Civil Aviation Authority
United Kingdom

TYPE-CERTIFICATE DATA SHEET

UK.TC.A.00098

for

EMBRAER EMB-145

Type Certificate Holder

EMBRAER S.A.

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

Model(s):	EMB-145 EMB-145ER EMB-145EU EMB-145EP EMB-145LR EMB-145LU EMB-145MP EMB-145MK EMB-135ER EMB-135LR EMB-135BJ
Issue:	1
Date of issue:	15 March 2024

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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 UK 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.032 at Issue 11 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 EMB-135BJ is known commercially as the Legacy 600.

The Model EMB-135BJ modified with new Engines AE3007A2, MTOW increase and more fuel tank according to the DCA 0145-000-00020-2008 (EMB-135BJ PERFORMANCE ENHANCEMENTS) is known commercially as the Legacy 650.

These names are strictly marketing designations and are not part of the official model designations.

Section 2 EMB-145

I. General

1. Type / Variant / Model

a) Type: EMBRAER EMB-145
b) Variant or Model: EMB-145
EMB-145ER
EMB-145EU
EMB-145EP
EMB-145LR
EMB-145LU
EMB-145MP
EMB-145MK

2. Airworthiness Category

Large Aeroplanes

3. Performance Category

A

4. 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

5. Manufacturer

EMBRAER S.A.
Av. Brigadeiro Faria Lima, 2170
12227-901 - São José dos Campos - SP
Brazil

6. ANAC (CTA) Certification Application Dates

EMB-145, EMB-145ER, EMB-145EU, EMB-145EP	02 June 1992
EMB-145LR, EMB-145LU, EMB-145MP	10 October 1997
EMB-145MK	28 February 2000

7. EASA (JAA) Validation Application Dates

EMB-145, EMB-145ER, EMB-145EU	23 November 1993
EMB-145EP	12 August 1997
EMB-145LR	10 October 1997
EMB-145LU	08 March 1999
EMB-145MP	09 February 1999
EMB-145MK	03 March 2000

8. 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 EASA (JAA) type validation application date, as per Section 7 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.

9. ANAC (CTA) Type Certification Date

EMB-145, EMB-145ER, EMB-145EU, EMB-145EP	29 November 1996
EMB-145LR, EMB-145LU, EMB-145MP	20 April 1998
EMB-145MK	12 June 2000

10. EASA Validation Date

EMB-145, EMB-145ER, EMB-145EU	27 May 1997 (1)
EMB-145EP	25 November 1997 (2)
EMB-145LR	18 December 1998 (3)
EMB-145MP	13 October 1999 (4)
EMB-145LU	13 October 1999 (5)
EMB-145MK	02 August 2002 (6)

(1) Date of first TC issuance within EU MS by DGAC Belgium & INAC Portugal; JAA recommendation 20.05.97
(2) Date of first TC issuance within EU MS by ENAC Italy; JAA recommendation 14.11.97
(3) Date of first TC issuance within EU MS by DGAC Spain; JAA recommendation 18.12.98
(4) Date of first TC issuance within EU MS by CAA Finland; JAA recommendation 24.09.99
(5) Date of first TC issuance within EU MS by CAA Finland; JAA recommendation 19.4.99
(6) Date of first TC issuance within EU MS by CAA Denmark; JAA recommendation 05.07.02

11. ETOPS

Not applicable

12. Ditching

All EMB-145 () models are not approved for ditching

II. Certification Basis

1. ANAC (Certifying Authority) Type Certificate Data Sheet

ANAC Type Certificate Data Sheet No. EA-9606

2. ANAC (Certifying Authority) Certification Basis

RBHA 25 - Requisitos de Aeronavegabilidade. Aviões Categoria Normal, Utilidade, Acrobática de Transporte (Airworthiness Standards. Transport Category Airplanes), corresponding to U.S.14 CFR Part 25 amendment 84.

3. EASA Airworthiness Requirements

Refer to EASA TCDS EASA.IM.A.032

4. UK CAA Airworthiness Requirements

4.1 Applicable JAR Requirements at the Reference Date

JAR 25 Change 14, dated 27 May 1994

JAR AWO Change 2

CS 25.851(a)(6) at Amdt.18 in regard to the equipment installation and qualification of Halon free hand-held Fire Extinguishers

CRI B-07	NPA 25B-261 Harmonisation of FAR 25 / JAR 25 Flight Requirements
CRI F-07	INT/POL/25/6 Worn Brakes (Brake Testing)

EMB-145LR, EMB-145LU, EMB-145MP, EMB-145MK:

Identical EASA certification basis as EMB-145, EMB-145ER, EMB-145EU, EMB-145EP except for:

- JAR 25.519 - Jacking and tie-down provisions - applicable at JAR 25 change 14 + Orange Paper 25/96/1

- JAR 25B951 - Essential APUs - Fuel System - General - applicable at JAR 25 change 14 + Orange Paper 25/96/1.

4.2 Reversions

None Identified

5. Special Conditions

The following Special Conditions have been applied.

CRI B-22	Nuisance Shaker Occurrences
CRI C-01	Yawing Manoeuvring Conditions (INT/POL/25/8)
CRI C-02	Fuel Tank Crashworthiness (INT/POL/25/9)
CRI D-15	Pilot Compartment View – Hydrophobic Coatings in lieu of Windshield Wipers (cover CRI to FCAR HIS-08-145 stage 4 dated 23 April 2013)
CRI F-01	Protection from the effects of HIRF (INT/POL/25/2)
CRI F-02	Protection from the effects of Lightning Strike, Direct Effects (INT/POL/25/3)
CRI F-03	Protection from the effects of Lightning Strike, Indirect Effects (INT/POL/25/4)
SC G-5	Resistance to fire terminology (NPA 25D-181)
CRI H-01	Enhanced Airworthiness Programme for Aeroplane Systems – ICA on EWIS

6. Deviations (formerly referred to as “Exemptions”)

None Identified

7. Equivalent Safety Findings

The following Equivalent Safety Findings have been granted:

CRI B-04	NPA 25B-215 Stall and Stall Warning Speeds and Manoeuvre Capability
CRI F-38	Lavatory Oxygen System Restoration

8. Environmental Standards

Noise:	ICAO Annex 16, Volume I (see TCDSN UK.TC.A.00098 for details)
Prevention of intentional fuel venting:	ICAO Annex 16, Volume II, Part II, Chapter 2 (first edition 1981, revised July 1993)

9. Operational Suitability Requirements

The UK CAA type certification basis with respect to Operational Suitability Data (OSD) is defined as follows:

MMEL:	OSD MMEL (as defined as defined in CRI A-MMEL Issue 2, dated 14 December 2015)
	JAR MMEL/MEL Amendment 1, Section 1
FCD:	CS-FCD Certification Specifications for Operational Suitability Data (OSD) Flight Crew Data CS-FCD, Initial issue dated 31 January 2014.

There are no Special Conditions, Deviations, Exemptions or Equivalent Safety Findings for OSD.

III. Technical Characteristic and Operating Limitations

1. Design Standard

Defined in JAA CRI A-6, which is included in report 145-MS-001, including report 145-MS-380.

2. Description

Two aft mounted turbo-fan engines, short to medium range, single aisle, T-tail, large category aeroplane.

3. Equipment

The approved equipment is listed in the EMBRAER technical report: 145-MS-370.

4. Engines

EMB-145 (basic model):	Two (2) Rolls-Royce Corp. USA AE3007A or Two (2) AE3007A1/1 or Two (2) Rolls-Royce Corp. USA AE3007A1P turbofan engines
EMB-145ER, EMB-145EU, EMB-145EP:	Two (2) Rolls-Royce Corp. USA AE3007A or Two (2) Rolls-Royce Corp. USA AE3007A1/1 or Two (2) Rolls-Royce Corp. USA AE3007A1P or Two (2) Rolls-Royce Corp. USA AE3007A1 turbofan engines or one (1) Rolls-Royce Corp. USA AE3007A and one (1) Rolls-Royce Corp. USA AE3007A1/1 turbofan engine
EMB-145LR, EMB-145MP, EMB-145MK:	Two (2) Rolls-Royce Corp. USA AE3007A1 or Two (2) Rolls-Royce Corp. USA AE3007A1/1 or Two (2) Rolls-Royce Corp. USA AE3007A1P turbofan engines

EMB-145LU: Two (2) Rolls-Royce Corp. USA AE3007A1 or
Two (2) Rolls-Royce Corp. USA AE3007A1P turbofan engines

Limitations: See Engine Type Data Sheet No. EASA.IM.E.044 Issue 5, dated 22 May 2015 or the approved Airplane Flight Manual.

5. Auxiliary Power Unit

One (1) SUNDSTRAND T-62T-40C11 or one (1) T-62T-40C14 model

Limitations:

MAX RPM	MAX EGT Start	MAX EGT Steady State (Limited to 5 minutes)	MAX EGT Running (normal)
108%	884°C (1623°F)	717°C (1323°F)	680°C (1256°F)

6. Fuel

6.1 Eligible Fuels

See approved Airplane Flight Manual

6.2 Fuel Capacities

EMB-145 (basic model), EMB-145ER, EMB-145EU, EMB-145EP:
Maximum usable fuel of 5,146 L (two tanks with 2,573 L at +15,322mm)
Unusable fuel of 54 L (27 L per tank)

EMB-145LR, EMB-145LU:
Maximum usable fuel of 6,396 L (two tanks of 3,198 L at +15,153mm)
Unusable fuel of 44 L (22 L per tank)

EMB-145MP, EMB-145MK:
Maximum usable fuel of 5,146 L (two tanks of 2,573 L at +15,153 mm)
Unusable fuel of 54L (27 L per tank)

7. Oil (Engine and APU)

MIL-L-7808 or MIL-L-23699

8. Hydraulics

Fluid specifications: SAE AS1241 Type IV

9. Airspeeds

See approved Airplane Flight Manual

10. Maximum Operating Altitude

See approved Airplane Flight Manual

11. All Weather Capability

CAT II

12. Maximum Certified Weights

Phase	EMB-145	EMB-145EU	EMB-145ER	EMB-145EP	EMB-145LR (A1/1 Engines)
Taxi and Ramp	19,300 kg	20,090 kg	20,700 kg	21,090 kg	22,100 kg
Take-off	19,200 kg	19,990 kg	20,600 kg	20,990 kg	22,000 kg (1)
Landing	18,700 kg	18,700 kg	18,700 kg	18,700 kg	19,300 kg
Zero Fuel	17,100 kg	17,100 kg	17,100 kg (2)	17,100 kg (2)	17,900 kg

Phase	EMB-145LR (A1 Engines)	EMB-145LU	EMB-145MP	EMB-145MK
Taxi and Ramp	22,100 kg	20,090 kg	21,090 kg	20,090 kg
Take-off	22,000 kg (1)	21,990 kg	20,990 kg	19,990 kg
Landing	19,300 kg	19,300 kg	19,300 kg	19,300 kg
Zero Fuel	17,900 kg	17,900 kg	17,900 kg	17,900 kg

(1) For airplanes Post mod. SB 145-53-0065, the MTOW will be 21,450 kg (to increase again the MTOW up to 22,000 kg, the SB 145-53-0066 must be incorporated)
(2) For airplanes Post mod. SB 145-53-0064, the MZFW will be 17,350 kg

13. Centre of Gravity

See approved Airplane Flight Manual

14. Levelling Means

See Weight and Balance Manual

15. Minimum Flight Crew

Two (2): Pilot and Co-pilot for all types of flights

16. Maximum Passenger Capacity

50

17. Baggage / Cargo Compartment

Location	Class	Volume
Front	N/A	N/A
Middle	N/A	N/A
Rear	D or C (Note 1)	9.2 m^3 (325 ft^3)
Underfloor	N/A	N/A

18. Wheels and Tyres

EMB-145, EMB-145ER, EMB-145EU, EMB-145EP, EMB-145MP, EMB-145MK:
H30 x 9.50-14 (Main); 19.5 x 6.75-8 (Nose)

EMB-145LR, EMB-145LU:
H30 x 9.50-16 (Main); 19.5 x 6.75-8 (Nose)

IV. Operating and Service Instructions

1. Airplane Flight Manual

AFM 145/1154, revision original (or later revision approved or accepted by the UK CAA)

2. Mandatory Maintenance Instructions

2.1 Airplane Maintenance Manual (AMM)

(Customised to aircraft configuration)

2.2 Maintenance Review Board Report

Maintenance Review Board Report Ref: MRB-145/1150, Revision 1 or subsequent approved revision.

2.3 Airworthiness Limitations and Certification Maintenance Requirements

MRB Report (MRB-145/1150):	Appendix 1 (Certification Maintenance Requirements - CMR)
	Appendix 2 A2.3.4 (Structural Inspection Fatigue Limits - ALI)
	Appendix 2 A2.4 (Critical Design Configuration Control Limitation - CDCCL)
	Appendix 2 A2.5 (Fuel System Limitations - FSL)
	Appendix 2 A2.2 (Life Limit Items – LLI)

2.4 Structural Repair Manual

SRM-1142

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.032 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-6042 Revision 01 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.ADMIN.00132 acting in accordance with UK Reg (EU) 2018/1139 and UK Reg (EU) 748/2012.

a. The Master Minimum Equipment is defined in EMB145 UK CAA Master Minimum Equipment List MMEL-6043, Original Revision, dated 15 March 2024.

b. Required for entry into service by UK operator.

2. Flight Crew Data

The Flight Crew Data revisions up to 31 December 2020 were approved by the European Union Aviation Safety Agency under the EASA Type Certificate EASA IM.A.032 as per Commission Regulation (EU) No. 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.

a. The FCD is defined in EMBRAER Report No. 135-MSO-008 Original Revision dated 25 January 2017 or UK CAA approved revisions from 01 January 2021.

b. Required for entry into service by UK operator.

3. Cabin Crew Data

Not applicable

VI. Notes

Note 1: At the time of release of the UK CAA TCDS, Part 26.157 of UK Reg (EU) 2015/640 and UK Reg (EU) 2020/1159 requires the conversion of a Class D cargo or baggage compartment to a Class C compartment.

Section 3 EMB-135

I. General

1. Type / Variant / Model

c)	Type:	EMBRAER EMB-135
d)	Variant or Model:	EMB-135ER EMB-135LR EMB-135BJ

2. Airworthiness Category

Large Aeroplanes

3. Performance Category

A

4. 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

5. Manufacturer

EMBRAER S.A.
Av. Brigadeiro Faria Lima. 2170
12227-901 – São José dos Campos – SP
Brazil

6. ANAC (CTA) Certification Application Dates

EMB-135ER, EMB-135LR	06 November 1997
EMB-135BJ	05 January 2000

7. EASA (JAA) Validation Application Dates

EMB-135ER	14 April 1998
EMB-135LR	05 June 1998
EMB-135BJ	05 January 2000

8. 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 EASA (JAA) type validation application date, as per Section 7 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.

9. ANAC (CTA) Type Certification Date

EMB-135ER, EMB-135LR with AE3007A1/3 engines	11 June 1999
EMB-135ER, EMB-135LR with AE3007A3 engines	07 October 1999
EMB-135BJ	10 December 2001

10. EASA Validation Date

EMB-135ER, EMB-135LR	03 November 1999 (1)
EMB-135BJ (“Legacy 600”)	02 August 2002 (2)

(1) Date of first TC issuance within EU MS by CAA Finland; JAA recommendation 25.10.99
(2) Date of first TC issuance within EU MS by CAA Denmark; JAA recommendation 05.07.02

11. ETOPS

Not applicable

12. Ditching

All EMB-135 () models are not approved for ditching

II. Certification Basis

1. ANAC (Certifying Authority) Type Certificate Data Sheet (EMB-135 All Models)

ANAC Type Certificate Data Sheet No. EA-9606

2. ANAC (Certifying Authority) Certification Basis (EMB-135ER, EMB-135LR)

RBHA 25 - Requisitos de Aeronavegabilidade. Aviões Categoria Normal, Utilidade, Acrobática de Transporte (Airworthiness Standards. Transport Category Airplanes), corresponding to U.S.14 CFR Part 25 amendment 25-1 through amendment 25-84 effective 10 July 1995 plus the following requirements:

- Amdt 25-87 Integral
- Section 25.1517 from Amdt 25-86
- Amdt 25-88 Integral
- Amdt 25-90 Integral
- Sections 25.331, 25.335(b)(2), 25.345, 25.351, 25.363, 25.371, 25.415, 25.491, 25.499 and 25.561 from Amdt 25-91
- Amdt 25-93 Integral
- Section 25.807 from Amdt 25-94
- Amdt 25-97 Integral

2.1 ANAC Special Conditions (EMB-135ER, EMB-135LR)

FCAR HSI-01	High Intensity Radiated Fields (HIRF) Protection (RBHA/FAR 21.16, 25.1309, 25.1333 and 25.1431).

2.2 ANAC Equivalent Level of Safety Findings (EMB-135ER, EMB-135LR)

FCAR HDE-01	Use of 1g stall criteria (various RBHA's)
FCAR HES-03	Cockpit under floor access hatch and rear fuselage electronic compartment access hatch (RBHA/FAR 25.783(f))
FCAR HPR-03	Flight critical thrust reverser (RBHA 25.933(a)(1)(ii))
FCAR HPR-04	Digital only display of turbine engine high/intermediate pressure rotor speed (N2) (RBHA 25.1305(c))
FCAR HPR-06	APU Instrumentation and Monitoring requirements (RBHA/FAR 25.1305 and 25.1501(b)) and
FCAR HPR-01	Fire detector in the tail pipe (RBHA/FAR 25.1203(a))

3. EASA Airworthiness Requirements (EMB-135ER, EMB-135LR)

Refer to EASA TCDS EASA.IM.A.032

4. UK CAA Airworthiness Requirements (EMB-135ER, EMB-135LR)

4.1 Applicable JAR Requirements at the Reference Date

JAR 25 Change 14 plus Orange Paper 25/96/1 (effective on 19 April 1996).

JAR AWO change 2 (effective on 1 August 1996)

(The certification of Category II operations was accomplished Post TC)

CS 25.851(a)(6) at Amdt.18 in regard to the equipment installation and qualification of Halon free hand-held Fire Extinguishers

CRI B-110	Elect to Comply: NPA 25B 240 Landing in abnormal configurations

4.2 Reversions

None Identified

5. UK CAA Special Conditions (EMB-135ER, EMB-135LR)

The following Special Conditions have been applied.

CRI B-122	Nuisance Shaker Occurrences
CRI C-101	Yawing Manoeuvring Conditions (INT/POL/25/8)
CRI C-102	Fuel Tank Crashworthiness (INT/POL/25/09)
CRI D-15	Pilot Compartment View – Hydrophobic Coatings in lieu of Windshield Wipers (cover CRI to FCAR HIS-08-145 stage 4 dated 23 April 2013)
CRI F-101	Protection from the effects of HIRF (INT/POL/25/2)
CRI F-102	Protection from the effects of Lightning Strike, Direct Effects (INT/POL/25/3)
CRI F-103	Protection from the effects of Lightning Strike, Indirect Effects (INT/POL/25/4)
CRI F-107	Worn Brakes (Brake Testing) (INT/POL/25/6)
CRI H-01	Enhanced Airworthiness Programme for Aeroplane Systems – ICA on EWIS (Note 1)

6. UK CAA Deviations (formerly referred to as “Exemptions”) (EMB-135ER, EMB-135LR)

None Identified

7. UK CAA Equivalent Safety Findings (EMB-135ER, EMB-135LR)

CRI B-104	NPA 25B-215 (dated June 1995): Stall and Stall Warning Speeds and Manoeuvre Capability (Note 2)
CRI F-38	Lavatory Oxygen System Restoration

The following ANAC (CTA) ESF have been accepted by the JAA team as fully recording their position:

FCAR HPR-06	APU Instrumentation and Monitoring Requirements
FCAR HPR-01	Fire Detector in the Tail Pipe (FCAR HPR-01)

8. UK CAA Environmental Standards (EMB-135ER, EMB-135LR)

Noise:	ICAO Annex 16, Volume I (see TCDSN UK.TC.A.00098 for details)
Prevention of intentional fuel venting:	ICAO Annex 16, Volume II, Part II, Chapter 2 (Amendment 3 to the second edition dated 20 March 1997)

9. ANAC (Certifying Authority) Certification Basis (EMB-135BJ)

RBHA 25 - Requisitos de Aeronavegabilidade. Aviões Categoria Normal, Utilidade, Acrobática de Transporte (Airworthiness Standards. Transport Category Airplanes), corresponding to U.S.14 CFR Part 25 amendment 25-1 through amendment 25-84 effective 10 July 1995 plus the following requirements:

- Amdt. 25-85 Integral
- Amdt. 25-86, Section 25.1517
- Amdt. 25-88 Integral
- Amdt. 25-90 Integral
- Amdt. 25-91 Sections 25.331; 25.335(b)(2); 25.345; 25.351; 25.363; 25.371; 25.415;

25.491; 25.499 and 25.561

- Amdt. 25-93 Integral
- Amdt. 25-94 Section 25.807
- Amdt. 25-96 Paragraph 25.571(e)(1)
- Amdt. 25-97 Integral; and
- Amdt. 25-98 Integral

9.1 ANAC Special Conditions (EMB-135 BJ)

EMB-135 FCAR HSI-01	High Intensity Radiated Fields (HIRF) Protection (RBHA/FAR 21.16, 25.1309, 25.1333 and 25.1431) (Note 3)
EMB-135BJ FCAR HES-01	Interaction of systems and structures (fuel mismanagement) (RBHA/FAR 25.671 and 25.1309)
EMB-135BJ FCAR HES-04	Ventral fuel tank penetration (RBHA/FAR 21.16, 25.963(e))

9.2 ANAC Equivalent Level of Safety Findings (EMB-135BJ)

The following equivalent level of safety findings established for previous EMB-145 models are applicable for the EMB-135BJ model:

EMB-135BJ FCAR HDE-01	Use of 1g stall criteria (various RBHA's)
EMB-135 FCAR HES-03	Cockpit under floor access hatch and rear fuselage electronic compartment access hatch (RBHA/FAR 25.783(f))
EMB-135 FCAR HPR-03	Flight critical thrust reverser (RBHA 25.933(a)(1)(ii))
EMB-135 FCAR HPR-04	Digital only display of turbine engine high/intermediate pressure rotor speed (N2) (RBHA 25.1305(c))
EMB-135 FCAR HPR-06	APU Instrumentation and Monitoring requirements (RBHA/FAR 25.1305 and 25.1501(b)) and
EMB-135 FCAR HPR-01	Fire detector in the tail pipe (RBHA/FAR 25.1203(a))

The following specific equivalent level of safety findings are applicable the EMB-135BJ model:

EMB-135BJ FCAR HES-03	Wheels-up landing (RBHA/FAR 25.721(b) and 25.963(d))
EMB-135BJ FCAR HES-09	Checked maneuver loads (RBHA 21.21(b)(1) and RBHA/FAR 25.331(c)(2))
EMB-135BJ FCAR HES-10	Class C baggage compartment isolation (RBHA/FAR 25.855(h) and 25.857(c))
EMB-135BJ FCAR HES-14	Width of Aisle (RBHA/14 CFR Part 25.815)

10. ANAC Deviations (formerly referred to as "Exemptions") (EMB-135BJ)

EMB-135BJ FCAR HES-07	Dynamic Test Requirement for Side-Facing Divans (sofa) (RBHA 25.785 (b)

11. UK CAA Airworthiness Requirements (EMB-135BJ)

11.1 Applicable JAR Requirements at the Reference Date

JAR 25 Change 14 plus Orange Paper 25/96/1 (effective on 19 April 1996)

JAR AWO change 2 (effective on 01 August 1996)

CS 25.851(a)(6) at Amdt.18 in regard to the equipment installation and qualification of Halon free hand-held Fire Extinguishers.

For EMB-135BJ with DCA 0145-000-00020-2008 (EMB-135BJ PERFORMANCE ENHANCEMENTS) the certification basis is covered in Sections 16 and 17.

11.2 UK CAA Reversions (EMB-135BJ)

None Identified

12. UK CAA Special Conditions (EMB-135BJ)

The following Special Conditions have been applied in addition to the EMB-135ER and EMB-135LR:

CRI C-1005	Rapid Decompression (INT/POL/25/7)
CRI D-1005	Towbarless Towing (INT/POL/25/13)
CRI D-14	Glass Screens of Displays/Monitors
CRI D-106	Access Door to Baggage Compartment Class C (Ref. also FCAR HES-10)
CRI D-107	Fuel Tank Crashworthiness (INT/POL/25/09)
CRI D-108	Fuel Tank Mounts
CRI E-110	Fuel Tank Safety (INT/POL/25/12)
CRI F-1026	Primary In-flight Ice Detection System
CRI F-112	Low Fuel Quantity Indication
~~CRI H-01~~	~~Enhanced Airworthiness Programme for Aeroplane Systems – ICA on EWIS~~

13. UK CAA Deviations (formerly referred to as “Exemptions”) (EMB-135BJ)

CRI C-106	Dynamic Test Requirement for Side-Facing Sofa (Ref. FCAR HES-07) – Post TC item

14. UK CAA Equivalent Safety Findings (EMB-135BJ)

CRI D-16	Width of Aisle
CRI D-109	Exit Locator Sign
CRI E-111	Location of Rear Auxiliary Fuel Tank Inside Fuselage

15. UK CAA Environmental Standards (EMB-135BJ)

Noise:	ICAO Annex 16, Volume I (see TCDSN UK.TC.A.00098 for details)
Prevention of intentional fuel venting:	ICAO Annex 16, Volume II, Part II, Chapter 2 (Amendment 3 to the second edition dated 20 March 1997)

16. ANAC (Certifying Authority) Certification Basis (EMB-135BJ with DCA 0145-000-00020-2008)

Refer to ANAC TCDS EA-9606.

17. UK CAA Airworthiness Requirements (EMB-135BJ with DCA 0145-000-00020-2008)

The certification basis for EMB-135BJ modified with new Rolls-Royce Corp. USA AE3007A2 turbofan engines, MTOW increase and more fuel tanks according to the DCA 0145-000-00020-2008 (EMB-135BJ PERFORMANCE ENHANCEMENTS) is defined below. Commercially this model is referred to the Legacy 650.

All Special Conditions, Deviations (formerly referred to as “Exemptions”), and Equivalent Safety Findings as noted for the EMB-135BJ are applicable, plus the following additional requirements:

CRI F-112	Low Fuel Quantity (Special Condition)
CRI N-1	Noise Certification iaw Stage 4 (EtC)

For the areas affected by the Major Change DCA 0145-000-00020-2008, the following requirements apply at CS-25 Amdt 5 (also refer to Note 1 for EWIS):

25.1	---	---	25.21	25.23
25.25	25.27	25.29	25.31	25.101
25.103	25.105	25.107	25.109	25.111 (a)(b)(c)(d)
25.113	25.115	25.117	25.119	25.121
25.123 (a)(b)	25.125 (a)(b)(c)(f)(g)	25.143	25.145	25.147 (a)(c)(d)(f)
25.149 (a)(b)(c)(d)(e)(f)(h)	25.161 (a)(b)(c)(d)	25.171	25.173	25.175
25.177	25.181	25.201	---	25.207
25.231 (a)	25.233	25.235	25.237 (a)	25.251
25.253	25.255	25.301	25.303	25.305
25.307	25.321	25.331	25.333	25.335 (a)(b)(c) (d)(1)(2)(e)(1)(3)(f)
---	25.341	25.343 (a)(b)(3)	25.345 (a)(b)(2)(d)	25.349
25.351	25.361 (b)	25.363	25.365	25.367
25.371	25.373 (a)	25.391	25.393	25.395
25.397	25.399 (a)(1)(b)	25.409 (c)	25.415 (a)(1)(2)(b)	25.427 (a) (b) (c)
25.445 (a)	25.457	25.459	25.471	25.477
25.479 (a)(c)(d)	25.481 (a)(c)	25.483	25.485	25.487
25.489	25.491	---	25.495	25.499 (a)(b)(c)(e)
25.503	25.507 (a)(b)	25.509 (a)(1)(2)(3) (ii)(c)(d)	25.511	---
25.561	25.571	25.581	25.601	25.603
---	25.607	25.609	25.611	25.613
25.619	25.621	25.623	25.625	25.629
25.631	25.651	25.657	25.671 (a)(b)(c)	25.672 (b)(c)
25.675	677 (c)	25.683	25.685	25.689
25.693	25.697	25.699	---	25.703
25.721	25.729 (a)(1) (b)(c)(d)(e)(f)	25.731 (a)(b)(c)(d)	25.733 (b)(c)	25.735 (a)(d)(e)(1) (f)(g) (h)(1)(i)(k)

25.775	25.777(a)(b)(d)	25.785 (b)(c) (f)(1)(3)	25.787 (a)(b)	25.789 (a)
25.855 (j)	25.863	25.865	25.899	25.903 (a)(b)(c)(d)(e)
25.904	25.934	25.939	---	25.951 (a)(b)(2)(c)(d)
25.952	25.953	25.954	---	25.957
25.959	25.961	25.963	25.965 (a)(b)	25.967
25.969	25.971	25.973	25.975 (a)	25.977 (a)(2)(c)(d)(e)
25.979	25.981	---	25.993	25.994
25.995	25.997	25.999	25.1001 (a)	25.1011 (a)
---	25.1015	25.1017	25.1019	25.1021
25.1023	---	25.1043 (a)(1)(2)(b)(c)	25.1045 (a)(b)(c)	25.1091 (a)(1)(d)(1)(2)
---	25.1103 (c)(d)	25.1141 (f)(2)	25.1143 (c)	25.1181 (b)
25.1182	25.1183	25.1185	25.1187	25.1191
25.1193 (a)(b)(d)	---	25.1199 (d)	25.1207	25.1301
25.1305 (a)(1)(2) (d)(1)	25.1309	25.131	25.1316	25.1322
25.1323 (b)(c)(h)	25.1325 (e)	25.1337 (b)(1)	25.1351 (a)(1)(d)	25.1353 (a)(c)
---	25.1357 (a)(c)(d) (e)(f)(g)	25.1360 (a)(b)	---	25.1419
25.1431	---	25.1438 (b)(c)	25.1455	25.1459
25.1461(b)(c)	25.1501 (a)(b)	25.1503	25.1505	25.1507
25.1511	25.1513	25.1515	25.1516	25.1517
25.1519	25.1521 (a)(c)(d)	25.1523	25.1527	25.1529
25.1531	25.1533 (a)(b)	25.1541	25.1549	25.1551
25.1553	25.1555 (c)	25.1581	25.1583 (a)(b)(c)(h)	25.1585
25.1587	25.1591	25.1701	25.1703	25.1705 (a)(b)(2)(4)

25.1707 (a)(b)(e) (f)(i)(j)(k)(l)	25.1709	25.1711 (e)	25.1713	25.1715
25.1717	25.1719	25.1721 (b)	25.1723	25.1725
25.1727	25.1729	Appendix C	Appendix H H25.1, H25.4, H25.5	---

Reversions to earlier amendment levels as listed below have been granted iaw 21.A.101:

25.203 JAR 25 OP 96/1	25.337 (a)(b)(c) JAR 25 Change 14	25.493 (b)(d)(e) JAR 25 Change 15	25.519 JAR 25 Change 14	25.605 JAR 25 Change 14
25.701 JAR 25 Change 14	25.807 (e)(2) JAR 25 Change 14 (Equals FAR 25.807)	25.831 (a) JAR 25 Change 14	25.869 (a)(3) JAR 25 Change 16	25.901 (a) (b)(2)(3)(c) JAR 25 Change 14
25.933 (a) JAR 25 Change 16	25.943 JAR 25 Change 14	25.955 JAR 25 Change 14	25.991 JAR 25 Change 14	25.1013(b)(c)(d)(e) JAR 25 Change 14
---	25.1093 (b) JAR 25 Change 14	25.1189 (a)(1) (b)(c)(d)(e)(f)(g)(h) JAR 25 Change 14	---	25.1203 JAR 25 Change 14
25.1303 JAR 25 Change 14	25.1321 (a)(c)(1) JAR 25 Change 14	25.1329 (g) JAR 25 Change 14		

This Major change was approved by ANAC on 11 August 2010 and the EASA Major Change Approval Certificate 10039343 was issued 27 April 2012.

18. Operational Suitability Requirements (EMB-135 All Models)

The UK CAA type certification basis with respect to Operational Suitability Data (OSD) is defined as follows:

MMEL: OSD MMEL (as defined as defined in CRI A-MMEL Issue 2, dated 14 December 2015)

JAR MMEL/MEL Amendment 1, Section 1

FCD: CS-FCD - Certification Specifications for Operational Suitability Data (OSD) Flight Crew Data CS-FCD, Initial issue dated 31 January 2014.

There are no Special Conditions, Deviations, Exemptions or Equivalent Safety Findings for OSD.

III. Technical Characteristic and Operating Limitations

1. Design Standard

EMB-135ER, EMB-135-LR:
Defined in JAA CRI A-106, which is included in report 135-MS-310 “EMB-135 Built Standard Definition for JAA certification”.

EMB-135BJ (All Models):
The design standard is included in report 135-MS-712 “EMB-135BJ Built Standard Definition for JAA certification”.

2. Description

Two aft mounted turbo-fan engines, short to medium range, single aisle, T-tail, large category aeroplane.

3. Equipment

EMB-135ER, EMB-135-LR:
The approved equipment is listed in the EMBRAER technical report: 145-MS-300

EMB-135BJ:
The approved equipment is listed in the EMBRAER technical report: 135-MS-705

4. Engines

EMB-135ER, EMB-135LR:	Two (2) Rolls-Royce Corp. USA AE3007A3 or Two (2) AE3007A1/3 turbofan engines
EMB-135BJ:	Two (2) Rolls-Royce Corp. USA AE3007A1E or Two (2) Rolls-Royce Corp. USA AE3007A2
EMB-135BJ (S/N 145625 and below):	Two (2) Rolls-Royce Corp. USA AE3007A1P
EMB-135BJ (DCA 0145-000-00020-2008):	Two (2) Rolls-Royce Corp. USA AE3007A2

Limitations: see the approved Airplane Flight Manual

5. Auxiliary Power Unit

EMB-135ER, EMB-135LR:
One (1) SUNDSTRAND T-62T-40C11 or one (1) T-62T-40C14 model

EMB-135BJ:
One (1) SUNDSTRAND T-62T-40C14 model

Limitations:

MAX RPM	MAX EGT Start	MAX EGT Steady State (Limited to 5 minutes)	MAX EGT Running (normal)
104%	884°C (1623°F)	717°C (1323°F)	680°C (1256°F)

6. Fuel

6.1 Eligible Fuels

See the approved Airplane Flight Manual

6.2 Fuel Capacities

EMB-135ER:
Maximum usable fuel of 5146 Litres (L) (two tanks with 2573 L each)

Unusable fuel of 54 L (27 L per tank)

EMB-135LR:
Maximum usable fuel of 6396 L (two tanks of 3198 L each)
Unusable fuel of 44 L (22 L per tank)

EMB-135BJ (Legacy 600):
Maximum usable fuel of 10,264 L ((two forward fuselage tanks of 1112 L at +8,440 mm, two wing tanks of 3,198 L at 13,147 mm and two aft fuselage tanks of 822 L at +20,293 mm.
Unusable fuel of 106 L (forward tanks 27 L, wing tanks 44 L and aft tanks 35 L)

EMB-135BJ (Legacy 600, S/N 145625 and below):
Maximum usable fuel of 10,152 L (two forward fuselage tanks of 1,056 L at +8 440 mm, two wing tanks of 3,198 L at +13,147 mm, two aft fuselage tanks of 822 L at +20,293 mm.
Unusable fuel of 106 L (forward tanks 27 L, wing tanks 44 L, aft tanks 35 L).

EMB-135BJ (Legacy 650, DCA 0145-000-00020-2008):
Maximum usable fuel of 11,681 L (two forward tanks of 1,143 L at +8 439 mm, two wing tanks of 3,365 L at +13,178 mm, two aft tanks of 825 L at +20,304 mm and one ventral tank of 1,015 L at 15,753 mm).
Unusable fuel of 167,2 L (forward tanks 23 L, wing tanks 97 L, aft tanks 22 L and ventral tank 25,2 L).

7. Oil (Engine and APU)

MIL-L-7808 or MIL-L-23699

8. Hydraulics

Fluid specifications: SAE AS1241 Type IV

9. Airspeeds

See approved Airplane Flight Manual

10. Maximum Operating Altitude

See approved Airplane Flight Manual

11. All Weather Capability

CAT II

12. Maximum Certified Weights

Phase	EMB-135ER	EMB-135LR	EMB-135BJ	EMB-135BJ (SN 145625 & below)	EMB-135BJ (DCA 0145-000-00020-2008)
Taxi and Ramp	19,090 kg	20,090 kg	22,570 kg	22,270 kg	24,370 kg
Take-off	18,990 kg	19,990 kg	22,500 kg (1)	22,200 kg (3)	24,300 kg (4)
Landing	18,500 kg	18,500 kg	18,500 kg	18,500 kg	20,000 kg
Zero Fuel	15,600 kg 16,000 kg (2)	16,000 kg	16,000 kg	16,000 kg	16,400 kg

(1) For airplanes Pos-mod SB 145LEG-25-0078 the MTOW will be 22,000 kg (to increase again the MTOW up to 22,500 kg, the SB 145LEG-25-0079 must be incorporated)
(2) For airplanes Post-Mod SB 145-00-0025 or with an equivalent modification factory incorporated, the MZFW is 16000 kg.
(3) For airplanes Pos-mod SB 145LEG-25-0078 the MTOW will be 22,000 kg (to increase again the MTOW up to 22,200 kg, the SB 145LEG-25-0079 must be incorporated)
(4) For airplanes Pos-mod SB 145LEG-25-0078 the MTOW will be 22,000 kg (to increase again the MTOW up to 24,300 kg, the SB 145LEG-25-0079 must be incorporated)

13. Centre of Gravity

See approved Airplane Flight Manual

14. Levelling Means

See Weight and Balance Manual

15. Minimum Flight Crew

Two (2): Pilot and Co-pilot for all types of flights

16. Maximum Passenger Capacity

EMB-135ER, EMB-135LR: 37

EMB-135BJ: 19

17. Baggage / Cargo Compartment

EMB-135ER, EMB-135LR:

Location	Class	Volume
Front	N/A	N/A
Middle	N/A	N/A
Rear	D or C (Note 4)	9.2 m^3 (325 ft^3)
Underfloor	N/A	N/A

EMB-135BJ:

Location	Class	Volume
Front	N/A	N/A
Middle	N/A	N/A
Rear	C	6.8 m^3 (325 ft^3)
Underfloor	N/A	N/A

18. Wheels and Tyres

EMB-135ER, EMB-135LR, EMB-135BJ:
H30 x 9.50-14 (Main); 19.5 x 6.75-8 (Nose)

EMB-135BJ with SB/Mod per DCA 145-000-00020/2008:
H30 x 9.50-16 (Main); 19.5 x 6.75-8 (Nose)

IV. Operating and Service Instructions

1. Airplane Flight Manual

EMB-135ER, EMB-135LR:
AFM 135/1283, revision original (or later revision approved or accepted by the UK CAA)

EMB-135BJ (All models):
AFM 135/1541, revision original (or later revision approved or accepted by the UK CAA)

2. Mandatory Maintenance Instructions

2.1 Airplane Maintenance Manual (AMM)

(Customised to aircraft configuration)

2.2 Maintenance Review Board Report

Maintenance Review Board Report Ref: MRB-145/1150, Revision 1 or subsequent approved revision. For the EMB-135BJ model the applicable document in the Maintenance Planning Guide (MPG) document 1483.

2.3 Airworthiness Limitations and Certification Maintenance Requirements

EMB-135ER, EMB-135LR:

MRB Report (MRB-145/1150):	Appendix 1 (Certification Maintenance Requirements - CMR)
	Appendix 2 A2.3 (Structural Inspection Fatigue Limits - ALI)
	Appendix 2 A2.4 (Critical Design Configuration Control Limitation - CDCCL)
	Appendix 2 A2.5 (Fuel System Limitations - FSL)
	Appendix 2 A2.2 (Life Limit Items – LLI)

EMB-135BJ:

MRB Report (MPG-1483):	Appendix 1 (Certification Maintenance Requirements - CMR)
	Appendix 2 A2.3 (Structural Inspection Fatigue Limits - ALI)
	Appendix 2 A2.4 (Critical Design Configuration Control Limitation-CDCCL)
	Appendix 2 A2.5 (Fuel System Limitations - FSL)
	Appendix 2 A2.2 (Life Limit Items – LLI)

2.4 Structural Repair Manual

EMB-135ER, EMB-135LR:
SRM-145/1422

EMB-135BJ:
SRM-1422, -2024, -3733

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.032 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-6042 Revision 01 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.ADMIN.00132 acting in accordance with UK Reg (EU) 2018/1139 and UK Reg (EU) 748/2012.

a. The Master Minimum Equipment is defined in EMB145 UK CAA Master Minimum Equipment List MMEL-6043, Original Revision, dated 15 March 2024.

b. Required for entry into service by UK operator.

2. Flight Crew Data

The Flight Crew Data revisions up to 31 December 2020 were approved by the European Union Aviation Safety Agency under the EASA Type Certificate EASA IM.A.032 as per Commission Regulation (EU) No. 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.

a. The FCD is defined in EMBRAER Report No. 135-MSO-008 Original Revision dated 25 January 2017 or UK CAA approved revisions from 01 January 2021.

b. Required for entry into service by UK operator.

3. Cabin Crew Data

Not applicable

VI. Notes

Note 1: Special Condition H-01 Enhanced Airworthiness Programme for Aeroplane Systems
ICA on EWIS is not applicable to EMB-135BJ. For areas affected by Major Change Modification 0145-000-00020-2008, CS-25 Amdt 5 EWIS requirements are applicable.

Note 2: CRI B-104 is associated to Special Condition: ‘Nuisance Stick Shaker Occurrences’ (CRI B-122).

Note 3: The special condition established for previous EMB-145 models, is applicable for the EMB-135BJ model: High intensity radiated fields (HIRF) protection (RBHA 21.16, RBHA/FAR 25.1309, 25.1333 and 25.1431) - EMB-135 FCAR HSI-01.

Note 4: At the time of release of the UK CAA TCDS, Part 26.157 of UK Reg (EU) 2015/640 and UK Reg (EU) 2020/1159 requires the conversion of a Class D cargo or baggage compartment to a Class C compartment.

Section 4 Administration

I. Acronyms and Abbreviations

Acronym / Abbreviation	Definition
AFM	Airplane Flight Manual
ALI	Airworthiness Limitation Item
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
CDCCL	Critical Design Configuration Control Limitation
CMR	Certification Maintenance Requirement
CRI	Certification Review Item
CS	Certification Specification
CTA	Aerospace Technical Center (Brazil)
EASA	European Union Aviation Safety Agency
EMB	EMBRAER
ES(F)	Equivalent Safety (Finding)
EtC	Elect to Comply
EWIS	Enhanced Wiring Interconnection System
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FCAR	FICHA DE CONTROLE DE ASSUNTOS RELEVANTES (ANAC IP)
FSL	Fuel System Limitation
HIRF	High Intensity Radiated Field
ICA	Instructions for Continued Airworthiness
ICAO	International Civil Aviation Organization
JAR	Joint Aviation Requirements
LLI	Life Limited Item
MMEL	Master Minimum Equipment List
MRB	Maintenance Review Board
OSD	Operational Suitability Data
S/N	Serial Number
SB	Service Bulletin
SC	Special Condition
TC	Type Certificate
TCDS	Type Certificate Data Sheet
TCH	Type Certificate Holder

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	15 Mar 2024	The content of the initial issue of UK CAA TCDS was taken from EASA TCDS No. EASA.IM.A.032 Issue 11 dated 31 January 2020 which was the current EASA version at 31 December 2020 and therefore the version of the TCDS for the EMBRAER EMB-135 / 145 accepted by the UK under Article 15 of Annex 30 of the UK-EU Trade and Cooperation Agreement. The following general changes have been made to reflect EU-Exit as well as corrections: • Layout and editorial changes to reflect UK CAA TCDS format • Where relevant “EASA” removed and replaced by “UK CAA“. The following changes have been made to reflect validation of design changes by the UK CAA since 01 January 2021: • Cover: Yaborã Indústria Aeronáutica S.A.changed to EMBRAER S.A as the TCH. • EMB-135BJ (all models) APU maximum RPM correction Changes relating to UK.ADMIN.00132: • Section 2, V – Clarification added on approved revisions of all OSD elements and addition of a new UK CAA OSD-FCD report reference. • Section 2, V, 1 – New UK CAA MMEL added.	Issue 1 15 Mar 2024

– END –