Civil Aviation Authority
United Kingdom

TYPE-CERTIFICATE DATA SHEET

UK.TC.A.00070

for

EMBRAER ERJ 170

Type Certificate Holder

EMBRAER S.A.

Av. Brigadeiro Faria Lima. 2170
12227-901 São Jose dos Campos - SP
Brazil

Model(s):	ERJ 170-100 STD ERJ 170-100 LR ERJ 170-200 STD ERJ 170-200 LR
Issue:	4
Date of issue:	02 October 2024

TABLE OF CONTENTS

Section 1 General (All Models)

I. General

This Type-Certificate Data Sheet (TCDS) is the concise definition of the type-certificated product accepted and or approved by the CAA in the UK for the affected types and models.

This TCDS includes:

1. Details of the type design that affect the TCDS that have been approved or accepted by the CAA in the UK from 01 January 2021.
2. Details of the type design that affected the TCDS and were approved or accepted by EASA before 01 January 2021, and were incorporated into EASA TCDS EASA.IM.A.001 at Issue 12 dated 31 January 2020 and are therefore accepted by the UK under Article 15 of Annex 30 of the UK-EU Trade and Cooperation Agreement.

II. Marketing Designations

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 2 Embraer ERJ 170-100 VARIANT

I. General

1. Type / Variant / Model

a) Type: EMBRAER ERJ 170
b) Variant or Model: ERJ 170-100 STD
ERJ 170-100 LR

2. Performance Class

A

3. Certifying Authority

Agência Nacional De Aviação Civil - ANAC
Gerência Geral de Certificação de Produtos Aeronáuticos
Rua Dr. Orlando Feirabend Filho, 230 -
Centro Empresarial Aquarius
Torre B Andares 14 a 18,
Parque Residencial Aquarius,
12246-190 - São José dos Campos – SP
Brazil

4. Manufacturer

Embraer S.A.
Av. Brigaderio Faria Lima. 2170
12227-901 São Jose dos Campos SP
Brazil

5. ANAC (Certifying Authority) Certification Application Date

27 May 1999

6. JAA Validation Application Date

21 May 1999

7. UK CAA Type Validation Application Date

UK CAA Type Validation Application Date Prior to 31 December 2020, application dates for type certification are covered by the JAA type certification application date, as per Section 6 above. New applications for UK CAA type validation received after 01 January 2021 will be recorded in this section. At the current issue of this UK CAA TCDS, no new applications for type validation have been received since 01 January 2021.

8. ANAC Type Certification Date

19 February 2004

9. EASA Type Validation Date

20 February 2004 (JAA Recommendation)

II. Certification Basis

1. ANAC (Certifying Authority) Type Certificate Data Sheet

ANAC Type Certificate Data Sheet No.EA-2003T05

2. ANAC (Certifying Authority) 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

Refer to EASA TCDS EASA.IM.A.001.

4. UK CAA Airworthiness Requirements

4.1. 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)

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

4.2 Reversions

None Identified

5. 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

6. Exemptions

No exemptions have been granted.

7. 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 25x1591and 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
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	Honewell 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

8. Environmental Protection Standards

Noise: ICAO Annex 16, Volume I (see TCDSN UK.TC.00070 for details)

Prevention of intentional fuel venting: ICAO Annex 16, Volume II, Part II, Chapter 2

9. Operational Suitability Data Requirements

The UK CAA type certification basis 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.

III. Technical Characteristic and Operating Limitations

1. Production Basis

Manufactured under Production Certificate (ANAC COP E-7203-1)

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 Engine Type Data Sheet No.EASA.IM.E.021 or Airplane Flight Manual

7. Auxiliary Power Unit

Hamilton Sundstrand APS2300

Limitations: Refer to the APU TCDS / TSO

8. Propellers

Not applicable.

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

14. Maximum Certified Masses

Phase	170-100 LR		170-100 STD	
Taxi and Ramp	82,364 lb.	37,360 kg 38,760 kg (6)	79,696 lb	36,150 kg 38,760 kg (6)
Take-off	82,011 lb.	37,200 kg(1) 34,850 kg(2) 35,990 kg(4) 38,600 kg(6) 34,000 kg(8)	79,344 lb	35,990 kg 38,600 kg(6) 34,000 kg(7)
Landing	72,310 lb.	32,800 kg 33,300 kg(3)(6)	72,310 lb	32,800 kg 33,300 kg(3)(6)
Zero Fuel	65,256 lb.	29,600 kg 30,140 kg(5) 30,900 kg(6)	65,256 lb	29,600 kg 30,140 kg(5) 30,900 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 11,650.0 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 (MAC)

3,194 m (10ft. 6 in.)

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. Exit

	Number	Type	Size mm (inches)
1 Main Fwd LH	1	Type I	750 mm (w) x 1,821 mm (h)
2 Main Aft LH	1	Type I	635 mm (w) x 1,801 mm (h)
3 Service (Fwd, RH)	1	Type I	611 mm (w) x 1,368 mm (h)
4 Service (Aft RH)	1	Type 1	632 mm (w) x 1,381 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	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 Service Instructions

1. Flight Manual

Airplane Flight Manual, Document No. AFM-8421

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 approved revision.

The National Requirements identified in Appendix E of the MRBR as applicable to aircraft operating under EASA jurisdiction are applicable to aircraft operating under UK CAA jurisdiction.

2.3 Airworthiness Limitations and Certification Maintenenance 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 (Life Limit Items – LLI)

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

1. Master Minimum Equipment List

MMEL revisions up to 31 December 2020 were approved by the European Union 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 and were accepted by the UK under Article 15 of Annex 30 of the UK-EU Trade and Cooperation Agreement. MMEL-5814 Rev 7 was in force as of 31 December 2020.

Following EU-exit, the updated Operational Suitability Data with a specific UK reference listed below is approved by the UK CAA under UK.MAJ.00230 acting in accordance with Regulation (EU) 2018/1139 and Regulation (EU) No. 748/2012 as retained (and amended in UK domestic law) under the European Union (Withdrawal) Act 2018.

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 UK CAA Master Minimum Equipment List MMEL-8350, Original Revision, dated 24 July 2023.

b. Required for entry into service by UK operator.

2. Flight Crew Data

The Operational Suitability Data elements listed below are approved by the European Union 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 and are therefore accepted by the UK under Article 15 of Annex 30 of the UK-EU Trade and Cooperation Agreement.

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 EASA approved revisions prior to 01 January 2021, or UK CAA approved revisions from 01 January 2021.

b. Required for entry into service by UK 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

The Operational Suitability Data elements listed below are approved by the European Union 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 and are therefore accepted by the UK under Article 15 of Annex 30 of the UK-EU Trade and Cooperation Agreement.

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 EASA approved revisions prior to 01 January 2021, or UK CAA approved revisions from 01 January 2021.

b. Required for entry into service by UK operator.

c. The Embraer 170/175 aircraft models are determined to be variants to the Embraer 190/195 aircraft models.

VI. Notes

Reserved.

Section 3 Embraer ERJ 170-200 VARIANT

I. General

1. Type / Variant / Model

a) Type: Embraer ERJ 170
b) Variant or Model: ERJ 170-200 STD
ERJ 170-200 LR

2. Performance Class

A

3. Certifying Authority

Agência Nacional De Aviação Civil - ANAC
Gerência Geral de Certificação de Produtos Aeronáuticos
Rua Dr. Orlando Feirabend Filho, 230 -
Centro Empresarial Aquarius
Torre B Andares 14 a 18,
Parque Residencial Aquarius,
12246-190 - São José dos Campos – SP
Brazil

4. Manufacturer

Embraer S.A.
Av. Brig. Faria Lima. 2170
12227-901 São Jose dos Campos SP
Brazil

5. ANAC Certification Application Date

01 September 2000

6. JAA Validation Application Date

01 September 2000 (this is the reference date for EASA and UK CAA validation)

7. UK CAA Type Validation Application Date

UK CAA Type Validation Application Date Prior to 31 December 2020, application dates for type certification are covered by the JAA type certification application date, as per Section 6 above. New applications for UK CAA type validation received after 01 January 2021 will be recorded in this section. At the current issue of this UK CAA TCDS, no new applications for type validation have been received since 01 January 2021.

8. ANAC Type Certification Date

22 December 2004

9. EASA Type Validation Date

07 January 2005 (JAA Recommendation)

II. Certification Basis

1. ANAC (Certifying Authority) Type Certificate Data Sheet

ANAC Type Certificate Data Sheet No.: EA-2003T05

2. ANAC (Certifying Authority) 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

Refer to EASA TCDS EASA.IM.A.001.

4. CAA Airworthiness Requirements

4.1. 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)

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

4.2 Reversions

None Identified

5. 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

6. Exemptions

No exemptions have been granted.

7. 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 25x1591and 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
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	Honewell 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)

8. Environmental Protection Standards

Noise: ICAO Annex 16, Volume I (see TCDSN UK.TC.A.00070)

Prevention of intentional fuel venting: ICAO Annex 16, Volume II, Part II, Chapter 2

9. Operational Suitability Data Requirements

The UK CAA type certification basis 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.

III. Technical Characteristic and Operating Limitations

1. Production Basis

Manufactured under Production Certificate (ANAC COP E-7203-1)

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 aluminium-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 Engine Type Data Sheet No.EASA.IM.E.021 or Airplane Flight Manual

7. Auxiliary Power Unit

Hamilton Sundstrand APS2300

Limitations: Refer to the APU TSO

8. Propellers

Not applicable.

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

14. Maximum Certified Masses

Phase	170-200 LR		170-200 STD	
Taxi and Ramp	85,870 lb	38,950 kg 40,530 kg (2)	83,026 lb	37,660 kg 40,530 kg (2)
Take-off	85,517 lb	38,790 kg 40,370 kg (2)	82,673 lb	37,500 kg 35,740 kg (1) 40,370 kg (2) 35,998 kg (3) 34,998 kg (4) 36,500 kg (5) 35,700 kg (5)
Landing	74,957 lb	34,000 kg 34,100 kg (2)	74,957 lb	34,000 kg 34,100 kg (2)
Zero Fuel	74,957 lb	31,700 kg 32,000 kg (2)	69,886 lb	31,700 kg 32,000 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 11,650.0 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 (MAC)

3,194 m (10ft. 6 in.)

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. Exit

	Number	Type	Size mm (inches)
1 Main Fwd LH	1	Type I	750 mm (w) x 1,821 mm (h)
2 Main Aft LH	1	Type I	635 mm (w) x 1,801 mm (h)
3 Service (Fwd, RH)	1	Type I	611 mm (w) x 1,368 mm (h)
4 Service (Aft RH)	1	Type 1	632 mm (w) x 1,381 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 Service Instructions

1. Flight Manual

Airplane Flight Manual, Document No. AFM-8421

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 approved revision.

The National Requirements identified in Appendix E of the MRBR as applicable to aircraft operating under EASA jurisdiction are applicable to aircraft operating under UK CAA jurisdiction.

2.3 Airworthiness Limitations and Certification Maintenenance 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 (Life Limit Items – LLI)

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

1. Master Minimum Equipment List

MMEL revisions up to 31 December 2020 were approved by the European Union 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 and were accepted by the UK under Article 15 of Annex 30 of the UK-EU Trade and Cooperation Agreement. MMEL-5814 Rev 7 was in force as of 31 December 2020.

Following EU-exit, the updated Operational Suitability Data with a specific UK reference listed below is approved by the UK CAA under UK.MAJ.00230 acting in accordance with Regulation (EU) 2018/1139 and Regulation (EU) No. 748/2012 as retained (and amended in UK domestic law) under the European Union (Withdrawal) Act 2018.

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 UK CAA Master Minimum Equipment List MMEL-8350, Original Revision, dated 24 July 2023.

b. Required for entry into service by UK operator.

2. Flight Crew Data

The Operational Suitability Data elements listed below are approved by the European Union 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 and are therefore accepted by the UK under Article 15 of Annex 30 of the UK-EU Trade and Cooperation Agreement.

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 or later EASA approved revisions prior to 01 January 2021, or UK CAA approved revisions from 01 January 2021.

b. Required for entry into service by UK 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

The Operational Suitability Data elements listed below are approved by the European Union 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 and are therefore accepted by the UK under Article 15 of Annex 30 of the UK-EU Trade and Cooperation Agreement.

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 or EASA approved revisions prior to 01 January 2021, or UK CAA approved revisions from 01 January 2021.

b. Required for entry into service by UK operator.

c. The Embraer 170/175 aircraft models are determined to be variants to the Embraer 190/195 aircraft models.

VI. Notes

Reserved.

Section 4 Administration

I. Acronyms and Abbreviations

Acronym / Abbreviation	Definition
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
CAA	(United Kingdom) Civil Aviation Authority
CRI	Certification Review Item
CS	Certification Specification
EASA	European Union Aviation Safety Agency
EMB	EMBRAER
ERJ	Embraer Regional Jet
ES(F)	Equivalent Safety (Finding)
EWIS	Enhanced Wiring Interconnection System
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FSL	Fuel System Limitation
HIRF	High Intensity Radiated Field
ICA	Instructions for Continued Airworthiness
ICAO	International Civil Aviation Organization
JAA	Joint Aviation Authorities
JAR	Joint Aviation Requirements
LLI	Life Limited Item
MMEL	Master Minimum Equipment List
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

TCH Record	Period
EMBRAER S.A. Av. Brig. Faria Lima. 2170 12227-901 São Jose dos Campos – SP Brazil	Present.
Yaborã Indústria Aeronáutica S.A. Av. Brig. Faria Lima. 2170 12227-901 São Jose dos Campos – SP Brazil	Before 01 Jan 2022
Embraer S.A. Av. Brig. Faria Lima. 2170 12227-901 São Jose dos Campos – SP Brazil	Before 31 Jan 2020
Empresa Brasileira de Aeronáutica SA Av. Brig. Faria Lima. 2170 12227-901 São Jose dos Campos – SP Brazil	Before Jan 2011

III. Amendment Record

TCDS Issue No.	TCDS Issue Date	Changes	TC Issue and Date
1	20 Jun 2023	The content of the initial issue of UK CAA TCDS was taken from EASA TCDS No. EASA.IM.A.001 Issue 12 dated 31 January 2020 which was the current EASA version at 31 December 2020 and therefore the version of the TCDS for the Embraer ERJ 170 accepted by the UK under Article 15 of Annex 30 of the UK-EU Trade and Cooperation Agreement.Section 1 II.2 The following general changes have been made to reflect EU-Exit as well as corrections: • Where relevant “EASA” removed and replaced by “UK CAA“. • General editorial corrections • Section 1, I. – General section added to explain the relationship with the previously approved EASA TCDS and the effectivity of the UK CAA TCDS. • Section 1, II. – Marketing designations located in the notes section in the accepted EASA TCDS moved to this new section. • Section 2/3, I.7 – New section to cover the UK CAA type validation application date. • Section 2/3, II.1 & 2 – “(Certification Authority)” added. ANAC TCDS reference corrected. • Section 2/3, II.3 – Section added to reference EASA airworthiness requirements. • Section 2/3, II.4 – “UK CAA” added • Section 2/3, II.8 – Environmental Standards updated and reference to new UK CAA TCDSN added. • Section 2/3, III.6 – Correction of TCDS reference. • Section 2/3, IV.2.2 – Update to add clarification on National Requirements applicable to the UK CAA. • Section 2/3, V 1 – Clarification added on approved revisions.	Issue 1 20 Jun 2023

TCDS Issue No.	TCDS Issue Date	Changes	TC Issue and Date
		• Section 2/3, V.2 - Clarification added on approved revisions. • Section 2/3, V.3 - Clarification added on approved revisions.	
2	24 July 2023	Section 2/3.V: New UK CAA MMEL reference and approval explanation added.	Issue 1 20 Jun 2023
3	01 Aug 2023	Section 2/3.V: Correction to UK CAA MMEL reference and date of release.	Issue 1 20 Jun 2023
4	02 October 2024	Section 2/3 IV. 1: UK CAA AFM part number added.	Issue 1 20 Jun 2023

– END –