represents the customer's configuration for which initial approval was obtained; 737-4Y0 - represents the "-400" Series, "Y0" - represents the customer's configuration.
- Note I.5.** All model 737-200 series airplanes having serial number 20492 and on, are of the 737-200 advanced airplanes. All earlier airplanes can be kit modified to the advanced configuration.
- Note I.6.** JT8D-15 engines equipped with MOD 10 exhaust mixer (Pratt & Whitney Part No.5004027) have the same engine limits as JT8D-15 engines with splitter type exhaust system.
- Note I.7.** Restrictions on equipment for automatic landing of 737-200 series airplane are approved (see Boeing document No.D6-37349).
- Note I.8.** The only approved flights in Ukrainian airspace boundaries are the international routs equipped with VOR/DME, continuous ATC ensured.
- Note I.9.** For noise characteristics refer to Airplane Flight Manual, Section 4 Performance, Subsection 4.2 Engine Data, paragraph Noise Characteristics.
- Note I.10.** The following documentation, and changes of it, which contain statement of approval by FAA or by The Boeing Company under the authorization granted by FAA, are accepted by SAA and considered as approved by SAA:
- Airplane Flight Manuals and Operating Manuals (see Note I.1);
 - Maintenance Manual (see Note I.1) and others Boeing's Instructions for Continued Airworthiness;
 - Boeing's Type Design changes and Alterations;
 - Boeing's Service Bulletins;
 - vendors' Manuals/Instructions mentioned in Boeing's Service Bulletins;
 - Boeing's repair documentation.



