



European Aviation Safety Agency

EASA

**TYPE-CERTIFICATE
DATA SHEET**

No. EASA.IM.A.001

for
EMBRAER ERJ 170

Type Certificate Holder:
Embraer S.A.

Av. Brig. Faria Lima. 2170
12227-901 São Jose dos Campos SP
Brasil

Airworthiness Category: Large Aeroplanes

For Models: ERJ 170-100 STD
ERJ 170-100 LR
ERJ 170-200 STD
ERJ 170-200 LR

Intentionally left blank

TABLE OF CONTENT

SECTION 1: EMBRAER ERJ 170-100 VARIANT.....	4
I. General.....	4
II. Certification Basis.....	4
III. Technical Characteristics and Operational Limitations	8
IV. Operating and Servicing Instructions	10
V. Operational Suitability Data (OSD).....	11
VI. Notes	11
SECTION 2: EMBRAER ERJ 170-200 VARIANT.....	12
I. General.....	12
II. Certification Basis.....	12
III. Technical Characteristics and Operational Limitations	16
IV. Operating and Servicing Instructions	18
V. Operational Suitability Data (OSD).....	19
VI. Notes	19
SECTION: ADMINISTRATIVE	20
I. Acronyms and Abbreviations.....	20
II. Type Certificate Holder Record	20
III. Change Record	21

SECTION 1: EMBRAER ERJ 170-100 VARIANT

I. General

1. Type/ Model/ Variant: Embraer ERJ 170-100
2. Performance Class: A
3. Certifying Authority: Agência Nacional De Aviação Civil - ANAC
Gerência Geral de Certificação de Produtos Aeronáuticos
Av. Cassiano Ricardo, 521 - Bloco B -
2º. Andar - Jd. Aquarius
12246-870 - São José dos Campos - SP
Brazil
4. Manufacturer: EMBRAER
Empresa Brasileira de Aeronáutica SA
Av. Brig. Faria Lima. 2170
12227-901 São Jose dos Campos SP
Brasil
5. ANAC Certification Application Date: 27 May 1999
6. JAA Validation Application Date: 21 May 1999
(Reference date for EASA validation)
7. ANAC Type Certification Date: 19 February 2004
8. EASA Type Validation Date: 20 February 2004
(JAA recommendation)

II. Certification Basis

1. ANAC Type Certification Data Sheet No.: 2003T05
2. ANAC Certification Basis:

RBHA 25 - Requisitos de Aeronavegabilidade. Avioes de Transporte (Airworthiness Standards, Transport Category Airplanes), corresponding to U.S. FAR part 25, including amendments 25-1 through 25-109, except section 25.981(c) of Amdt. 25-102, Amdt. 25.106 and section 25.735 (h) of Amdt. 25-107. (Reference to FCAR HT-01)
3. EASA Airworthiness Requirements

3.1. Applicable JAR Requirements at the Reference Date:

JAR-25 Change 14 (Effective 27 May 1994)
Orange Paper OP96/1
JAR-AWO Change 2
JAA Temporary Guidance Leaflet No. 6 (RVSM)
JAA Temporary Guidance Leaflet No.8 (ACAS II)

SECTION 1: EMBRAER ERJ 170-100 VARIANT - continued

The following NPAs have been applied:

NPA 25 B, D, G-244	Accelerate Stop Distances and Related Performances
NPA 25B215	Stall/Stall Warning Speeds and Manoeuvre Capability
NPA 25B-238	Flap Gates
NPA AWO 2	All Weather Operations
NPA AWO 5	All Weather Operations
NPA 25B, C, D-236	Flutter, Deformation and Fail Safe Criteria
NPA 25 G-255	Aircraft Flight manual
NPA 25C-260	Loads Harmonisation
NPA 25C-271	Fatigue Scatter factors
NPA 25D-279	Shock Absorption Tests
NPA 25C-282	Amendments to Gust Conditions
NPA 25E,J-287	Engine Rotor Burst

3.2. Reversions:

None Identified

4. Special Conditions

The following Special Conditions have been applied.

JAA/170/SC/CRI B-12	Angle of Attack Limiting Function
JAA/170/SC/CRI B-15	Electronic Flight Control System: Control Surface Position Awareness
JAA/170/SC/CRI C-03	Interaction of systems and Structure
JAA/170/SC/CRI C-15	Structural/Control Jam Conditions
JAA/170/SC/CRI C-17	Static Strength Criteria for Engine Failure Loads
JAA/170/SC/CRI D-02	Towbarless Towing
JAA/170/SC/CRI E-08	Engine Sustained Imbalance
JAA/170/SC/CRI E-10	Uncontrolled Thrust Increase
JAA/170/SC/CRI F-01	Protection from the effects of HIRF
JAA/170/SC/CRI F-14	Air Data System (Smart Probes)
JAA/170/SC/CRI F-16	IRS: Align in Motion
EASA/170/SC/CRI 170/H-01	Enhanced Airworthiness Programme for Aeroplane Systems - ICA on EWIS

5. Exemptions

No exemptions have been granted.

6. Equivalent Safety Findings

The following Equivalent Safety Findings have been granted:

JAA/170/ES/CRI B-17	Performance information for take-off on contaminated Runways Equivalent Safety with JAR 25x1591 and AMJ 25x1591 (Issue 8 dated 19 October 2009): JAR 25x1591 and AMJ 25x1591 superseded by CS-25.1591 and AMC 25.1591 at Amdt 2
---------------------	---

SECTION 1: EMBRAER ERJ 170-100 VARIANT - continued

JAA/170/ES/CRI C-04	Vibration Buffet and Aeroelastic Stability Equivalent Safety with JAR 25.629 and NPA 25BCD-236
JAA/170/ES/CRI C-09	Design Diving Speeds Equivalent Safety with JAR 25.335(b)(2)
JAA/170/ES/CRI C-21	Fuel Tank Crashworthiness Equivalent Safety with JAR 25.963(d) and JAR 25.561
JAA/170/ES/CRI D-05	Hydraulic Systems Equivalent Safety with JAR 25.1435
JAA/170/ES/CRI D-06	Wheels and Brakes Equivalent Safety with JAR 25.731 and JAR 25.735
JAA/170/ES/CRI D-07	Fuselage Doors Equivalent Safety with JAR 25.783
JAA/170/ES/CRI D-17	Type and Number of Passenger Emergency Exits Equivalent Safety with JAR 25.783, 25.785, 25.807, 25.809, 25.811, 25.812, 25.813, and 25.820
JAA/170/ES/CRI D-18	Packs Off Take Off Equivalent Safety with JAR 25.831(a)
JAA/170/ES/CRI D-19	Reinforced Security Cockpit Door Equivalent Safety with JAR 25.305(b), 25.307(a), 25.356, 25.771, 25.772, 25.789(a), 25.803, 25.809, 25.831, 25.853(a), 25.1301, and 25.1309
JAA/170/ES/CRI E-02	Thrust Reverser Operation Equivalent Safety with JAR 25.933(a)
JAA/170/ES/CRI E-09	Fan Case Fire Zone Equivalent Safety with JAR 25.1181(a)(6)
JAA/170/ES/CRI F-12	Equipment, Systems and Installation Requirements Equivalent Safety with JAR NPA 25F-281
JAA/170/ES/CRI F-26	Honeywell Primus EPIC Integrated Modular Avionics System (Compliance with requirements for individual circuit protection) Equivalent Safety with JAR 25.1357(e) and JAR 25.1309
JAA/170/ES/CRI F-30	Position Light Intensities Equivalent Safety with JAR 25.1389(b), 25.1391, 25.1393, and 25.1395
JAA/170/ES/CRI J-05	APU Installation Equivalent Safety with JAR 25 Subpart J
JAA/170/ES/CRI J-06	APU Instrument Markings Equivalent Safety with JAR 25J.1549

7. Environmental Protection Standards

Noise: ICAO Annex 16, Volume I (Third Edition)

Fuel: ICAO Annex 16, Volume II (Second Edition)

8. EASA Operational Suitability Data

The EASA Type Certification with respect to Operational Suitability Data (OSD) is defined as follows:

MMEL: As per CRI A-MMEL, the applicable certification basis for the establishment of Operational Suitability Data (OSD) MMEL is:
JAR MMEL/MEL Amendment 1, Section 1 with CS-MMEL Book 2 Initial issue as AMC/GM.

FCD: As per CRI A-FCD, the applicable certification basis for the establishment of Operational Suitability Data (OSD) Flight Crew is:
CS-FCD, Initial Issue, dated 31 January 2014.

CCD: As per CRI A-CCD, the applicable certification basis for the establishment of Operational Suitability Data (OSD) Cabin Crew is:
CS-CCD, Initial Issue, dated 31 January 2014.

SECTION 1: EMBRAER ERJ 170-100 VARIANT - continued

III. Technical Characteristics and Operational Limitations

1. Production Basis: Manufactured under Type Certificate
2. Type Design Definition: Defined by Report 170-100TDSD_01 "Type Design Standard Document" at Revision B
3. Description

Low wing jet transport with a conventional tail unit configuration, powered by two high bypass turbofan engines mounted on pylons beneath the wings.

The structure is conventional, with an aluminum-alloy fuselage, wing, tail-plane and fin; while ailerons, flaps, spoilers, elevator, and rudder are of composite material. The landing gear is retractable tricycle type, and twin wheeled, with carbon main landing gear wheel brakes.
4. Equipment: Required equipment is listed in Embraer Document Reference 170CCC003: Embraer ERJ 170 Build Standard for Airplanes to be Delivered to European Countries"
5. Dimensions

Length	29.9 m	(98 ft 1 in)
Span	26.0 m	(85 ft 4 in)
Height	9.82 m	(32 ft 3 in)
Wing Area	72.72 m ²	(783 ft ²)
6. Engines: Two General Electric CF-34-8E5 or -8E5A1 Turbofan Engines

Limitations: See JAA Engine Type Data Sheet No. JAA/E/00-23 or Airplane Flight Manual
7. Auxiliary Power Unit: Hamilton Sundstrand APS2300
Limitations: Refer to the APU TCDS / TSO
8. Propellers: N/A
9. Fluids (Fuel, Oil, Additives, Hydraulics): Refer to applicable approved manuals
10. Fluid Capacities: Refer to applicable approved manuals
11. Airspeed Limits: See Airplane Flight Manual
12. Maximum Operating Altitude: 12, 497 m (41,000 ft) pressure altitude
13. All Weather Capability: Cat II/Cat III optional *
* If post-mod SB 170-22-0001 or equivalent manufacturer production modification

SECTION 1: EMBRAER ERJ 170-100 VARIANT - continued

14. Maximum Certified Masses:

Phase	170-100 LR		170-100 STD	
Taxi and Ramp	82364 lb.	37360 kg 38760 kg ⁽⁶⁾	79696 lb	36150 kg 38760 kg ⁽⁶⁾
Take-off	82011 lb.	37200 kg ⁽¹⁾ 34850 kg ⁽²⁾ 35990 kg ⁽⁴⁾ 38600 kg ⁽⁶⁾ 34000 kg ⁽⁸⁾	79344 lb	35990 kg 38600 kg ⁽⁶⁾ 34000 kg ⁽⁷⁾
Landing	72310 lb.	32800 kg 33300 kg ⁽³⁾⁽⁶⁾	72310 lb	32800kg 33300 kg ⁽³⁾⁽⁶⁾
Zero Fuel	65256 lb.	29600 kg 30140 kg ⁽⁵⁾ 30900 kg ⁽⁶⁾	65256 lb	29600 kg 30140 kg ⁽⁵⁾ 30900 kg ⁽⁶⁾

(1) Standard weight or if post-mod SB 170-00-0006 is applied

(2) If post-mod SB 170-00-0005 or if post-mod SB 170-00-0015

(3) If post-mod SB 170-00-0003

(4) If post-mod SB 170-00-0014

(5) For airplanes S/N 17000059, 17000065 and on or post-mod SB 170-00-0024

(6) If post-mod SB 170-00-0016

(7) If post-mod SB 170-00-0022

(8) For airplanes Post-Mod. SB 170-00-0055 or equipped with an equivalent modification factory incorporated.

15. Centre of Gravity Range: See Airplane Flight Manual
16. Datum: A perpendicular plane to the fuselage center line located 11650,0 mm in front of the Wing Stub Spar 1. This spar is located 372,6 mm forward of the wing jacking points.
17. Mean Aerodynamic Chord: 3.194 m (10ft. 6 in.)
(MAC)
18. Levelling Means: See Weight and Balance Manual
19. Minimum Flight Crew: Two (Pilot and Co-pilot) for all types of flight
20. Maximum Seating Capacity: 80 Passengers
21. Exits:

	Number	Type	Size mm (inches)
1 Main Fwd LH	1	Type I	750 mm (w) x 1821 mm (h)
2 Main Aft LH	1	Type I	635 mm (w) x 1801 mm (h)
3 Service (Fwd, RH)	1	Type I	611 mm (w) x 1368 mm (h)
4 Service (Aft RH)	1	Type 1	632 mm (w) x 1381 mm (h)

Additionally, for crew emergency evacuation purposes, the following exits are available on both sides:

Cockpit side window (2)	Flight Crew Emergency Exit	483 mm x 508 mm
-------------------------	----------------------------	-----------------

SECTION 1: EMBRAER ERJ 170-100 VARIANT - continued

22. Baggage/ Cargo Compartment

Location	Class	Volume m ³ (ft ³)
Front Fwd (Underfloor)	C	8,7 m ³ (306 ft ³)
Rear Aft (Underfloor)	C	5,8 m ³ (204 ft ³)

23. Wheels and Tyres

Nose Assy (Qty 2) Tyre/Wheel: 24 x 7.7 12PR
Main Assy (Qty 4) Tyre/Wheel: H38 x 13.0-18 18PR or 20PR
Speed Rating: 225 mph

IV. Operating and Servicing Instructions

1. Flight Manual: Airplane Flight Manual, Document No. AFM 1479
2. Mandatory Maintenance Instructions:
 - 2.1 Aircraft Maintenance Manual (Customised to aircraft configuration)
 - 2.2 Maintenance Review Board Report Ref: MRB 1621, Revision 1 or Subsequent JAA approved revision
 - 2.3 Airworthiness Limitations and Certification Maintenance Requirements:

MRB Report: Appendix A Part 1 (Certification Maintenance Requirements)
Appendix A Part 2 (Structural Inspection Fatigue Limits ALI)
Appendix A Part 3 (Fuel System Limitation Items - FSL)
Appendix A Part 4 (Airframe Life Limits – ALL)
 - 2.4 Structural repair manual SRM-1583 is applicable.
3. Service Letters and Service Bulletins as published by Embraer and approved by ANAC.

V. Operational Suitability Data (OSD)

The Operational Suitability Data elements listed below are approved by the European Aviation Safety Agency under the EASA Type Certificate EASA.IM.A.001 as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation (EU) No 69/2014.

1. Master Minimum Equipment List

- a. The Master Minimum Equipment List has been approved as per the defined Operational Suitability Data Certification Basis recorded in CRI A-MMEL and as documented in Embraer 170/175/190/195 EASA Master Minimum Equipment List MMEL-5814, Revision Original, December 2015, or later approved revisions.
- b. Required for entry into service by EU operator.

2. Flight Crew Data

- a. The Flight Crew data has been approved as per the defined Operational Suitability Data Certification Basis recorded in CRI A-FCD and as documented in EASA Operational Suitability Data (OSD) Flight Crew - ERJ 170/190 Report 170MSO092, Orig. Revision, dated 04 December 2015, or later approved revisions.
- b. Required for entry into service by EU operator.
- c. Pilot Type Rating: The licence endorsement for the ERJ 170-100 models aircraft is "EMB170". The ERJ 170 and the ERJ 190 series aircraft are variants of the same type of aircraft.

3. Cabin Crew Data

- a. The Cabin Crew data has been approved as per the defined Operational Suitability Data Certification Basis recorded in CRI A-CCD and as documented in Embraer 170/175/190/195 Operational Suitability Data Report, Cabin Crew Qualifications - Revision 2, dated 12 June 2014, or later approved revisions.
- b. Required for entry into service by EU operator.
- c. The Embraer 170/175 aircraft models are determined to be variants to the Embraer 190/195 aircraft models.

VI. Notes

Reserved

SECTION 2: EMBRAER ERJ 170-200 VARIANT

I. General

1. Type/ Model/ Variant: Embraer ERJ 170-200
2. Performance Class: A
3. Certifying Authority: Agência Nacional De Aviação Civil - ANAC
Gerência Geral de Certificação de Produtos Aeronáuticos
Av. Cassiano Ricardo, 521 - Bloco B -
2º. Andar - Jd. Aquarius
12246-870 - São José dos Campos - SP
Brazil
4. Manufacturer: EMBRAER
Empresa Brasileira de Aeronáutica SA
Av. Brig. Faria Lima. 2170
12227-901 São Jose dos Campos SP
Brasil
5. ANAC Certification Application Date: 01 September 2000
6. JAA Validation Application Date:
(Reference date for EASA validation) 01 September 2000
7. ANAC Type Certification Date: 22 December 2004
8. EASA Type Validation Date:
(JAA recommendation) 07 January 2005

II. Certification Basis

1. ANAC Type Certification Data Sheet No.: 2003T05 (Issue 03)
2. ANAC Certification Basis:

RBHA 25 - Requisitos de Aeronavegabilidade Avioes de Transporte (Airworthiness Standards Transport Category Airplanes), corresponding to U.S. FAR part 25, including amendments 25-1 through 25-109, except section 25.981(c) of Amdt. 25-102, Amdt. 25.106 and section 25.735 (h) of Amdt. 25-107. (Reference to FCAR HT-01).
3. EASA Airworthiness Requirements

3.3. Applicable JAR Requirements at the Reference Date:

JAR-25 Change 14 (Effective 27 May 1994)
Orange Paper OP96/1
JAR-AWO Change 2

SECTION 2: EMBRAER ERJ 170-200 VARIANT - continued

The following NPAs have been applied:

NPA 25 B, D, G-244	Accelerate Stop Distances and Related Performances
NPA 25B215	Stall/Stall Warning Speeds and Manoeuvre Capability
NPA 25B-238	Flap Gates
NPA AWO 5	All Weather Operations
NPA 25B, C, D-236	Flutter, Deformation and Fail Safe Criteria
NPA 25 G-255	Aircraft Flight manual
NPA 25C-260	Loads Harmonisation
NPA 25C-271	Fatigue Scatter factors
NPA 25D-279	Shock Absorption Tests
NPA 25C-282	Amendments to Gust Conditions
NPA 25E, J-287	Engine Rotor Burst

3.4. Reversions:

None Identified

4. Special Conditions

The following Special Conditions have been applied.

JAA/170/SC/CRI B-12	Angle of Attack Limiting Function
JAA/170/SC/CRI B-15	Electronic Flight Control System: Control Surface Position Awareness
JAA/170/SC/CRI C-03	Interaction of systems and Structure
JAA/170/SC/CRI C-15	Structural/Control Jam Conditions
JAA/170/SC/CRI C-17	Static Strength Criteria for Engine Failure Loads
JAA/170/SC/CRI D-02	Towbarless Towing
JAA/170/SC/CRI E-08	Engine Sustained Imbalance
JAA/170/SC/CRI E-10	Uncontrolled Thrust Increase
JAA/170/SC/CRI F-01	Protection from the effects of HIRF
JAA/170/SC/CRI F-14	Air Data System (Smart Probes)
JAA/170/SC/CRI F-16	IRS: Align in Motion
EASA/170/SC/CRI 170/H-01	Enhanced Airworthiness Programme for Aeroplane Systems - ICA on EWIS

5. Exemptions

No exemptions have been granted.

6. Equivalent Safety Findings

The following Equivalent Safety Findings have been granted:

JAA/170/ES/CRI B-17	Performance information for take-off on contaminated Runways Equivalent Safety with JAR 25x1591 and AMJ 25x1591 (Issue 8 dated 19 October 2009): JAR 25x1591 and AMJ 25x1591 superseded by CS-25.1591 and AMC 25.1591 at Amdt 2
---------------------	--

SECTION 2: EMBRAER ERJ 170-200 VARIANT - continued

JAA/170/ES/CRI C-04	Vibration Buffet and Aeroelastic Stability Equivalent Safety with JAR 25.629 and NPA 25BCD-236
JAA/170/ES/CRI C-09	Design Diving Speeds Equivalent Safety with JAR 25.335(b)(2)
JAA/170/ES/CRI C-21	Fuel Tank Crashworthiness Equivalent Safety with JAR 25.963(d) and JAR 25.561
JAA/170/ES/CRI D-05	Hydraulic Systems Equivalent Safety with JAR 25.1435
JAA/170/ES/CRI D-06	Wheels and Brakes Equivalent Safety with JAR 25.731 and JAR 25.735
JAA/170/ES/CRI D-07	Fuselage Doors Equivalent Safety with JAR 25.783
JAA/170/ES/CRI D-17	Type and Number of Passenger Emergency Exits Equivalent Safety with JAR 25.783, 25.785, 25.807, 25.809, 25.811, 25.812, 25.813, and 25.820
JAA/170/ES/CRI D-18	Packs Off Take Off Equivalent Safety with JAR 25.831(a)
JAA/170/ES/CRI D-19	Reinforced Security Cockpit Door Equivalent Safety with JAR 25.305(b), 25.307(a), 25.356, 25.771, 25.772, 25.789(a), 25.803, 25.809, 25.831, 25.853(a), 25.1301, and 25.1309
JAA/170/ES/CRI E-02	Thrust Reverser Operation Equivalent Safety with JAR 25.933(a)
JAA/170/ES/CRI E-09	Fan Case Fire Zone Equivalent Safety with JAR 25.1181(a)(6)
JAA/170/ES/CRI F-12	Equipment, Systems and Installation Requirements Equivalent Safety with JAR NPA 25F-281
JAA/170/ES/CRI F-26	Honeywell Primus EPIC Integrated Modular Avionics System (Compliance with requirements for individual circuit protection) Equivalent Safety with JAR 25.1357(e) and JAR 25.1309
JAA/170/ES/CRI F-30	Position Light Intensities Equivalent Safety with JAR 25. 1389(b), 25.1391, 25.1393, and 25.1395
JAA/170/ES/CRI J-05	APU Installation Equivalent Safety with JAR 25 Subpart J
JAA/170/ES/CRI J-06	APU Instrument Markings Equivalent Safety with JAR 25J.1549
CRI F-48	LED position lights system overlap exceedance Equivalent safety with JAR 25 Amdt 14 + OP 25/96/1, §25.1389(b)(3) and 25.1395 for aircraft embodied with Enhanced Wing Tip (ref. DCA 0170-000-00088-2012)

7. Environmental Protection Standards

Noise: ICAO Annex 16, Volume I (Third Edition)

Fuel: ICAO Annex 16, Volume II (Second Edition)

8. EASA Operational Suitability Data

The EASA Type Certification with respect to Operational Suitability Data (OSD) is defined as follows:

MMEL: As per CRI A-MMEL, the applicable certification basis for the establishment of Operational Suitability Data (OSD) MMEL is:
JAR MMEL/MEL Amendment 1, Section 1 with CS-MMEL Book 2 Initial issue as AMC/GM.

FCD: As per CRI A-FCD, the applicable certification basis for the establishment of Operational Suitability Data (OSD) Flight Crew is:
CS-FCD, Initial Issue, dated 31 January 2014.

CCD: As per CRI A-CCD, the applicable certification basis for the establishment of Operational Suitability Data (OSD) Cabin Crew is:
CS-CCD, Initial Issue, dated 31 January 2014.

SECTION 2: EMBRAER ERJ 170-200 VARIANT - continued

III. Technical Characteristics and Operational Limitations

1. Production Basis: Manufactured under Type Certificate
2. Type Design Definition: Defined by Report 170-200TDSD "Type Design Standard Document" at Revision A
3. Description

Low wing jet transport with a conventional tail unit configuration, powered by two high bypass turbofan engines mounted on pylons beneath the wings.

The structure is conventional, with an aluminum-alloy fuselage, wing, tail-plane and fin; while ailerons, flaps, spoilers, elevator, and rudder are of composite material. The landing gear is retractable tricycle type, and twin wheeled, with carbon main landing gear wheel brakes.
4. Equipment: Required equipment is listed in Embraer Document Reference 170CCC003: Embraer ERJ 170 Build Standard for Airplanes to be Delivered to European Countries" Issue A or later is applicable to ERJ 170-200.
5. Dimensions

Length	31.68 m	(103 ft 11 in)
Span	26.0 m	(85 ft 4 in)
Height	9.82 m	(32 ft 3 in)
Wing Area	72.72 m ²	(783 ft ²)
6. Engines: Two General Electric CF-34-8E5 or -8E5A1 Turbofan Engines

Limitations: See JAA Engine Type Data Sheet No. JAA/E/00-23 or Airplane Flight Manual
7. Auxiliary Power Unit: Hamilton Sundstrand APS2300
Limitations: Refer to the APU TCDS / TSO
8. Propellers: N/A
9. Fluids (Fuel, Oil, Additives, Hydraulics): Refer to applicable approved manuals
10. Fluid Capacities: Refer to applicable approved manuals
11. Airspeed Limits: See Airplane Flight Manual
12. Maximum Operating Altitude: 12, 497 m (41,000 ft) pressure altitude
13. All Weather Capability: Cat II/Cat III optional *
* If post-mod SB 170-22-0004 or equivalent manufacturer production modification

SECTION 2: EMBRAER ERJ 170-200 VARIANT - continued

14. Maximum Certified Masses:

Phase	170-200 LR		170-200 STD	
	Taxi and Ramp	85870 lb	38950 kg 40530 kg ⁽²⁾	83026 lb
Take-off	85517 lb	38790 kg 40370 kg ⁽²⁾	82673 lb	37500 kg 35740 kg ⁽¹⁾ 40370 kg ⁽²⁾ 35998 kg ⁽³⁾ 34998 kg ⁽⁴⁾ 36500 kg ⁽⁵⁾ 35700 kg ⁽⁵⁾
Landing	74957 lb	34000 kg 34100 kg ⁽²⁾	74957 lb	34000 kg 34100 kg ⁽²⁾
Zero Fuel	74957 lb	31700 kg 32000 kg ⁽²⁾	69886 lb	31700 kg 32000 kg ⁽²⁾

(1) If post-mod SB 170-00-0034

(2) For airplanes Post-Mod. SB 170-00-0016 or equipped with an equivalent modification factory incorporated.

(3) For airplanes Post-Mod. SB 170-00-0037 or equipped with an equivalent modification factory incorporated.

(4) For airplanes Post-Mod. SB 170-00-0039 or equipped with an equivalent modification factory incorporated.

(5) For airplanes Post-Mod. SB 170-00-0049, SB 170-00-0050, SB 170-00-0051 and SB 170-00-0049 or equipped with an equivalent modification factory incorporated.

15. Centre of Gravity Range: See Airplane Flight Manual

16. Datum: A perpendicular plane to the fuselage center line located 11650,0 mm in front of the Wing Stub Spar 1. This spar is located 372,6 mm forward of the wing jacking points.

17. Mean Aerodynamic Chord: 3.194 m (10ft. 6 in.)
(MAC)

18. Levelling Means: See Weight and Balance Manual

19. Minimum Flight Crew: Two (Pilot and Co-pilot) for all types of flight

20. Maximum Seating Capacity: 88 Passengers

21. Exits:

	Number	Type	Size mm (inches)
1 Main Fwd LH	1	Type I	750 mm (w) x 1821 mm (h)
2 Main Aft LH	1	Type I	635 mm (w) x 1801 mm (h)
3 Service (Fwd, RH)	1	Type I	611 mm (w) x 1368 mm (h)
4 Service (Aft RH)	1	Type 1	632 mm (w) x 1381 mm (h)

Additionally, for crew emergency evacuation purposes, the following exits are available on both sides:

Cockpit side window (2)	Flight Crew Emergency Exit	483 mm x 508 mm
-------------------------	----------------------------	-----------------

22. Baggage/ Cargo Compartment

Location	Class	Volume m ³ (ft ³)
Front Fwd (Underfloor)	C	10.06 m ³ (355 ft ³)
Rear Aft (Underfloor)	C	7.19 m ³ (254 ft ³)

23. Wheels and Tyres

Nose Assy (Qty 2) Tyre/Wheel: 24 x 7.7 12PR
Main Assy (Qty 4) Tyre/Wheel: H38 x 13.0-18 18PR or 20PR
Speed Rating: 225 mph

IV. Operating and Servicing Instructions

1. Flight Manual: Airplane Flight Manual, Document No. AFM 1479
2. Mandatory Maintenance Instructions:
 - 2.1 Aircraft Maintenance Manual (Customised to aircraft configuration)
 - 2.2 Maintenance Review Board Report Ref: MRB 1621, Revision 2 or Subsequent JAA approved revision
 - 2.3 Airworthiness Limitations and Certification Maintenance Requirements:

MRB Report: Appendix A Part 1 (Certification Maintenance Requirements)
Appendix A Part 2 (Structural Inspection Fatigue Limits ALI)
Appendix A Part 3 (Fuel System Limitation Items - FSL)
Appendix A Part 4 (Airframe Life Limits – ALL)
 - 2.4 Structural repair manual SRM-1802 is applicable.
3. Service Letters and Service Bulletins as published by Embraer and approved by ANAC.

V. Operational Suitability Data (OSD)

The Operational Suitability Data elements listed below are approved by the European Aviation Safety Agency under the EASA Type Certificate EASA.IM.A.001 as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation (EU) No 69/2014.

1. Master Minimum Equipment List

- a. The Master Minimum Equipment List has been approved as per the defined Operational Suitability Data Certification Basis recorded in CRI A-MMEL and as documented in Embraer 170/175/190/195 EASA Master Minimum Equipment List MMEL-5814, Revision Original, December 2015, or later approved revisions.
- b. Required for entry into service by EU operator.

2. Flight Crew Data

- a. The Flight Crew data has been approved as per the defined Operational Suitability Data Certification Basis recorded in CRI A-FCD and as documented in EASA Operational Suitability Data (OSD) Flight Crew - ERJ 170/190 Report 170MSO092, Orig. Revision, dated 04 December 2015, or later approved revisions.
- b. Required for entry into service by EU operator.
- c. Pilot Type Rating: The licence endorsement for the ERJ 170-200 models aircraft is "EMB170". The ERJ 170 and the ERJ 190 series aircraft are variants of the same type of aircraft.

3. Cabin Crew Data

- a. The Cabin Crew data has been approved as per the defined Operational Suitability Data Certification Basis recorded in CRI A-CCD and as documented in Embraer 170/175/190/195 Operational Suitability Data Report, Cabin Crew Qualifications - Revision 2, dated 12 June 2014, or later approved revisions.
- b. Required for entry into service by EU operator.
- c. The Embraer 170/175 aircraft models are determined to be variants to the Embraer 190/195 aircraft models.

VI. Notes

The Model ERJ 170-100 XX is often referred to in Embraer marketing literature as the "Embraer 170 XX", with the appropriate model (LR, STD, etc.) substituted for the "XX". The Model ERJ 170-200 XX is often referred to in Embraer marketing literature as the "Embraer 175 XX", with the appropriate model (LR, STD, etc.) substituted for the "XX". These names are strictly marketing designations and are not part of the official model designations.

SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

ACAS	Airborne Collision Avoidance System
AFM	Airplane Flight Manual
AMC	Acceptable Means of Compliance
ANAC	Agência Nacional De Aviação Civil (CAA Brazil)
APU	Auxiliary Power Unit
AWO	All Weather Operations
CRI	Certification Review Item
CS	Certification Specification
EASA	European Aviation Safety Agency
ES(F)	Equivalent Safety (Finding)
EWIS	Enhanced Wiring Interconnection System
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
HIRF	High Intensity Radiated Field
ICA	Instructions for Continued Airworthiness
ICAO	International Civil Aviation Organization
JAA	Joint Aviation Authorities
JAR	Joint Aviation Requirements
MRB	Maintenance Review Board
NPA	Notice of Proposed Amendment
OSD	Operational Suitability Data
RVSM	Reduced Vertical Separation Minima
S/N	Serial Number
SB	Service Bulletin
SC	Special Condition
TC	Type Certificate
TCDS	Type Certificate Data Sheet
TSO	Technical Standards Order

II. Type Certificate Holder Record

EMBRAER S.A.
Empresa Brasileira de Aeronáutica SA
Av. Brig. Faria Lima. 2170
12227-901 São Jose dos Campos SP
Brasil

SECTION: ADMINISTRATIVE - continued

III. Change Record

Starting with Issue 06

Issue	Date	Changes	TC issue
Issue 06	12/10/2011	Section 1.II.4 and 2.II.4: Special Condition added - EASA/170/SC/CRI 170/H-01 for ICA on EWIS Section 1.II.6 and 2.II.6: Update ESF JAA/170/ES/CRI B-17 Section 2.III.14: Take-off Weight variant and Note added for 170-200STD Section 2.III.20: Correction Maximum Seating Capacity Section 2.V.: Note added Editorial changes and new TCDS layout	Issue 2 Rev 1, 13/03/2009
Issue 07	20/12/2011	Section 1.III.14: Maximum Certified Masses 170-100, Note 5 changed Section 2.III.14: Weight variants added for 170-200, Note 2 added Editorial corrections	Issue 2 Rev 1, 13/03/2009
Issue 08	16/10/2014	Section 2.II.6: CRI F-48 ESF added Section 2.III.14: Weight variants added for 170-200 STD, Notes 3 & 4 added	Issue 2 Rev 1, 13/03/2009
Issue 09	10/12/2015	Section 1.II.8: EASA Operational Suitability Data Section 1.V: Operational Suitability Data (OSD) Section 2.II.8: EASA Operational Suitability Data Section 2.V: Operational Suitability Data (OSD)	Issue 2 Rev 1, 13/03/2009
Issue 10	04/03/2016	Section 2.III.14: Maximum Certified Masses - Reduced MTOW introduced in accordance with DCA 0170-000-00199-2015/EASA Rev.-	Issue 2 Rev 1, 13/03/2009
Issue 11	26/07/2016	Section 1.III.14: Maximum Certified Masses - Reduced MTOW introduced in accordance with DCA 0170-000-00009-2016/EASA Rev. A	Issue 2 Rev 1, 13/03/2009

-END-