European Aviation Safety Agency

EASA

TYPE-CERTIFICATE
DATA SHEET

No. R.009

for
EC135

Type Certificate Holder
EUROCOPTER DEUTSCHLAND GmbH

Industriestrasse 4
D-86609 Donauwörth
Germany

For Models: EC135 P1, EC135 P2, EC135 P2+, EC 635 P2+, EC135 T1, EC 635 T1
EC135 T2, EC135 T2+, EC 635 T2+
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SECTION 1: EC135 P1(CDS)

I. General

1. Type/ Variant or Model
   1.1 Type EC135
   1.2 Model P1
   1.3 Variant (CDS)
2. Airworthiness Category Small Rotorcraft
3. Manufacturer EUROCOPTER DEUTSCHLAND GmbH
4. EASA Certification Application Date* 12 Dec 1994
   Note* (Primary Certification Authority certification application date for Grandfathered products)
5. National Certifying Authority Luftfahrt-Bundesamt, Germany
6. National Authority Type Certificate Date 14 Jun 1996 (TC No. 3061)

II. Certification Basis

1. Reference Date for determining the applicable requirements 12 Dec 1994
2. Airworthiness Requirements
   • JAR 27, first issue 06 September 1993.
   • For IFR Certification: JAR 27 Appendix B, first issue of 06 September 1993
   • Category A Engine Isolation Requirements of JAR 29, first issue 05 November 1993.
     Applicable paragraphs, selected from Appendix C to JAR 27, are:
     29.861 (a) Fire Protection of Structure, controls, and other parts
     29.901 (c) Powerplant: Installation
     29.903 (b),(c),(e) Engines
     29.908 (a) Cooling fans
     29.917 (b),(c),(1) Rotor Drive System: Design
     29.927 (c)(1) Additional tests
     29.953 (a) Fuel system independence
     29.1027 (a) Transmission and gearboxes
     29.1045 (a),(1),(b),(c),(d),(f) Climb cooling test procedures
     29.1047 (a) Take-off cooling test procedures
     29.1181 (a) Designated fire zones: regions included
     29.1189 (c) Shutoff means
     29.1191 (a),(1) Firewalls
     29.1193 (e) Cowling and engine compartment covering
     29.1305 (a),(6),(b) Powerplant instruments
     29.1309 (b),(2),(i),(d) Equipment, systems and installations
     29.1331 (b) Instruments using power supply
     29.1351 (d),(2) Electrical systems and equipment: General

   • For CAT A Certification:
     JAR27 Appendix C, first issue of 06 September 1993
• JAA Interim HIRF Policy (INT/POL/278.29-1 dated 01 June 1997) applies for:
  o Dual Pilot IFR certification with 3-axis SAS, Pitch-Damper and EFIS EFS 40
  o Single Pilot/Dual Pilot IFR certification with AFCS and EFIS EFS 40

3. Special Conditions
   • Special Condition No. SC 1 "Primary Structures Designed with Composite Material"
   • Special Condition No. SC 2 "Protection for Electrical and Electronic Systems from High Intensity Radiated Fields"
     This Special Condition applies only for VFR and IFR certification with conventional instruments and for VFR certification with EFIS EFS 40.
   • Special Condition No. SC 3 "Electronic Flight Instrument Systems"
   • Special Condition No. SC 4 "Protection of air intake of EC135 against ingestion of foreign objects (Rain and Hail/Bird strike)"

4. Exemptions
   n/a

5. (Reserved) Deviations
   n/a

6. Equivalent Safety Findings
   • Equivalent Safety Finding for Dual Pilot IFR certification concerning JAR 27 Appendix B, Para. IV (c) "Static Longitudinal Stability"
   • Equivalent Safety Finding concerning CS 27.865(c) related to dual activation device for the Primary Quick Release Subsystem (Cyclic Stick) for the Double Cargo Hook System

7. Requirements elected to comply
   • Elect to Comply with CS 27.1(a) in connection with CS 27.2(b)(2)(i) to have a maximum weight up to 3175 kg

8. Environmental Protection Standards
   • See EASA Type Certificate Data Sheet for Noise: TCDSN.R.009

III. Technical Characteristics and Operational Limitations

1. Type Design Definition
   - EC135 Basic Master List Drawing No. L000M0007051
   - Drawing No. L000M0002051 and following modifications

2. Description
   Main rotor: bearingless, 4 blades
   Tail rotor: Fenestron, 10 blades
   Fuselage: metal-composite structure with Skid-type landing gear
   Power plant: Two independent freewheel turbines

3. Equipment
   Basic equipment must be installed and operational prior to registration of the helicopter.

4. Dimensions
   4.1 Fuselage
   | Length | 5,87 m |
   | Width  | 1,56 m |
   | Height | 3,35 m |
   4.2 Main Rotor
   | 4 blades, diameter | 10,2 m |
4.3 Tail Rotor
10 blades, diameter 1.0 m

5. Engine

5.1 Model
Pratt & Whitney Canada, PW 206B

5.2 Type Certificate
EASA.IM.E.017

5.3 Limitations

Installed Engine Limits and Transmission Torque Limits:

<table>
<thead>
<tr>
<th></th>
<th>Torque Limits %</th>
<th>Gas generator rpm min⁻¹ [%]</th>
<th>Power turbine rpm %</th>
<th>Temperature TOT °C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All Engine Operation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AEO-TOP (5 min)</td>
<td>2 x 75</td>
<td>57250 [98.7]</td>
<td>104</td>
<td>854</td>
</tr>
<tr>
<td>AEO-MCP</td>
<td>2 x 69</td>
<td>56500 [97.4]</td>
<td>104</td>
<td>820</td>
</tr>
<tr>
<td><strong>One Engine Inoperative</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2½ min OEI-TOP</td>
<td>1 x 100</td>
<td>59400 [102.4]</td>
<td>104</td>
<td>930</td>
</tr>
<tr>
<td>OEI-MCP</td>
<td>1 x 86</td>
<td>58250 [100.4]</td>
<td>104</td>
<td>885</td>
</tr>
</tbody>
</table>

6. Fluids (Fuel/ Oil/ Additives)

6.1 Fuel
see EASA approved RFM

6.2 Oil
see EASA approved RFM

6.3 Additives
see EASA approved RFM

7. Fluid capacities

7.1 Fuel
*with standard fuel tank*
total fuel: 680 l maximum
useable fuel: 670.5 l

*with self sealing fuel tank*
total fuel: 673.4 l maximum
useable fuel: 664 l

7.2 Oil
see EASA approved RFM

7.3 Coolant system capacity
n/a

8. Air Speeds Limits

\[ V_{NE} = 155 \text{ knots} \]

(see EASA approved RFM for reduction in VNE with altitude and other speed limitations)

9. Rotor Speed Limits

Power on:
maximum 104 %
minimum 95 %

Power off:
maximum 106 %
minimum 80 % (up to 1900 kg)
minimum 85 % (above 1900 kg)

Transient:
(see EASA approved RFM)

10. Maximum Operating Altitude and Temperature

10.1 Altitude
6096 m [20,000 ft] (see EASA approved RFM for variation according to MTOW)

10.2 Temperature
(see EASA approved RFM)
11. Operating Limitations
   VFR Day and Night, No flight in icing condition;
   for IFR, Category A Operation see additional equipment
   requirements and limitations in the relevant EASA
   approved RFMS)
   for Ditching see Note 2

12. Maximum Masses
   2720 kg /2835 kg (See note)
   Note: Operation of the aircraft with MTOW between 2720 kg and
   2835 kg is only permitted in accordance with FMS 9.1-3
   “Supplement for flights with gross mass above 2720 kg up
   to 2835 kg” and when SB EC135-11-003 is incorporated.

13. Centre of Gravity Range
   Longitudinal C.G Limits,
   maximum forward limit  4180 mm aft of DP at 1840 kg
                          4219 mm aft of DP at 2720 kg
                          4224 mm aft of DP at 2835 kg
   maximum rearward limit:  4570 mm aft of DP at 1500 kg
                          4387 mm aft of DP at 2720 kg
                          4369 mm aft of DP at 2835 kg

   Lateral C.G Limits,
   maximum deviation on right / left: 100 mm

14. Datum
   Longitudinal:  2160 mm forward of the levelling point in the
                   front door frame
   Lateral:  fuselage median plane

15. Levelling Means
   (see Levelling Procedure document No. L082M0801X01)

16. Minimum Flight Crew
   one pilot, right side

17. Maximum Passenger Seating Capacity
   six (or seven if the kit described in FMS 9.2-31 is installed
   and operated)

18. Passenger Emergency Exit
   two (one on each side of the passenger cabin)

19. Maximum Baggage/ Cargo Loads
   1130 kg with maximum loading 600 kg/m2

20. Rotor Blade control movement
   (see EC135 Aircraft Maintenance Manual)

21. Auxiliary Power Unit (APU)
   n/a

22. Life- limited parts
   (Refer to EASA approved Chapter 4 of the EC135 Master
   Servicing Manual)

23. Wheels and Tyres
   Skid type landing gear

IV. Operating and Service Instructions

1. Flight Manual
   EC135 P1(CDS), firstly LBA approved on 14.06.1996, or
   later LBA/ EASA approved revision, including the
   supplements for Special Operations FMS 9.1 and Optional
   Equipment FMS 9.2.
   a. EC135 Master Servicing Manual
   b. EC135 Aircraft Maintenance Manual
   c. Wiring Diagram Manual, latest revision
   d. Engine documents as per EASA Engine TCDS No. IM.E.017

   EC135 Structural Repair Manual

   see above

5. Illustrated Parts Catalogue
   EC135 Illustrated Parts Catalogue

6. Service Letters and Service Bulletins

7. Required Equipment
   special equipment and kits necessary for intended kind of operations as defined in the LBA/EASA-approved Flight Manual Supplements FMS 9.2 are permissible.

V. Notes
1. Eligible serial numbers:
   0006 and upwards

2. Ditching
   The emergency floatation system in accordance with RFMS 9.2-67, is certified as ditching provision in accordance with JAR27.
   The helicopter may be certificated for ditching provided the following additional equipment are fitted and approved in accordance with the relevant airworthiness requirements:
   – survival type emergency locator transmitter
   – life raft installation
   – life preserver
SECTION 2: EC135 P1(CPDS)

I. General

1. Type/ Variant or Model
   1.1 Type EC135
   1.2 Model P1
   1.3 Variant (CPDS)

2. Airworthiness Category
   Small Rotorcraft

3. Manufacturer
   EUROCOPTER DEUTSCHLAND GmbH

4. EASA Certification Application Date* 11 April 1996
   Note* (Primary Certification Authority certification application date for Grandfathered products)

5. National Certifying Authority
   Luftfahrt-Bundesamt, Germany

6. National Authority Type Certificate Date 06 November 1998 (TC No. 3061)

II. Certification Basis

1. Reference Date for determining the applicable requirements 11 April 1996

2. Airworthiness Requirements
   • JAR 27, first issue 06 September 1993.
   • For IFR Certification: JAR 27 Appendix B, first issue of 06 September 1993
   • Category A Engine Isolation Requirements of JAR 29, first issue 05 November 1993.
     Applicable paragraphs, selected from Appendix C to JAR 27, are:
     29.861 (a) Fire Protection of Structure, controls, and other parts
     29.901 (c) Powerplant: Installation
     29.903 (b),(c),(e) Engines
     29.908 (a) Cooling fans
     29.917 (b),(c)(1) Rotor Drive System: Design
     29.927 (c)(1) Additional tests
     29.953 (a) Fuel system independence
     29.1027 (a) Transmission and gearboxes
     29.1045 (a)(1),(b),(c),(d),(f) Climb cooling test procedures
     29.1047 (a) Take-off cooling test procedures
     29.1181 (a) Designated fire zones: regions included
     29.1189 (c) Shutoff means
     29.1191 (a)(1) Firewalls
     29.1193 (e) Cowling and engine compartment covering
     29.1305 (a)(6),(b) Powerplant instruments
     29.1309 (b)(2)(i), (d) Equipment, systems and installations
     29.1331 (b) Instruments using power supply
     29.1351 (d)(2) Electrical systems and equipment: General
   • For CAT A Certification:
   JAR27 Appendix C, first issue of 06 September 1993
• JAA Interim HIRF Policy (INT/POL/278.29-1 dated 01 June1997) applies for:
  o Dual Pilot IFR certification with 3-axis SAS, Pitch-Damper and Avionique Nouvelle CPDS and FCDS
  o Single Pilot/ Dual Pilot IFR certification with AFCS and Avionique Nouvelle CPDS and FCDS

3. Special Conditions
• Special Condition No. SC 1 "Primary Structures Designed with Composite Material"
• Special Condition No. SC 2 "Protection for Electrical and Electronic Systems from High Intensity Radiated Fields"
  This Special Condition applies only for VFR and IFR certification with conventional instruments and for VFR certification with EFIS EFS 40.
• Special Condition No. SC 3 "Electronic Flight Instrument Systems"
• Special Condition No. SC 4 "Protection of air intake of EC135 against ingestion of foreign objects (Rain and Hail/Bird strike)"

4. Exemptions n/a
5. (Reserved) Deviations n/a
6. Equivalent Safety Findings
• Equivalent Safety Finding for Dual Pilot IFR certification concerning JAR 27 Appendix B, Para. IV (c) “Static Longitudinal Stability”
• Equivalent Safety Finding concerning JAR 27.1549(b) related to the installation of the Vehicle and Engine Multifunction Display (VEMD) in the CPDS Variants.
• Equivalent Safety Finding concerning CS 27.865(c) related to dual activation device for the Primary Quick Release Subsystem (Cyclic Stick) for the Double Cargo Hook System

7. Requirements elected to comply
• Elect to Comply with CS 27.1(a) in connection with CS 27.2(b)(2)(i) to have a maximum weight up to 3175 kg

8. Environmental Protection Standards
• See EASA Type Certificate Data Sheet for Noise: TCDSN.R.009

III. Technical Characteristics and Operational Limitations

1. Type Design Definition
- EC135 Basic Master List Drawing No. L000M0007051
- Drawing No. L000M0010051 and following modifications

2. Description
Main rotor: bearingless, 4 blades
Tail rotor: Fenestron, 10 blades
Fuselage: metal-composite structure with Skid-type landing gear
Power plant: Two independent freewheel turbines

3. Equipment
Basic equipment must be installed and operational prior to registration of the helicopter.

4. Dimensions
4.1 Fuselage
Length 5.87 m
Width 1.56 m
Height 3.35 m

4.2 Main Rotor
4 blades, diameter 10.2 m

4.3 Tail Rotor
10 blades, diameter 1.0 m

5. Engine
5.1 Model
Pratt & Whitney Canada, PW 206B

5.2 Type Certificate
EASA.IM.E.017

5.3 Limitations
Installed Engine Limits and Transmission Torque Limits:

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<th>Gas generator rpm min⁻¹ [%]</th>
<th>Power turbine rpm [%]</th>
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<td>AEO-TOP (5 min)</td>
<td>2 x 75</td>
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<td>104</td>
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<tr>
<td>AEO-MCP</td>
<td>2 x 69</td>
<td>56500 [97.4]</td>
<td>104</td>
</tr>
</tbody>
</table>

One Engine Inoperative

| 2 1/2 min OEI-TOP | 1 x 100 | 59400 [102.4] | 104 | 930 |
| OEI-MCP | 1 x 86 | 58250 [100.4] | 104 | 885 |

6. Fluids (Fuel/ Oil/ Additives)
6.1 Fuel
see EASA approved RFM

6.2 Oil
see EASA approved RFM

6.3 Additives
see EASA approved RFM

7. Fluid capacities
7.1 Fuel
with standard fuel tank total fuel: 680 l maximum
useable fuel: 670.5 l

with self sealing fuel tank total fuel: 673.4 l maximum
useable fuel: 664 l

7.2 Oil
see EASA approved RFM

7.3 Coolant system capacity
n/a

8. Air Speeds Limits
V_{NE} = 155 knots
(see EASA approved RFM for reduction in VNE with altitude and other speed limitations)

9. Rotor Speed Limits
Power on:
maximum 104 %
minimum 95 %

Power off:
maximum 106 %
minimum 80 % (up to 1900 kg)
minimum 85 % (above 1900 kg)

Transient: (see EASA approved RFM)

10. Maximum Operating Altitude and Temperature
10.1 Altitude
6096 m [20,000 ft] (see EASA approved RFM for variation according to MTOW)
10.2 Temperature (see EASA approved RFM)

11. Operating Limitations
VFR Day and Night, No flight in icing condition;
for IFR, Category A Operation see additional equipment requirements and limitations in the relevant EASA approved RFMS)
for Ditching see Note 3

12. Maximum Masses
2720 kg /2835 kg (See note)
Note:
Operation of the aircraft with MTOW between 2720 kg and 2835 kg is only permitted in accordance with FMS 9.1-3 “Supplement for flights with gross mass above 2720 kg up to 2835 kg” and when SB EC135-11-003 is incorporated.

13. Centre of Gravity Range
Longitudinal C.G Limits,
maximum forward limit  4180 mm aft of DP at 1840 kg
4219 mm aft of DP at 2720 kg
4224 mm aft of DP at 2835 kg
maximum rearward limit: 4570 mm aft of DP at 1500 kg
4387 mm aft of DP at 2720 kg
4369 mm aft of DP at 2835 kg

Lateral C.G Limits,
maximum deviation on right / left: 100 mm

14. Datum
Longitudinal:  2160 mm forward of the levelling point in the front door frame
Lateral:  fuselage median plane

15. Levelling Means
(see Levelling Procedure document No. L082M0801X01)

16. Minimum Flight Crew
one pilot, right side

17. Maximum Passenger Seating Capacity
six (or seven if the kit described in FMS 9.2-31 is installed and operated)

18. Passenger Emergency Exit
two (one on each side of the passenger cabin)

19. Maximum Baggage/ Cargo Loads
1130 kg with maximum loading 600 kg/m2

20. Rotor Blade control movement (see EC135 Aircraft Maintenance Manual)

21. Auxiliary Power Unit (APU) n/a

22. Life- limited parts (Refer to EASA approved Chapter 4 of the EC135 Master Servicing Manual)

23. Wheels and Tyres
Skid type landing gear

IV. Operating and Service Instructions

1. Flight Manual
EC135 P1(CPDS), firstly LBA approved on 06.11.1998, or later LBA/ EASA approved revision, including the supplements for Special Operations FMS 9.1 and Optional Equipment FMS 9.2.
   a. EC135 Master Servicing Manual
   b. EC135 Aircraft Maintenance Manual
   c. Wiring Diagram Manual, latest revision
   d. Engine documents as per EASA Engine TCDS No. IM.E.017

   EC135 Structural Repair Manual

   see above

5. Illustrated Parts Catalogue
   EC135 Illustrated Parts Catalogue

6. Service Letters and Service Bulletins

7. Required Equipment
   special equipment and kits necessary for intended kind of operations as defined in the LBA/EASA-approved Flight Manual Supplements FMS 9.2 are permissible.

V. Notes
1. Eligible serial numbers: 0030 and upwards

2. Night Vision Goggles Operational Capability:
   Night Vision Goggles aided operations are permitted according to Rotorcraft Flight Manual Supplement 9.2-86 and the related serial number specific Flight Manual Appendix FMA 11-x, when the rotorcraft is accordingly equipped. The helicopter configuration involving internal/external emitting/reflecting equipment approved for use with Night Vision Goggles is described in the serial number specific ECD NVIS Substantiation Report.

   Subsequent modifications and deviations to the NVG helicopter configuration are managed in accordance with ECD document ECD-TN-ETZN-025-2009.

3. Ditching
   The emergency floatation system in accordance with RFMS 9.2-67, is certified as ditching provision in accordance with JAR27.

   The helicopter may be certificated for ditching provided the following additional equipment are fitted and approved in accordance with the relevant airworthiness requirements:
   – survival type emergency locator transmitter
   – life raft installation
   – life preserver
SECTION 3: EC135 P2(CPDS)

I. General

1. Type/ Variant or Model
   1.1 Type EC135
   1.2 Model P2
   1.3 Variant (CPDS)
2. Airworthiness Category Small Rotorcraft
3. Manufacturer EUROCOPTER DEUTSCHLAND GmbH
4. EASA Certification Application Date* 05 June 2001
   Note* (Primary Certification Authority certification application date for Grandfathered products)
5. National Certifying Authority Luftfahrt-Bundesamt, Germany
6. National Authority Type Certificate Date 10 July 2001 (TC No. 3061)

II. Certification Basis

1. Reference Date for determining the applicable requirements 05 June 2001
2. Airworthiness Requirements
   • JAR 27, first issue 06 September 1993.
   • For IFR Certification: JAR 27 Appendix B, first issue of 06 September 1993
   • Category A Engine Isolation Requirements of JAR 29, first issue 05 November 1993.
     Applicable paragraphs, selected from Appendix C to JAR 27, are:
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     29.1047 (a) Take-off cooling test procedures
     29.1181 (a) Designated fire zones: regions included
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     29.1193 (e) Cowling and engine compartment covering
     29.1305 (a)(6),(b) Powerplant instruments
     29.1309 (b)(2)(i), (d) Equipment, systems and installations
     29.1331 (b) Instruments using power supply
     29.1351 (d)(2) Electrical systems and equipment: General
   • For CAT A Certification:
JAR27 Appendix C, first issue of 06 September 1993

- JAA Interim HIRF Policy (INT/POL/278.29-1 dated 01 June 1997) applies for:
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  - Single Pilot/Dual Pilot IFR certification with AFCS and Avionique Nouvelle CPDS and FCDS

3. Special Conditions
- Special Condition No. SC 1 “Primary Structures Designed with Composite Material”
- Special Condition No. SC 2 “Protection for Electrical and Electronic Systems from High Intensity Radiated Fields”
  This Special Condition applies only for VFR and IFR certification with conventional instruments and for VFR certification with EFIS EFS 40.
- Special Condition No. SC 3 “Electronic Flight Instrument Systems”
- Special Condition No. SC 4 “Protection of air intake of EC135 against ingestion of foreign objects (Rain and Hail/Bird strike)”

4. Exemptions
- n/a

5. (Reserved) Deviations
- n/a

6. Equivalent Safety Findings
- Equivalent Safety Finding for Dual Pilot IFR certification concerning JAR 27 Appendix B, Para. IV (c) “Static Longitudinal Stability”
- Equivalent Safety Finding concerning JAR 27.1549(b) related to the installation of the Vehicle and Engine Multifunction Display (VEMD) in the CPDS Variants.
- Equivalent Safety Finding concerning CS 27.865(c) related to dual activation device for the Primary Quick Release Subsystem (Cyclic Stick) for the Double Cargo Hook System

7. Requirements elected to comply
- n/a

8. Environmental Protection Standards
- See EASA Type Certificate Data Sheet for Noise: TCDSN.R.009

### III. Technical Characteristics and Operational Limitations

1. Type Design Definition
   - EC135 Basic Master List Drawing No. L000M0007051
   - Drawings No. L000M0010051 + L710M0013054 and following modifications

2. Description
   - Main rotor: bearingless, 4 blades
   - Tail rotor: Fenestron, 10 blades
   - Fuselage: metal-composite structure with Skid-type landing gear
   - Power plant: Two independent freewheel turbines

3. Equipment
   - Basic equipment must be installed and operational prior to registration of the helicopter.

4. Dimensions
4.1 Fuselage
- Length: 5.87 m
- Width: 1.56 m
- Height: 3.35 m

4.2 Main Rotor
- 4 blades, diameter: 10.2 m

4.3 Tail Rotor
- 10 blades, diameter: 1.0 m

5. Engine

5.1 Model
- Pratt & Whitney Canada, PW 206B2

5.2 Type Certificate
- EASA.IM.E.017

5.3 Limitations

Installed Engine Limits and Transmission Torque Limits:

<table>
<thead>
<tr>
<th>All Engine Operation</th>
<th>Torque Limits %</th>
<th>Gas generator rpm min⁻¹ [%]</th>
<th>Power turbine rpm %</th>
<th>Temperature TOT °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEO-TOP (5 min)</td>
<td>2 x 75</td>
<td>57250 [98.7]</td>
<td>104</td>
<td>869</td>
</tr>
<tr>
<td>AEO-MCP</td>
<td>2 x 69</td>
<td>56500 [97.4]</td>
<td>104</td>
<td>835</td>
</tr>
</tbody>
</table>

One Engine Inoperative

| 30 seconds OEI-TOP   | 1 x 128        | 60500 [104.3]              | 104                 | 990                |
| 2 min OEI-TOP        | 1 x 125        | 59500 [102.6]              | 104                 | 950                |
| OEI-MCP              | 1 x 86         | 58250 [100.4]              | 104                 | 900                |

6. Fluids (Fuel/ Oil/ Additives)

6.1 Fuel
- see EASA approved RFM

6.2 Oil
- see EASA approved RFM

6.3 Additives
- see EASA approved RFM

7. Fluid capacities

7.1 Fuel
- with standard fuel tank (up to S/N 249)
  - total fuel: 680 l maximum
  - useable fuel: 670.5 l
- with self sealing fuel tank (up to S/N 249)
  - total fuel: 673.4 l maximum
  - useable fuel: 664 l
- with modified fuel tank (from S/N 250)
  - total fuel: 710.0 l maximum
  - useable fuel: 700.5 l
- with self sealing fuel tank (from S/N 250)
  - total fuel: 701.0 l maximum
  - useable fuel: 691.6 l

7.2 Oil
- see EASA approved RFM

7.3 Coolant system capacity
- n/a

8. Air Speeds Limits
- V_{NE} = 155 knots
  (see EASA approved RFM for reduction in VNE with altitude and other speed limitations)

9. Rotor Speed Limits
- Power on:
  - maximum: 104 %
  - minimum: 97 %
Power off: maximum 106 %
minimum 80 % (up to 1900 kg)
minimum 85 % (above 1900 kg)

Transient: (see EASA approved RFM)

10. Maximum Operating Altitude and Temperature

10.1 Altitude 6096 m [20,000 ft] (see EASA approved RFM for variation according to MTOW)

10.2 Temperature (see EASA approved RFM)

11. Operating Limitations VFR Day and Night, No flight in icing condition;
For IFR, Category A Operation see additional equipment requirements and limitations in the relevant EASA approved RFMS)
For Ditching see Note 3

12. Maximum Masses 2835 kg

13. Centre of Gravity Range Longitudinal C.G Limits,
maximum forward limit 4180 mm aft of DP at 1840 kg
4224 mm aft of DP at 2835 kg
maximum rearward limit: 4570 mm aft of DP at 1500 kg
4369 mm aft of DP at 2835 kg

Lateral C.G Limits,
maximum deviation on right / left: 100 mm

14. Datum Longitudinal: 2160 mm forward of the levelling point in the front door frame
Lateral: fuselage median plane

15. Levelling Means (see Levelling Procedure document No. L082M0801X01)

16. Minimum Flight Crew one pilot, right side

17. Maximum Passenger Seating Capacity six (or seven if the kit described in FMS 9.2-31 is installed and operated)

18. Passenger Emergency Exit two (one on each side of the passenger cabin)

19. Maximum Baggage/ Cargo Loads 1130 kg with maximum loading 600 kg/m2

20. Rotor Blade control movement (see EC135 Aircraft Maintenance Manual)

21. Auxiliary Power Unit (APU) n/a

22. Life- limited parts (Refer to EASA approved Chapter 4 of the EC135 Master Servicing Manual)

23. Wheels and Tyres Skid type landing gear

IV. Operating and Service Instructions

1. Flight Manual EC135 P2(CPDS), firstly LBA approved on 10.07.2001, or later LBA/ EASA approved revision, including the
supplements for Special Operations FMS 9.1 and Optional Equipment FMS 9.2.

   a. EC135 Master Servicing Manual
   b. EC135 Aircraft Maintenance Manual
   c. Wiring Diagram Manual, latest revision
   d. Engine documents as per EASA Engine TCDS No. IM.E.017

   EC135 Structural Repair Manual

   see above

5. Illustrated Parts Catalogue
   EC135 Illustrated Parts Catalogue

6. Service Letters and Service Bulletins

7. Required Equipment
   special equipment and kits necessary for intended kind of operations as defined in the LBA/EASA-approved Flight Manual Supplements FMS 9.2 are permissible.

V. Notes

1. Eligible serial numbers: 0189 and upwards

2. Night Vision Goggles Operational Capability:
   Night Vision Goggles aided operations are permitted according to Rotorcraft Flight Manual Supplement 9.2-86 and the related serial number specific Flight Manual Appendix FMA 11-x, when the rotorcraft is accordingly equipped. The helicopter configuration involving internal/external emitting/reflecting equipment approved for use with Night Vision Goggles is described in the serial number specific ECD NVIS Substantiation Report.
   Subsequent modifications and deviations to the NVG helicopter configuration are managed in accordance with ECD document ECD-TN-ETZN-025-2009.

3. Ditching
   The emergency floatation system in accordance with RFMS 9.2-67, is certified as ditching provision in accordance with JAR27.
   The helicopter may be certificated for ditching provided the following additional equipment are fitted and approved in accordance with the relevant airworthiness requirements:
   – survival type emergency locator transmitter
   – life raft installation
   – life preserver
SECTION 4: EC135 P2+

I. General

1. Type/ Variant or Model
   1.1 Type  EC135
   1.2 Model  P2
   1.3 Variant  +
2. Airworthiness Category  Small Rotorcraft
3. Manufacturer  EUROCOPTER DEUTSCHLAND GmbH and Eurocopter ESPAÑA S.A., Polígono de los Llanos, Carretera de las Penas (CM3203), Km 5.3, 02006 Albacete, ESPANA
4. EASA Certification Application Date*  08 February 2005
   Note* (Primary Certification Authority certification application date for Grandfathered products)
5. National Certifying Authority  Luftfahrt-Bundesamt, Germany
6. National Authority Type Certificate Date  21 February 2006

II. Certification Basis

1. Reference Date for determining the applicable requirements  08 February 2005
2. Airworthiness Requirements
   - JAR 27, first issue 06 September 1993.
   - For IFR Certification: JAR 27 Appendix B, first issue of 06 September 1993
   - Category A Engine Isolation Requirements of JAR 29, first issue 05 November 1993.
     Applicable paragraphs, selected from Appendix C to JAR 27, are:
     29.861 (a)  Fire Protection of Structure, controls, and other parts
     29.901 (c)  Powerplant: Installation
     29.903 (b),(c),(e)  Engines
     29.908 (a)  Cooling fans
     29.917 (b),(c)(1)  Rotor Drive System: Design
     29.927 (c)(1)  Additional tests
     29.953 (a)  Fuel system independence
     29.1027 (a)  Transmission and gearboxes
     29.1045 (a)(1),(b),(c),(d),(f)  Climb cooling test procedures
     29.1047 (a)  Take-off cooling test procedures
     29.1181 (a)  Designated fire zones: regions included
     29.1189 (c)  Shutoff means
     29.1191 (a)(1)  Firewalls
     29.1193 (e)  Cowling and engine compartment covering
     29.1305 (a)(6),(b)  Powerplant instruments
     29.1309 (b)(2)(i), (d)  Equipment, systems and installations
29.1331 (b) Instruments using power supply  
29.1351 (d)(2) Electrical systems and equipment: General

- For CAT A Certification:  
  JAR27 Appendix C, first issue of 06 September 1993
- JAA Interim HIRF Policy (INT/POL/278.29-1 dated 01 June 1997) applies for:
  - Dual Pilot IFR certification with 3-axis SAS, Pitch-Damper and Avionique Nouvelle CPDS and FCDS  
  - Single Pilot/ Dual Pilot IFR certification with AFCS and Avionique Nouvelle CPDS and FCDS

3. Special Conditions
- Special Condition No. SC 1 "Primary Structures Designed with Composite Material"
- Special Condition No. SC 2 "Protection for Electrical and Electronic Systems from High Intensity Radiated Fields"
  This Special Condition applies only for VFR and IFR certification with conventional instruments and for VFR certification with EFIS EFS 40.
- Special Condition No. SC 3 "Electronic Flight Instrument Systems"
- Special Condition No. SC 4 "Protection of air intake of EC135 against ingestion of foreign objects (Rain and Hail/Bird strike)"

4. Exemptions n/a
5. (Reserved) Deviations n/a

6. Equivalent Safety Findings
- Equivalent Safety Finding for Dual Pilot IFR certification concerning JAR 27 Appendix B, Para. IV (c) “Static Longitudinal Stability”
- Equivalent Safety Finding concerning JAR 27.1549(b) related to the installation of the Vehicle and Engine Multifunction Display (VEMD) in the CPDS Variants.
- Equivalent Safety Finding concerning CS 27.865(c) related to dual activation device for the Primary Quick Release Subsystem (Cyclic Stick) for the Double Cargo Hook System

7. Requirements elected to comply
- Elect to Comply with CS27.25 (a) (1) and CS27.143 (c) (1), Amdt 2; the provisions of CS27.143(c)(1) are demonstrated as a function of altitude and temperature: ECD is taking advantage of this possibility which is being provided from Amdt 1 of CS27 and later.

8. Environmental Protection Standards
- See EASA Type Certificate Data Sheet for Noise: TCDSN.R.009

### III. Technical Characteristics and Operational Limitations

1. Type Design Definition
   - EC135 Basic Master List Drawing No. L000M0007051  
   - Drawings of EC135 P2 (CPDS) + L000M0022051 and following modifications

2. Description
   - Main rotor: bearingless, 4 blades  
   - Tail rotor: Fenestron, 10 blades  
   - Fuselage: metal-composite structure with Skid-type landing
gear

Power plant: Two independent freewheel turbines

3. Equipment
Basic equipment must be installed and operational prior to registration of the helicopter.

4. Dimensions

| 4.1 Fuselage | Length   | 5.87 m |
|              | Width    | 1.56 m |
|              | Height   | 3.35 m |

| 4.2 Main Rotor | 4 blades, diameter | 10.2 m |
| 4.3 Tail Rotor | 10 blades, diameter | 1.0 m |

5. Engine

5.1 Model
Pratt & Whitney Canada, PW 206B2

5.2 Type Certificate
EASA.IM.E.017

5.3 Limitations

Installed Engine Limits and Transmission Torque Limits:

<table>
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<tr>
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<td>AEO-TOP (5 min)</td>
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<td>869</td>
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<tr>
<td>AEO-MCP</td>
<td>2 x 69</td>
<td>56500 [97.4]</td>
<td>104</td>
<td>835</td>
</tr>
<tr>
<td><strong>One Engine Inoperative</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 seconds OEI-TOP</td>
<td>1 x 128</td>
<td>60500 [104.3]</td>
<td>104</td>
<td>990</td>
</tr>
<tr>
<td>2 min OEI-TOP</td>
<td>1 x 125</td>
<td>59500 [102.6]</td>
<td>104</td>
<td>950</td>
</tr>
<tr>
<td>OEI-MCP</td>
<td>1 x 89,5</td>
<td>58250 [100.4]</td>
<td>104</td>
<td>900</td>
</tr>
</tbody>
</table>

6. Fluids (Fuel/ Oil/ Additives)

6.1 Fuel
see EASA approved RFM

6.2 Oil
see EASA approved RFM

6.3 Additives
see EASA approved RFM

7. Fluid capacities

| 7.1 Fuel | with standard fuel tank (up to S/N 249) | total fuel: 680 l maximum useable fuel: 670.5 l |
|          | with self sealing fuel tank (up to S/N 249) | total fuel: 673.4 l maximum useable fuel: 664 l |
|          | with modified fuel tank (from S/N 250) | total fuel: 710.0 l maximum useable fuel: 700.5 l |
|          | with self sealing fuel tank (from S/N 250) | total fuel: 701.0 l maximum useable fuel: 691.6 l |

| 7.2 Oil | see EASA approved RFM |

7.3 Coolant system capacity n/a
8. Air Speeds Limits \( V_{NE} = 155 \text{ knots} \)
   (see EASA approved RFM for reduction in VNE with altitude and other speed limitations)

9. Rotor Speed Limits
   - Power on: maximum 104 %
     minimum 97 %
   - Power off: maximum 106 %
     minimum 80 % (up to 1900 kg)
     minimum 85 % (above 1900 kg)
   - Transient: (see EASA approved RFM)

10. Maximum Operating Altitude and Temperature
    - 10.1 Altitude \( 6096 \text{ m } [20,000 \text{ ft}] \) (see EASA approved RFM for variation according to MTOW)
    - 10.2 Temperature (see EASA approved RFM)

11. Operating Limitations
    VFR Day and Night, No flight in icing condition;
    for IFR, Category A Operation see additional equipment requirements and limitations in the relevant EASA approved RFMs)
    for Ditching see Note 3

12. Maximum Masses 2910 kg /2950 kg (See note)
    Note:
    Operation of the aircraft with MTOW up to 2950 Kg is only permitted in accordance with FMS 9.1-5, FMS 9.1-6 and FMS 9.1-7 from S/N 1055 and subsequent or after SB EC135-62-028

13. Centre of Gravity Range
    Longitudinal C.G Limits,
    maximum forward limit 4180,0 mm aft of DP at 1840 kg
    4227,3 mm aft of DP at 2910 kg
    4229,3 mm aft of DP at 2950 kg
    maximum rearward limit 4570,0 mm aft of DP at 1500 kg
    4369,0 mm aft of DP at 2910 kg
    4362,6 mm aft of DP at 2950 kg
    Lateral C.G Limits,
    maximum deviation on right / left: 100 mm

14. Datum
    Longitudinal: 2160 mm forward of the levelling point in the front door frame
    Lateral: fuselage median plane

15. Levelling Means
    (see Levelling Procedure document No. L082M0801X01)

16. Minimum Flight Crew one pilot, right side

17. Maximum Passenger Seating Capacity
    six (or seven if the kit described in FMS 9.2-31 is installed and operated)

18. Passenger Emergency Exit two (one on each side of the passenger cabin)
19. Maximum Baggage/ Cargo Loads
1130 kg with maximum loading 600 kg/m²

20. Rotor Blade control movement
(see EC135 Aircraft Maintenance Manual)

21. Auxiliary Power Unit (APU)
n/a

22. Life- limited parts
(Refer to EASA approved Chapter 4 of the EC135 Master Servicing Manual)

23. Wheels and Tyres
Skid type landing gear

IV. Operating and Service Instructions

1. Flight Manual
EC135 P2+, firstly EASA approved on 21.02.2006, in the latest revision, including the supplements for Special Operations FMS 9.1 and for Optional Equipment FMS 9.2

a. EC135 Master Servicing Manual
b. EC135 Aircraft Maintenance Manual
c. Wiring Diagram Manual, latest revision
d. Engine documents as per EASA Engine TCDS No. IM.E.017

EC135 Structural Repair Manual

see above

5. Illustrated Parts Catalogue
EC135 Illustrated Parts Catalogue

6. Service Letters and Service Bulletins

7. Required Equipment
special equipment and kits necessary for intended kind of operations as defined in the LBA/EASA-approved Flight Manual Supplements FMS 9.2 are permissible.

V. Notes

1. Eligible serial numbers:
0505 and upwards
Upgraded EC135 P2 model according to Service Bulletin EC135-71-033

2. Night Vision Goggles Operational Capability:
Night Vision Goggles aided operations are permitted according to Rotorcraft Flight Manual Supplement 9.2-86 and the related serial number specific Flight Manual Appendix FMA 11-x, when the rotorcraft is accordingly equipped. The helicopter configuration involving internal/external emitting/reflecting equipment approved for use with Night Vision Goggles is described in the serial number specific ECD NVIS Substantiation Report.

Subsequent modifications and deviations to the NVG helicopter configuration are managed in accordance with ECD document ECD-TN-ETZN-025-2009.
3. Ditching

The emergency floatation system in accordance with RFMS 9.2-67, is certified as ditching provision in accordance with JAR27. The helicopter may be certificated for ditching provided the following additional equipment are fitted and approved in accordance with the relevant airworthiness requirements:

– survival type emergency locator transmitter
– life raft installation
– life preserver
SECTION 5: EC635 P2+

I. General

1. Type/ Variant or Model
   1.1 Type EC135
   1.2 Model EC635 P2
   1.3 Variant +

2. Airworthiness Category Small Rotorcraft

3. Manufacturer EUROCOPTER DEUTSCHLAND GmbH

4. EASA Certification Application Date* 17 July 2006
   Note* (Primary Certification Authority certification application date for Grandfathered products)

5. National Certifying Authority Luftfahrt-Bundesamt, Germany

6. National Authority Type Certificate Date 06 December 2006

II. Certification Basis

1. Reference Date for determining the applicable requirements 17 July 2006

2. Airworthiness Requirements
   - JAR 27, first issue 06 September 1993.
   - For IFR Certification: JAR 27 Appendix B, first issue of 06 September 1993
   - Category A Engine Isolation Requirements of JAR 29, first issue 05 November 1993. Applicable paragraphs, selected from Appendix C to JAR 27, are:

   29.861 (a) Fire Protection of Structure, controls, and other parts
   29.901 (c) Powerplant: Installation
   29.903 (b),(c),(e) Engines
   29.908 (a) Cooling fans
   29.917 (b),(c)(1) Rotor Drive System: Design
   29.927 (c)(1) Additional tests
   29.953 (a) Fuel system independence
   29.1027 (a) Transmission and gearboxes
   29.1045 (a),(b),(c),(d),(f) Climb cooling test procedures
   29.1047 (a) Take-off cooling test procedures
   29.1181 (a) Designated fire zones: regions included
   29.1189 (c) Shutoff means
   29.1191 (a),(1) Firewalls
   29.1193 (e) Cowling and engine compartment covering
   29.1305 (a),(6),(b) Powerplant instruments
   29.1309 (b)(2)(i), (d) Equipment, systems and installations
   29.1331 (b) Instruments using power supply
   29.1351 (d)(2) Electrical systems and equipment: General

   - For CAT A Certification: JAR27 Appendix C, first issue of 06 September 1993
• JAA Interim HIRF Policy (INT/POL/278.29-1 dated 01 June 1997) applies for:
  o Dual Pilot IFR certification with 3-axis SAS, Pitch-Damper and Avionique Nouvelle CPDS and FCDS
  o Single Pilot/Dual Pilot IFR certification with AFCS and Avionique Nouvelle CPDS and FCDS

3. Special Conditions
• Special Condition No. SC 1 "Primary Structures Designed with Composite Material"
• Special Condition No. SC 2 "Protection for Electrical and Electronic Systems from High Intensity Radiated Fields"
  This Special Condition applies only for VFR and IFR certification with conventional instruments and for VFR certification with EFIS EFS 40.
• Special Condition No. SC 3 "Electronic Flight Instrument Systems"
• Special Condition No. SC 4 "Protection of air intake of EC135 against ingestion of foreign objects (Rain and Hail/Bird strike)"

4. Exemptions n/a
5. (Reserved) Deviations n/a
6. Equivalent Safety Findings
• Equivalent Safety Finding for Dual Pilot IFR certification concerning JAR 27 Appendix B, Para. IV (c) “Static Longitudinal Stability”
• Equivalent Safety Finding concerning JAR 27.1549(b) related to the installation of the Vehicle and Engine Multifunction Display (VEMD) in the CPDS Variants.
• Equivalent Safety Finding concerning CS 27.865(c) related to dual activation device for the Primary Quick Release Subsystem (Cyclic Stick) for the Double Cargo Hook System

7. Requirements elected to comply
• Elect to Comply with CS27.25 (a) (1) and CS27.143 (c) (1), Amdt 2; the provisions of CS27.143(c)(1) are demonstrated as a function of altitude and temperature: ECD is taking advantage of this possibility which is being provided from Amdt 1 of CS27 and later.

8. Environmental Protection Standards
• See EASA Type Certificate Data Sheet for Noise: TCDSN.R.009

III. Technical Characteristics and Operational Limitations

1. Type Design Definition
   - EC135 Basic Master List Drawing No. L000M0007051
   - Drawings of EC135 P2 (CPDS) + L000M0022051 and following modifications
   - EC635 Kit (Drawing No. W533M1700051)

2. Description
   Main rotor: bearingless, 4 blades
   Tail rotor: Fenestron, 10 blades
   Fuselage: metal-composite structure with Skid-type landing gear
   Power plant: Two independent freewheel turbines
Note: The variant EC635 P2+ corresponds to the EC135 P2+ plus structural reinforcement of cabin structure according to the drawing W533M1700051

3. Equipment
Basic equipment must be installed and operational prior to registration of the helicopter.

4. Dimensions

4.1 Fuselage
Length 5.87 m
Width 1.56 m
Height 3.35 m

4.2 Main Rotor
4 blades, diameter 10.2 m

4.3 Tail Rotor
10 blades, diameter 1.0 m

5. Engine

5.1 Model
Pratt & Whitney Canada, PW 206B2

5.2 Type Certificate
EASA.IM.E.017

5.3 Limitations

Installed Engine Limits and Transmission Torque Limits:

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<td>2 min OEI-TOP</td>
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<td>1 x 89.5</td>
<td>58250 [100.4]</td>
<td>104</td>
<td>900</td>
</tr>
</tbody>
</table>

6. Fluids (Fuel/ Oil/ Additives)

6.1 Fuel
see EASA approved RFM

6.2 Oil
see EASA approved RFM

6.3 Additives
see EASA approved RFM

7. Fluid capacities

7.1 Fuel
with standard fuel tank (up to S/N 249)
total fuel: 680 l maximum
useable fuel: 670.5 l

with self sealing fuel tank (up to S/N 249)
total fuel: 673.4 l maximum
useable fuel: 664 l

with modified fuel tank (from S/N 250)
total fuel: 710.0 l maximum
useable fuel: 700.5 l

with self sealing fuel tank (from S/N 250)
total fuel: 701.0 l maximum
useable fuel: 691.6 l

7.2 Oil
see EASA approved RFM
7.3 Coolant system capacity  n/a

8. Air Speeds Limits

\[ V_{\text{NE}} = 155 \text{ knots} \]

(see EASA approved RFM for reduction in VNE with altitude and other speed limitations)

9. Rotor Speed Limits

- Power on: maximum 104 %  
  minimum 97 %
- Power off: maximum 106 %  
  minimum 80 % (up to 1900 kg)  
  minimum 85 % (above 1900 kg)
- Transient: (see EASA approved RFM)

10. Maximum Operating Altitude and Temperature

10.1 Altitude

6096 m [20,000 ft] (see EASA approved RFM for variation according to MTOW)

10.2 Temperature

(see EASA approved RFM)

11. Operating Limitations

VFR Day and Night, No flight in icing condition;  
for IFR, Category A Operation see additional equipment requirements and limitations in the relevant EASA approved RFMS)

for Ditching see Note 3

12. Maximum Masses

2910 kg / 2950 kg (See note)

Note:
Operation of the aircraft with MTOW up to 2950 Kg is only permitted in accordance with FMS 9.1-5, FMS 9.1-6 and FMS 9.1-7 from S/N 1055 and subsequent or after SB EC135-62-028

13. Centre of Gravity Range

- Longitudinal C.G Limits, 
  maximum forward limit 4180,0 mm aft of DP at 1840 kg  
  4227,3 mm aft of DP at 2910 kg  
  4229,3 mm aft of DP at 2950 kg  
  maximum rearward limit 4570,0 mm aft of DP at 1500 kg  
  4369,0 mm aft of DP at 2910 kg  
  4362,6 mm aft of DP at 2950 kg

- Lateral C.G Limits, 
  maximum deviation on right / left: 100 mm

14. Datum

- Longitudinal: 2160 mm forward of the levelling point in the front door frame
- Lateral: fuselage median plane

15. Levelling Means

(see Levelling Procedure document No. L082M0801X01)

16. Minimum Flight Crew

one pilot, right side

17. Maximum Passenger Seating Capacity

six (or seven if the kit described in FMS 9.2-31 is installed and operated)
18. Passenger Emergency Exit: two (one on each side of the passenger cabin)
19. Maximum Baggage/Cargo Loads: 1130 kg with maximum loading 600 kg/m²
20. Rotor Blade control movement: (see EC135 Aircraft Maintenance Manual)
21. Auxiliary Power Unit (APU): n/a
22. Life-limited parts: (Refer to EASA approved Chapter 4 of the EC135 Master Servicing Manual)
23. Wheels and Tyres: Skid type landing gear

IV. Operating and Service Instructions

2. Maintenance Manual:
   a. EC135 Master Servicing Manual
   b. EC135 Aircraft Maintenance Manual
   c. Wiring Diagram Manual, latest revision
   d. Engine documents as per EASA Engine TCDS No. IM.E.017
4. Weight and Balance Manual: see above
5. Illustrated Parts Catalogue: EC135 Illustrated Parts Catalogue
6. Service Letters and Service Bulletins
7. Required Equipment: special equipment and kits necessary for intended kind of operations as defined in the LBA/EASA-approved Flight Manual Supplements FMS 9.2 are permissible.

V. Notes

1. Eligible serial numbers: 0505 and upwards
   Upgraded EC135 P2 model according to Service Bulletin EC135-71-033
2. Night Vision Goggles Operational Capability:
   Night Vision Goggles aided operations are permitted according to Rotorcraft Flight Manual Supplement 9.2-86 and the related serial number specific Flight Manual Appendix FMA 11-x, when the rotorcraft is accordingly equipped. The helicopter configuration involving internal/external emitting/reflecting equipment approved for use with Night Vision Goggles is described in the serial number specific ECD NVIS Substantiation Report.
Subsequent modifications and deviations to the NVG helicopter configuration are managed in accordance with ECD document ECD-TN-ETZN-025-2009.

3. Ditching

The emergency floatation system in accordance with RFMS 9.2-67, is certified as ditching provision in accordance with JAR27.

The helicopter may be certificated for ditching provided the following additional equipment are fitted and approved in accordance with the relevant airworthiness requirements:

– survival type emergency locator transmitter
– life raft installation
– life preserver
SECTION 6: EC135 T1(CDS)

I. General

1. Type/ Variant or Model
   1.1 Type EC135
   1.2 Model T1
   1.3 Variant (CDS)

2. Airworthiness Category
   Small Rotorcraft

3. Manufacturer
   EUROCOPTER DEUTSCHLAND GmbH

4. EASA Certification Application Date*
   12 Dec 1994

Note* (Primary Certification Authority certification application date for Grandfathered products)

5. National Certifying Authority
   Luftfahrt-Bundesamt, Germany

6. National Authority Type Certificate Date
   14 Jun 1996 (TC No. 3061)

II. Certification Basis

1. Reference Date for determining the applicable requirements
   12 Dec 1994

2. Airworthiness Requirements
   • JAR 27, first issue 06 September 1993.
   • For IFR Certification: JAR 27 Appendix B, first issue of 06 September 1993
   • Category A Engine Isolation Requirements of JAR 29, first issue 05 November 1993.

Applicable paragraphs, selected from Appendix C to JAR 27, are:

29.861 (a) Fire Protection of Structure, controls, and other parts
29.901 (c) Powerplant: Installation
29.903 (b),(c),(e) Engines
29.908 (a) Cooling fans
29.917 (b),(c)(1) Rotor Drive System: Design
29.927 (c)(1) Additional tests
29.953 (a) Fuel system independence
29.1027 (a) Transmission and gearboxes
29.1045 (a)(1),(b),(c),(d),(f) Climb cooling test procedures
29.1047 (a) Take-off cooling test procedures
29.1181 (a) Designated fire zones: regions included
29.1189 (c) Shutoff means
29.1191 (a)(1) Firewalls
29.1193 (e) Cowling and engine compartment covering
29.1305 (a)(6),(b) Powerplant instruments
29.1309 (b)(2)(i), (d) Equipment, systems and installations
29.1331 (b) Instruments using power supply
29.1351 (d)(2) Electrical systems and equipment: General

• For CAT A Certification:
   JAR27 Appendix C, first issue of 06 September 1993
• JAA Interim HIRF Policy (INT/POL/278.29-1 dated 01 June1997) applies for:
  o Dual Pilot IFR certification with 3-axis SAS, Pitch-Damper and EFIS EFS 40
  o Single Pilot/ Dual Pilot IFR certification with AFCS and EFIS EFS 40

3. Special Conditions
• Special Condition No. SC 1 "Primary Structures Designed with Composite Material"
• Special Condition No. SC 2 "Protection for Electrical and Electronic Systems from High Intensity Radiated Fields"
  This Special Condition applies only for VFR and IFR certification with conventional instruments and for VFR certification with EFIS EFS 40.
• Special Condition No. SC 3 "Electronic Flight Instrument Systems"
• Special Condition No. SC 4 "Protection of air intake of EC135 against ingestion of foreign objects (Rain and Hail/Bird strike)"

4. Exemptions n/a
5. (Reserved) Deviations n/a

6. Equivalent Safety Findings
• Equivalent Safety Finding for Dual Pilot IFR certification concerning JAR 27 Appendix B, Para. IV (c) "Static Longitudinal Stability"
• Equivalent Safety Finding concerning CS 27.865(c) related to dual activation device for the Primary Quick Release Subsystem (Cyclic Stick) for the Double Cargo Hook System

7. Requirements elected to comply
• Elect to Comply with CS 27.1(a) in connection with CS 27.2(b)(2)(i) to have a maximum weight up to 3175 kg

8. Environmental Protection Standards
• See EASA Type Certificate Data Sheet for Noise: TCDSN.R.009

III. Technical Characteristics and Operational Limitations

1. Type Design Definition - EC135 Basic Master List Drawing No. L000M0007051
                              - Drawing No. L000M0001051 and following modifications

2. Description
   Main rotor: bearingless, 4 blades
   Tail rotor: Fenestron, 10 blades
   Fuselage: metal-composite structure with Skid-type landing gear
   Power plant: Two independent freewheel turbines

3. Equipment
   Basic equipment must be installed and operational prior to registration of the helicopter.

4. Dimensions
   4.1 Fuselage   Length   5.87 m
                  Width     1.56 m
                  Height    3.35 m
   4.2 Main Rotor 4 blades, diameter   10.2 m
4.3 Tail Rotor
10 blades, diameter 1.0 m

5. Engine

5.1 Model
Turbomeca Arrius 2B1/2B1A/2B1A_1

5.2 Type Certificate
E.029

5.3 Limitations

Installed Engine Limits and Transmission Torque Limits:

<table>
<thead>
<tr>
<th>Torque Limits</th>
<th>Gas generator rpm</th>
<th>Power turbine rpm</th>
<th>Temperature TOT</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>min⁻¹ [%]</td>
<td>%</td>
<td>° C</td>
</tr>
</tbody>
</table>

All Engine Operation

<table>
<thead>
<tr>
<th></th>
<th>AEO-TOP (5 min)</th>
<th>AEO-MCP</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Gas generator rpm</td>
<td>2 x 75</td>
<td>2 x 69</td>
</tr>
<tr>
<td>min⁻¹</td>
<td>54706 [101.1]</td>
<td>53406 [98.7]</td>
</tr>
<tr>
<td>% Power turbine rpm</td>
<td>104</td>
<td>104</td>
</tr>
<tr>
<td>Temperature TOT °C</td>
<td>895</td>
<td>855</td>
</tr>
</tbody>
</table>

One Engine Inoperative

<table>
<thead>
<tr>
<th></th>
<th>2 1/2 min OEI-TOP (2B1)</th>
<th>2 1/2 min OEI-TOP (2B1A)</th>
<th>2 1/2 min OEI-TOP (2B1A_1)</th>
<th>OEI-MCP</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Gas generator rpm</td>
<td>1 x 100</td>
<td>1 x 119.8</td>
<td>1 x 128</td>
<td>1 x 86</td>
</tr>
<tr>
<td>min⁻¹</td>
<td>56113 [103.7]</td>
<td></td>
<td></td>
<td>54706 [101.1]</td>
</tr>
<tr>
<td>% Power turbine rpm</td>
<td>104</td>
<td></td>
<td></td>
<td>104</td>
</tr>
<tr>
<td>Temperature TOT °C</td>
<td>945</td>
<td></td>
<td></td>
<td>895</td>
</tr>
</tbody>
</table>

6. Fluids (Fuel/ Oil/ Additives)

6.1 Fuel
see EASA approved RFM

6.2 Oil
see EASA approved RFM

6.3 Additives
see EASA approved RFM

7. Fluid capacities

7.1 Fuel
with standard fuel tank
total fuel: 680 l maximum
useable fuel: 670.5 l

with modified fuel tank
total fuel: 710.0 l maximum
useable fuel: 700.5 l

with self sealing fuel tank
total fuel: 673.4 l maximum
useable fuel: 664 l

7.2 Oil
see EASA approved RFM

7.3 Coolant system capacity n/a

8. Air Speeds Limits

\( V_{NE} = 155 \text{ knots} \)
(see EASA approved RFM for reduction in VNE with altitude and other speed limitations)

9. Rotor Speed Limits

Power on:
maximum 104 %
minimum 95 %

Power off:
maximum 106 %
minimum 80 % (up to 1900 kg)
minimum 85 % (above 1900 kg)

Transient: (see EASA approved RFM)

10. Maximum Operating Altitude and Temperature

10.1 Altitude
6096 m [20,000 ft] (see EASA approved RFM for variation according to MTOW)
10.2 Temperature (see EASA approved RFM)

11. Operating Limitations
   - VFR Day and Night, No flight in icing condition;
   - for IFR, Category A Operation see additional equipment requirements and limitations in the relevant EASA approved RFMS)
   - for Ditching see Note 2

12. Maximum Masses
   - 2720 kg / 2835 kg (See note)
   - Note:
     - Operation of the aircraft with MTOW between 2720 kg and 2835 kg is only permitted in accordance with FMS 9.1-3 “Supplement for flights with gross mass above 2720 kg up to 2835 kg” and when SB EC135-11-003 is incorporated.

13. Centre of Gravity Range
   - Longitudinal C.G Limits,
     - maximum forward limit: 4180 mm aft of DP at 1840 kg
     - 4219 mm aft of DP at 2720 kg
     - 4224 mm aft of DP at 2835 kg
     - maximum rearward limit: 4570 mm aft of DP at 1500 kg
     - 4387 mm aft of DP at 2720 kg
     - 4369 mm aft of DP at 2835 kg
   - Lateral C.G Limits,
     - maximum deviation on right / left: 100 mm

14. Datum
   - Longitudinal: 2160 mm forward of the levelling point in the front door frame
   - Lateral: fuselage median plane

15. Levelling Means (see Levelling Procedure document No. L082M0801X01)

16. Minimum Flight Crew
   - one pilot, right side

17. Maximum Passenger Seating Capacity
   - six (or seven if the kit described in FMS 9.2-31 is installed and operated)

18. Passenger Emergency Exit
   - two (one on each side of the passenger cabin)

19. Maximum Baggage/ Cargo Loads
   - 1130 kg with maximum loading 600 kg/m2

20. Rotor Blade control movement (see EC135 Aircraft Maintenance Manual)

21. Auxiliary Power Unit (APU)
   - n/a

22. Life- limited parts (Refer to EASA approved Chapter 4 of the EC135 Master Servicing Manual)

23. Wheels and Tyres
   - Skid type landing gear

IV. Operating and Service Instructions

1. Flight Manual
   - EC135 T1(CDS), firstly LBA approved on 14.06.1996, or later LBA/ EASA approved revision, including the supplements for Special Operations FMS 9.1 and Optional Equipment FMS 9.2.
   a. EC135 Master Servicing Manual  
   b. EC135 Aircraft Maintenance Manual  
   c. Wiring Diagram Manual, latest revision  
   d. Engine documents as per EASA Engine TCDS No. E.029

   EC135 Structural Repair Manual

   see above

5. Illustrated Parts Catalogue  
   EC135 Illustrated Parts Catalogue

6. Service Letters and Service Bulletins  

7. Required Equipment  
   special equipment and kits necessary for intended kind of operations as defined in the LBA/EASA-approved Flight Manual Supplements FMS 9.2 are permissible.

V. Notes

1. Eligible serial numbers:  
   0005 and upwards

2. Ditching  
   The emergency floatation system in accordance with RFMS 9.2-67, is certified as ditching provision in accordance with JAR27.  
   The helicopter may be certificated for ditching provided the following additional equipment are fitted and approved in accordance with the relevant airworthiness requirements:  
   – survival type emergency locator transmitter  
   – life raft installation  
   – life preserver
SECTION 7: EC135 T1(CPDS)

I. General

1. Type/ Variant or Model
   1.1 Type EC135
   1.2 Model T1
   1.3 Variant (CPDS)

2. Airworthiness Category Small Rotorcraft

3. Manufacturer EUROCOPTER DEUTSCHLAND GmbH

4. EASA Certification Application Date* 26 May 1999
   Note* (Primary Certification Authority certification application date for Grandfathered products)

5. National Certifying Authority Luftfahrt-Bundesamt, Germany

6. National Authority Type Certificate Date 11 April 1997 (TC No. 3061)

II. Certification Basis

1. Reference Date for determining the applicable requirements 11 April 1997

2. Airworthiness Requirements
   • JAR 27, first issue 06 September 1993.
   • For IFR Certification: JAR 27 Appendix B, first issue of 06 September 1993
   • Category A Engine Isolation Requirements of JAR 29, first issue 05 November 1993.
     Applicable paragraphs, selected from Appendix C to JAR 27, are:

     29.861 (a) Fire Protection of Structure, controls, and other parts
     29.901 (c) Powerplant: Installation
     29.903 (b),(c),(e) Engines
     29.908 (a) Cooling fans
     29.917 (b),(c)(1) Rotor Drive System: Design
     29.927 (c)(1) Additional tests
     29.953 (a) Fuel system independence
     29.1027 (a) Transmission and gearboxes
     29.1045 (a)(1),(b),(c),(d),(f) Climb cooling test procedures
     29.1047 (a) Take-off cooling test procedures
     29.1181 (a) Designated fire zones: regions included
     29.1189 (c) Shutoff means
     29.1191 (a)(1) Firewalls
     29.1193 (e) Cowling and engine compartment covering
     29.1305 (a)(6),(b) Powerplant instruments
     29.1309 (b)(2)(i), (d) Equipment, systems and installations
     29.1331 (b) Instruments using power supply
     29.1351 (d)(2) Electrical systems and equipment: General

   • For CAT A Certification:
     JAR27 Appendix C, first issue of 06 September 1993
• JAA Interim HIRF Policy (INT/POL/278.29-1 dated 01 June 1997) applies for:
  o Dual Pilot IFR certification with 3-axis SAS, Pitch-Damper and Avionique Nouvelle CPDS and FCDS
  o Single Pilot/Dual Pilot IFR certification with AFCS and Avionique Nouvelle CPDS and FCDS

3. Special Conditions
  • Special Condition No. SC 1 "Primary Structures Designed with Composite Material"
  • Special Condition No. SC 2 "Protection for Electrical and Electronic Systems from High Intensity Radiated Fields"
    This Special Condition applies only for VFR and IFR certification with conventional instruments and for VFR certification with EFIS EFS 40.
  • Special Condition No. SC 3 "Electronic Flight Instrument Systems"
  • Special Condition No. SC 4 "Protection of air intake of EC135 against ingestion of foreign objects (Rain and Hail/Bird strike)"

4. Exemptions  n/a

5. (Reserved) Deviations  n/a

6. Equivalent Safety Findings
  • Equivalent Safety Finding for Dual Pilot IFR certification concerning JAR 27 Appendix B, Para. IV (c) "Static Longitudinal Stability"
  • Equivalent Safety Finding concerning JAR 27.1549(b) related to the installation of the Vehicle and Engine Multifunction Display (VEMD) in the CPDS Variants.
  • Equivalent Safety Finding concerning CS 27.865(c) related to dual activation device for the Primary Quick Release Subsystem (Cyclic Stick) for the Double Cargo Hook System

7. Requirements elected to comply
  • Elect to Comply with CS 27.1(a) in connection with CS 27.2(b)(2)(i) to have a maximum weight up to 3175 kg

8. Environmental Protection Standards
  • See EASA Type Certificate Data Sheet for Noise: TCDSN.R.009

III. Technical Characteristics and Operational Limitations

1. Type Design Definition
   - EC135 Basic Master List Drawing No. L000M0007051
   - Drawing No. L000M0009051 and following modifications

2. Description
   Main rotor: bearingless, 4 blades
   Tail rotor: Fenestron, 10 blades
   Fuselage: metal-composite structure with Skid-type landing gear
   Power plant: Two independent freewheel turbines

3. Equipment
   Basic equipment must be installed and operational prior to registration of the helicopter.

4. Dimensions
4.1 Fuselage
Length 5,87 m
Width 1,56 m
Height 3,35 m

4.2 Main Rotor
4 blades, diameter 10,2 m

4.3 Tail Rotor
10 blades, diameter 1,0 m

5. Engine
5.1 Model
Turbomeca Arrius 2B1/2B1A/2B1A_1

5.2 Type Certificate
E.029

5.3 Limitations

Installed Engine Limits and Transmission Torque Limits:

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<td>AEO-MCP</td>
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One Engine Inoperative

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<tbody>
<tr>
<td>%</td>
<td>min⁻¹ [1%]</td>
<td>%</td>
<td>°C</td>
</tr>
<tr>
<td>2½ min OEI-TOP (2B1)</td>
<td>1 x 100</td>
<td>56113 [103,7]</td>
<td>104</td>
</tr>
<tr>
<td>2½ min OEI-TOP (2B1A)</td>
<td>1 x 119,8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2½ min OEI-TOP (2B1A_1)</td>
<td>1 x 128</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OEI-MCP</td>
<td>1 x 86</td>
<td>54706 [101,1]</td>
<td>104</td>
</tr>
</tbody>
</table>

6. Fluids (Fuel/ Oil/ Additives)

6.1 Fuel
see EASA approved RFM

6.2 Oil
see EASA approved RFM

6.3 Additives
see EASA approved RFM

7. Fluid capacities

7.1 Fuel
with standard fuel tank
total fuel: 680 l maximum
useable fuel: 670.5 l

with modified fuel tank
total fuel: 710.0 l maximum
useable fuel: 700.5 l

with self sealing fuel tank
total fuel: 673.4 l maximum
useable fuel: 664 l

7.2 Oil
see EASA approved RFM

7.3 Coolant system capacity
n/a

8. Air Speeds Limits
\( V_{\text{NE}} = 155 \text{ knots} \)

(see EASA approved RFM for reduction in VNE with altitude and other speed limitations)

9. Rotor Speed Limits
Power on:
- maximum 104 %
- minimum 95 %

Power off:
- maximum 106 %
- minimum 80 % (up to 1900 kg)
- minimum 85 % (above 1900 kg)
10. Maximum Operating Altitude and Temperature

10.1 Altitude  
6096 m [20,000 ft] (see EASA approved RFM for variation according to MTOW)

10.2 Temperature  
(see EASA approved RFM)

11. Operating Limitations

VFR Day and Night, No flight in icing condition;

for IFR, Category A Operation see additional equipment requirements and limitations in the relevant EASA approved RFMS)

for Ditching see Note 3

12. Maximum Masses

2720 kg /2835 kg (See note)

Note:
Operation of the aircraft with MTOW between 2720 kg and 2835 kg is only permitted in accordance with FMS 9.1-3 “Supplement for flights with gross mass above 2720 kg up to 2835 kg” and when SB EC135-11-003 is incorporated.

13. Centre of Gravity Range

Longitudinal C.G Limits,  
maximum forward limit  
4180 mm aft of DP at 1840 kg
4219 mm aft of DP at 2720 kg
4224 mm aft of DP at 2835 kg

maximum rearward limit:  
4570 mm aft of DP at 1500 kg
4387 mm aft of DP at 2720 kg
4369 mm aft of DP at 2835 kg

Lateral C.G Limits,  
maximum deviation on right / left: 100 mm

14. Datum

Longitudinal: 2160 mm forward of the levelling point in the front door frame

Lateral: fuselage median plane

15. Levelling Means

(see Levelling Procedure document No. L082M0801X01)

16. Minimum Flight Crew

one pilot, right side

17. Maximum Passenger Seating Capacity

six (or seven if the kit described in FMS 9.2-31 is installed and operated)

18. Passenger Emergency Exit

two (one on each side of the passenger cabin)

19. Maximum Baggage/ Cargo Loads

1130 kg with maximum loading 600 kg/m2

20. Rotor Blade control movement

(see EC135 Aircraft Maintenance Manual)

21. Auxiliary Power Unit (APU)

n/a

22. Life- limited parts

(Refer to EASA approved Chapter 4 of the EC135 Master Servicing Manual)

23. Wheels and Tyres

Skid type landing gear
IV. Operating and Service Instructions

1. Flight Manual
   EC135 T1(CPDS), firstly LBA approved on 26.05.1999, or later LBA/EASA approved revision, including the supplements for Special Operations FMS 9.1 and Optional Equipment FMS 9.2.

   a. EC135 Master Servicing Manual
   b. EC135 Aircraft Maintenance Manual
   c. Wiring Diagram Manual, latest revision
   d. Engine documents as per EASA Engine TCDS No. E.029

   EC135 Structural Repair Manual

   see above

5. Illustrated Parts Catalogue
   EC135 Illustrated Parts Catalogue

6. Service Letters and Service Bulletins

7. Required Equipment
   special equipment and kits necessary for intended kind of operations as defined in the LBA/EASA-approved Flight Manual Supplements FMS 9.2 are permissible.

V. Notes

1. Eligible serial numbers: 0028, 0092 and upwards

2. Night Vision Goggles Operational Capability:
   Night Vision Goggles aided operations are permitted according to Rotorcraft Flight Manual Supplement 9.2-86 and the related serial number specific Flight Manual Appendix FMA 11-x, when the rotorcraft is accordingly equipped. The helicopter configuration involving internal/external emitting/reflecting equipment approved for use with Night Vision Goggles is described in the serial number specific ECD NVIS Substantiation Report.
   Subsequent modifications and deviations to the NVG helicopter configuration are managed in accordance with ECD document ECD-TN-ETZN-025-2009.

3. Ditching
   The emergency floatation system in accordance with RFMS 9.2-67, is certified as ditching provision in accordance with JAR27.
   The helicopter may be certificated for ditching provided the following additional equipment are fitted and approved in accordance with the relevant airworthiness requirements:
   – survival type emergency locator transmitter
   – life raft installation
   – life preserver
SECTION 8: EC635 T1(CPDS)

I. General

1. Type/ Variant or Model
   1.1 Type EC135
   1.2 Model EC635 T1
   1.3 Variant (CPDS)

2. Airworthiness Category Small Rotorcraft

3. Manufacturer EUROCOPTER DEUTSCHLAND GmbH

4. EASA Certification Application Date* 10 August 2001
   Note* (Primary Certification Authority certification application date for Grandfathered products)

5. National Certifying Authority Luftfahrt-Bundesamt, Germany

6. National Authority Type Certificate Date 31 August 2001 (TC No. 3061)

II. Certification Basis

1. Reference Date for determining the applicable requirements 10 August 2001

2. Airworthiness Requirements
   - JAR 27, first issue 06 September 1993.
   - For IFR Certification: JAR 27 Appendix B, first issue of 06 September 1993
   - Category A Engine Isolation Requirements of JAR 29, first issue 05 November 1993.
     Applicable paragraphs, selected from Appendix C to JAR 27, are:
     29.861 (a) Fire Protection of Structure, controls, and other parts
     29.901 (c) Powerplant: Installation
     29.903 (b),(c),(e) Engines
     29.908 (a) Cooling fans
     29.917 (b),(c)(1) Rotor Drive System: Design
     29.927 (c)(1) Additional tests
     29.953 (a) Fuel system independence
     29.1027 (a) Transmission and gearboxes
     29.1045 (a)(1),(b),(c),(d),(f) Climb cooling test procedures
     29.1047 (a) Take-off cooling test procedures
     29.1181 (a) Designated fire zones: regions included
     29.1189 (c) Shutoff means
     29.1191 (a)(1) Firewalls
     29.1193 (e) Cowling and engine compartment covering
     29.1305 (a)(6),(b) Powerplant instruments
     29.1309 (b)(2)(i), (d) Equipment, systems and installations
     29.1331 (b) Instruments using power supply
     29.1351 (d)(2) Electrical systems and equipment: General
   - For CAT A Certification:
     JAR27 Appendix C, first issue of 06 September 1993
- JAA Interim HIRF Policy (INT/POL/278.29-1 dated 01 June 1997) applies for:
  o Dual Pilot IFR certification with 3-axis SAS, Pitch-Damper and Avionique Nouvelle CPDS and FCDS
  o Single Pilot/Dual Pilot IFR certification with AFCS and Avionique Nouvelle CPDS and FCDS

3. Special Conditions
   - Special Condition No. SC 1 "Primary Structures Designed with Composite Material"
   - Special Condition No. SC 2 "Protection for Electrical and Electronic Systems from High Intensity Radiated Fields"
     This Special Condition applies only for VFR and IFR certification with conventional instruments and for VFR certification with EFIS EFS 40.
   - Special Condition No. SC 3 "Electronic Flight Instrument Systems"
   - Special Condition No. SC 4 "Protection of air intake of EC135 against ingestion of foreign objects (Rain and Hail/Bird strike)"

4. Exemptions
   n/a

5. (Reserved) Deviations
   n/a

6. Equivalent Safety Findings
   - Equivalent Safety Finding for Dual Pilot IFR certification concerning JAR 27 Appendix B, Para. IV (c) "Static Longitudinal Stability"
   - Equivalent Safety Finding concerning JAR 27.1549(b) related to the installation of the Vehicle and Engine Multifunction Display (VEMD) in the CPDS Variants.
   - Equivalent Safety Finding concerning CS 27.865(c) related to dual activation device for the Primary Quick Release Subsystem (Cyclic Stick) for the Double Cargo Hook System

7. Requirements elected to comply
   - Elect to Comply with CS 27.1(a) in connection with CS 27.2(b)(2)(i) to have a maximum weight up to 3175 kg

8. Environmental Protection Standards
   - See EASA Type Certificate Data Sheet for Noise: TCDSN.R.009

III. Technical Characteristics and Operational Limitations

1. Type Design Definition
   - EC135 Basic Master List Drawing No. L000M0007051
   - Drawing No. L000M0009051 and following modifications
   - EC635 Kit (Drawing No. W530M0700051)

2. Description
   Main rotor: bearingless, 4 blades
   Tail rotor: Fenestron, 10 blades
   Fuselage: metal-composite structure with Skid-type landing gear
   Power plant: Two independent freewheel turbines

Note: The variant EC635 T1 (CPDS) corresponds to the EC135 T1 (CPDS) plus structural reinforcement of cabin structure according to the drawing W530M0700051.
3. Equipment

Basic equipment must be installed and operational prior to registration of the helicopter.

4. Dimensions

4.1 Fuselage
- Length: 5.87 m
- Width: 1.56 m
- Height: 3.35 m

4.2 Main Rotor
- 4 blades, diameter: 10.2 m

4.3 Tail Rotor
- 10 blades, diameter: 1.0 m

5. Engine

5.1 Model
- Turbomeca Arrius 2B1/2B1A/2B1A_1

5.2 Type Certificate
- E.029

5.3 Limitations

Installed Engine Limits and Transmission Torque Limits:

<table>
<thead>
<tr>
<th>Torque Limits</th>
<th>Gas generator rpm min⁻¹ [%]</th>
<th>Power turbine rpm %</th>
<th>Temperature TOT °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Engine Operation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AEO-TOP (5 min)</td>
<td>2 x 75</td>
<td>54706 [101.1]</td>
<td>104</td>
</tr>
<tr>
<td>AEO-MCP</td>
<td>2 x 69</td>
<td>53406 [98.7]</td>
<td>104</td>
</tr>
<tr>
<td>One Engine Inoperative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2/₅ min OEI-TOP (2B1)</td>
<td>1 x 100</td>
<td>56113 [103.7]</td>
<td>104</td>
</tr>
<tr>
<td>2/₅ min OEI-TOP (2B1A)</td>
<td>1 x 119,8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2/₅ min OEI-TOP (2B1A_1)</td>
<td>1 x 128</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OEI-MCP</td>
<td>1 x 86</td>
<td>54706 [101.1]</td>
<td>104</td>
</tr>
</tbody>
</table>

6. Fluids (Fuel/ Oil/ Additives)

6.1 Fuel
- see EASA approved RFM

6.2 Oil
- see EASA approved RFM

6.3 Additives
- see EASA approved RFM

7. Fluid capacities

7.1 Fuel
- with standard fuel tank
  - total fuel: 680 l maximum
  - useable fuel: 670.5 l
- with modified fuel tank
  - total fuel: 710.0 l maximum
  - useable fuel: 700.5 l
- with self sealing fuel tank
  - total fuel: 673.4 l maximum
  - useable fuel: 664 l

7.2 Oil
- see EASA approved RFM

7.3 Coolant system capacity
- n/a

8. Air Speeds Limits

\( V_{NE} = 155 \text{ knots} \)

(see EASA approved RFM for reduction in VNE with altitude and other speed limitations)

9. Rotor Speed Limits

Power on:
- maximum: 104 %
- minimum: 95 %
Power off:  
- maximum 106 %  
- minimum 80 % (up to 1900 kg)  
- minimum 85 % (above 1900 kg)

Transient:  
(see EASA approved RFM)

10. Maximum Operating Altitude and Temperature

10.1 Altitude  
6096 m [20,000 ft] (see EASA approved RFM for variation according to MTOW)

10.2 Temperature  
(see EASA approved RFM)

11. Operating Limitations

VFR Day and Night, No flight in icing condition;

for IFR, Category A Operation see additional equipment requirements and limitations in the relevant EASA approved RFMS)

for Ditching see Note 3

12. Maximum Masses  
2720 kg / 2835 kg (See note)

Note:
Operation of the aircraft with MTOW between 2720 kg and 2835 kg is only permitted in accordance with FMS 9.1-3 “Supplement for flights with gross mass above 2720 kg up to 2835 kg” and when SB EC135-11-003 is incorporated.

13. Centre of Gravity Range

Longitudinal C.G Limits,
- maximum forward limit  
  4180 mm aft of DP at 1840 kg  
  4219 mm aft of DP at 2720 kg  
  4224 mm aft of DP at 2835 kg

- maximum rearward limit:  
  4570 mm aft of DP at 1500 kg  
  4387 mm aft of DP at 2720 kg  
  4369 mm aft of DP at 2835 kg

Lateral C.G Limits,
- maximum deviation on right / left: 100 mm

14. Datum

Longitudinal:  
2160 mm forward of the levelling point in the front door frame

Lateral:  
Fuselage median plane

15. Levelling Means

(see Levelling Procedure document No. L082M0801X01)

16. Minimum Flight Crew

One pilot, right side

17. Maximum Passenger Seating Capacity

Six (or seven if the kit described in FMS 9.2-31 is installed and operated)

18. Passenger Emergency Exit

Two (one on each side of the passenger cabin)

19. Maximum Baggage/ Cargo Loads

1130 kg with maximum loading 600 kg/m2

20. Rotor Blade control movement

(see EC135 Aircraft Maintenance Manual)

21. Auxiliary Power Unit (APU)

N/A

22. Life- limited parts

(Refer to EASA approved Chapter 4 of the EC135 Master Servicing Manual)

23. Wheels and Tyres

Skid type landing gear
IV. Operating and Service Instructions

1. Flight Manual
   EC635 T1(CPDS), firstly LBA approved on 31.08.2001, in the latest revision. The RFM was firstly released as a combination from the actual RFM of EC135 T1(CPDS) and Flight Manual Appendix FMA 11-10 which includes the EC635 Kit, including the supplements for Special Operations FMS 9.1 and Optional Equipment FMS 9.2.

   a. EC135 Master Servicing Manual
   b. EC135 Aircraft Maintenance Manual
   c. Wiring Diagram Manual, latest revision
   d. Engine documents as per EASA Engine TCDS No.E.029

   EC135 Structural Repair Manual

   see above

5. Illustrated Parts Catalogue
   EC135 Illustrated Parts Catalogue

6. Service Letters and Service Bulletins

7. Required Equipment
   special equipment and kits necessary for intended kind of operations as defined in the LBA/EASA-approved Flight Manual Supplements FMS 9.2 are permissible.

V. Notes

1. Eligible serial numbers: 0173 and upwards

2. Night Vision Goggles Operational Capability:
   Night Vision Goggles aided operations are permitted according to Rotorcraft Flight Manual Supplement 9.2-86 and the related serial number specific Flight Manual Appendix FMA 11-x, when the rotorcraft is accordingly equipped. The helicopter configuration involving internal/external emitting/reflecting equipment approved for use with Night Vision Goggles is described in the serial number specific ECD NVIS Substantiation Report.

   Subsequent modifications and deviations to the NVG helicopter configuration are managed in accordance with ECD document ECD-TN-ETZN-025-2009.

3. Ditching
   The emergency floatation system in accordance with RFMS 9.2-67, is certified as ditching provision in accordance with JAR27.

   The helicopter may be certificated for ditching provided the following additional equipment are fitted and approved in accordance with the relevant airworthiness requirements:
   - survival type emergency locator transmitter
   - life raft installation
   - life preserver
SECTION 9: EC135 T2(CPDS)

I. General

1. Type/ Variant or Model
   1.1 Type EC135
   1.2 Model T2
   1.3 Variant (CPDS)

2. Airworthiness Category Small Rotorcraft

3. Manufacturer EUROCOPTER DEUTSCHLAND GmbH

4. EASA Certification Application Date* 05 February 2002
   Note* (Primary Certification Authority certification application date for Grandfathered products)

5. National Certifying Authority Luftfahrt-Bundesamt, Germany

6. National Authority Type Certificate Date 09 August 2002 (TC No. 3061)

II. Certification Basis

1. Reference Date for determining the applicable requirements 05 February 2002

2. Airworthiness Requirements
   - JAR 27, first issue 06 September 1993.
   - For IFR Certification: JAR 27 Appendix B, first issue of 06 September 1993
   - Category A Engine Isolation Requirements of JAR 29, first issue 05 November 1993.
     Applicable paragraphs, selected from Appendix C to JAR 27, are:
     - 29.861 (a) Fire Protection of Structure, controls, and other parts
     - 29.901 (c) Powerplant: Installation
     - 29.903 (b),(c),(e) Engines
     - 29.908 (a) Cooling fans
     - 29.917 (b),(c),(1) Rotor Drive System: Design
     - 29.927 (c)(1) Additional tests
     - 29.953 (a) Fuel system independence
     - 29.1027 (a) Transmission and gearboxes
     - 29.1045 (a),(1),(b),(c),(d),(f) Climb cooling test procedures
     - 29.1047 (a) Take-off cooling test procedures
     - 29.1181 (a) Designated fire zones: regions included
     - 29.1189 (c) Shutoff means
     - 29.1191 (a)(1) Firewalls
     - 29.1193 (e) Cowling and engine compartment covering
     - 29.1305 (a),(6),(b) Powerplant instruments
     - 29.1309 (b),(2)(i),(d) Equipment, systems and installations
     - 29.1331 (b) Instruments using power supply
     - 29.1351 (d),(2) Electrical systems and equipment: General
For CAT A Certification:
JAR27 Appendix C, first issue of 06 September 1993

JAA Interim HIRF Policy (INT/POL/278.29-1 dated 01 June 1997) applies for:
- Dual Pilot IFR certification with 3-axis SAS, Pitch-Damper and Avionique Nouvelle CPDS and FCDS
- Single Pilot/Dual Pilot IFR certification with AFCS and Avionique Nouvelle CPDS and FCDS

3. Special Conditions

- Special Condition No. SC 1 "Primary Structures Designed with Composite Material"
- Special Condition No. SC 2 "Protection for Electrical and Electronic Systems from High Intensity Radiated Fields"
  This Special Condition applies only for VFR and IFR certification with conventional instruments and for VFR certification with EFIS EFS 40.
- Special Condition No. SC 3 "Electronic Flight Instrument Systems"
- Special Condition No. SC 4 "Protection of air intake of EC135 against ingestion of foreign objects (Rain and Hail/Bird strike)"

4. Exemptions n/a

5. (Reserved) Deviations n/a

6. Equivalent Safety Findings

- Equivalent Safety Finding for Dual Pilot IFR certification concerning JAR 27 Appendix B, Para. IV (c) "Static Longitudinal Stability"
- Equivalent Safety Finding concerning JAR 27.1549(b) related to the installation of the Vehicle and Engine Multifunction Display (VEMD) in the CPDS Variants.
- Equivalent Safety Finding concerning CS 27.865(c) related to dual activation device for the Primary Quick Release Subsystem (Cyclic Stick) for the Double Cargo Hook System

7. Requirements elected to comply

- n/a

8. Environmental Protection Standards

- See EASA Type Certificate Data Sheet for Noise: TCDSN.R.009

III. Technical Characteristics and Operational Limitations

1. Type Design Definition
   - EC135 Basic Master List Drawing No. L000M0007051
   - Drawings No. L000M0009051 + L710M0012054 and following modifications

2. Description
   - Main rotor: bearingless, 4 blades
   - Tail rotor: Fenestron, 10 blades
   - Fuselage: metal-composite structure with Skid-type landing gear
   - Power plant: Two independent freewheel turbines
3. Equipment

Basic equipment must be installed and operational prior to registration of the helicopter.

4. Dimensions

4.1 Fuselage
Length 5,87 m
Width 1,56 m
Height 3,35 m

4.2 Main Rotor
4 blades, diameter 10,2 m

4.3 Tail Rotor
10 blades, diameter 1,0 m

5. Engine

5.1 Model
Turbomeca Arrius 2B2

5.2 Type Certificate
E.029

5.3 Limitations

Installed Engine Limits and Transmission Torque Limits:

<table>
<thead>
<tr>
<th>All Engine Operation</th>
<th>Torque Limits</th>
<th>Gas generator rpm min⁻¹ [%]</th>
<th>Power turbine rpm [%]</th>
<th>Temperature TOT °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEO-TOP (5 min)</td>
<td>2 x 75</td>
<td>54117 [100]</td>
<td>104</td>
<td>897</td>
</tr>
<tr>
<td>AEO-MCP</td>
<td>2 x 69</td>
<td>53576 [99]</td>
<td>104</td>
<td>879</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>One Engine Inoperative</th>
<th>Torque Limits</th>
<th>Gas generator rpm min⁻¹ [%]</th>
<th>Power turbine rpm [%]</th>
<th>Temperature TOT °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 seconds OEI-TOP</td>
<td>1 x 128</td>
<td>56823 [105.0]</td>
<td>104</td>
<td>1024</td>
</tr>
<tr>
<td>2 min OEI-TOP</td>
<td>1 x 125</td>
<td>56011 [103.5]</td>
<td>104</td>
<td>994</td>
</tr>
<tr>
<td>OEI-MCP</td>
<td>1 x 86</td>
<td>54821 [101.3]</td>
<td>104</td>
<td>942</td>
</tr>
</tbody>
</table>

6. Fluids (Fuel/ Oil/ Additives)

6.1 Fuel
see EASA approved RFM

6.2 Oil
see EASA approved RFM

6.3 Additives
see EASA approved RFM

7. Fluid capacities

7.1 Fuel:
with standard fuel tank
(up to S/N 249) total fuel: 680 l maximum
useable fuel: 670.5 l

with self sealing fuel tank
(up to S/N 249) total fuel: 673.4 l maximum
useable fuel: 664 l

with modified fuel tank
(from S/N 250 or S/B EC135-28-007) total fuel: 710.0 l maximum
useable fuel: 700.5 l

with self sealing fuel tank
(from S/N 250) total fuel: 701.0 l maximum
useable fuel: 691.6 l

7.2 Oil
see EASA approved RFM

7.3 Coolant system capacity
n/a

8. Air Speeds Limits

\[ V_{NE} = 155 \text{ knots} \]
9. Rotor Speed Limits

- **Power on:**
  - maximum: 104%
  - minimum: 97%

- **Power off:**
  - maximum: 106%
  - minimum: 80% (up to 1900 kg)
  - minimum: 85% (above 1900 kg)

- **Transient:** (see EASA approved RFM)

10. Maximum Operating Altitude and Temperature

- **Altitude:** 6096 m [20,000 ft] (see EASA approved RFM for variation according to MTOW)

11. Operating Limitations

- VFR Day and Night, No flight in icing condition;
- for IFR, Category A Operation see additional equipment requirements and limitations in the relevant EASA approved RFMs
- for Ditching see Note 3

12. Maximum Masses

- 2835 kg

13. Centre of Gravity Range

- **Longitudinal C.G Limits,**
  - maximum forward limit: 4180 mm aft of DP at 1840 kg
  - 4224 mm aft of DP at 2835 kg
  - maximum rearward limit: 4570 mm aft of DP at 1500 kg
  - 4369 mm aft of DP at 2835 kg

- **Lateral C.G Limits,**
  - maximum deviation on right / left: 100 mm

14. Datum

- **Longitudinal:** 2160 mm forward of the levelling point in the front door frame
- **Lateral:** fuselage median plane

15. Levelling Means

- (see Levelling Procedure document No. L082M0801X01)

16. Minimum Flight Crew

- one pilot, right side

17. Maximum Passenger Seating Capacity

- six (or seven if the kit described in FMS 9.2-31 is installed and operated)

18. Passenger Emergency Exit

- two (one on each side of the passenger cabin)

19. Maximum Baggage/ Cargo Loads

- 1130 kg with maximum loading 600 kg/m2

20. Rotor Blade control movement

- (see EC135 Aircraft Maintenance Manual)

21. Auxiliary Power Unit (APU)

- n/a

22. Life- limited parts

- (Refer to EASA approved Chapter 4 of the EC135 Master Servicing Manual)

23. Wheels and Tyres

- Skid type landing gear
IV. Operating and Service Instructions

1. Flight Manual  
   EC135 T2(CPDS), firstly LBA approved on 09.08.2002, or later LBA/ EASA approved revision, including the supplements for Special Operations FMS 9.1 and Optional Equipment FMS 9.2.

   a. EC135 Master Servicing Manual  
   b. EC135 Aircraft Maintenance Manual  
   c. Wiring Diagram Manual, latest revision  
   d. Engine documents as per EASA Engine TCDS No E.029

   EC135 Structural Repair Manual

   see above

5. Illustrated Parts Catalogue  
   EC135 Illustrated Parts Catalogue

6. Service Letters and Service Bulletins  

7. Required Equipment  
   special equipment and kits necessary for intended kind of operations as defined in the LBA/EASA-approved Flight Manual Supplements FMS 9.2 are permissible.

V. Notes

1. Eligible serial numbers:  
   0243 and upwards  
   Upgraded EC135 T1 model according to Service Bulletin EC135-71-023

2. Night Vision Goggles Operational Capability:  
   Night Vision Goggles aided operations are permitted according to Rotorcraft Flight Manual Supplement 9.2-86 and the related serial number specific Flight Manual Appendix FMA 11-x, when the rotorcraft is accordingly equipped. The helicopter configuration involving internal/external emitting/reflecting equipment approved for use with Night Vision Goggles is described in the serial number specific ECD NVIS Substantiation Report.  
   Subsequent modifications and deviations to the NVG helicopter configuration are managed in accordance with ECD document ECD-TN-ETZN-025-2009.

3. Ditching  
   The emergency floatation system in accordance with RFMS 9.2-67, is certified as ditching provision in accordance with JAR27.  
   The helicopter may be certificated for ditching provided the following additional equipment are fitted and approved in accordance with the relevant airworthiness requirements:  
   – survival type emergency locator transmitter  
   – life raft installation  
   – life preserver
SECTION 10: EC135 T2+

I. General

1. Type/ Variant or Model
   1.1 Type  EC135
   1.2 Model  T2
   1.3 Variant  +

2. Airworthiness Category  Small Rotorcraft

3. Manufacturer  EUROCOPTER DEUTSCHLAND GmbH and
                  Eurocopter ESPANA S.A., Poligono de los
                  Llanos, Carretera de las Penas (CM3203),
                  Km 5.3, 02006 Albacete, ESPANA

4. EASA Certification Application Date*  08 February 2005
   Note* (Primary Certification Authority certification application date for Grandfathered products)

5. National Certifying Authority  Luftfahrt-Bundesamt, Germany

6. National Authority Type Certificate Date  21 February 2006

II. Certification Basis

1. Reference Date for determining the applicable requirements  08 February 2005

2. Airworthiness Requirements
   - JAR 27, first issue 06 September 1993.
   - For IFR Certification: JAR 27 Appendix B, first issue of 06 September 1993
   - Category A Engine Isolation Requirements of JAR 29, first issue 05 November 1993.
     Applicable paragraphs, selected from Appendix C to JAR 27, are:
     29.861 (a) Fire Protection of Structure, controls, and other parts
     29.901 (c) Powerplant: Installation
     29.903 (b),(c),(e) Engines
     29.908 (a) Cooling fans
     29.917 (b),(c)(1) Rotor Drive System: Design
     29.927 (c)(1) Additional tests
     29.953 (a) Fuel system independence
     29.1027 (a) Transmission and gearboxes
     29.1045 (a)(1),(b),(c),(d),(f) Climb cooling test procedures
     29.1047 (a) Take-off cooling test procedures
     29.1181 (a) Designated fire zones: regions included
     29.1189 (c) Shutoff means
     29.1191 (a)(1) Firewalls
     29.1193 (e) Cowling and engine compartment covering
     29.1305 (a)(6),(b) Powerplant instruments
     29.1309 (b)(2)(i), (d) Equipment, systems and installations
     29.1331 (b) Instruments using power supply
     29.1351 (d)(2) Electrical systems and equipment: General
For CAT A Certification:
JAR27 Appendix C, first issue of 06 September 1993
JAA Interim HIRF Policy (INT/POL/278.29-1 dated 01 June1997) applies for:
  - Dual Pilot IFR certification with 3-axis SAS, Pitch-Damper and Avionique Nouvelle CPDS and FCDS
  - Single Pilot/ Dual Pilot IFR certification with AFCS and Avionique Nouvelle CPDS and FCDS

3. Special Conditions
   - Special Condition No. SC 1 “Primary Structures Designed with Composite Material”
   - Special Condition No. SC 2 “Protection for Electrical and Electronic Systems from High Intensity Radiated Fields”
     This Special Condition applies only for VFR and IFR certification with conventional instruments and for VFR certification with EFIS EFS 40.
   - Special Condition No. SC 3 “Electronic Flight Instrument Systems”
   - Special Condition No. SC 4 “Protection of air intake of EC135 against ingestion of foreign objects (Rain and Hail/Bird strike)"

4. Exemptions
   n/a

5. (Reserved) Deviations
   n/a

6. Equivalent Safety Findings
   - Equivalent Safety Finding for Dual Pilot IFR certification concerning JAR 27 Appendix B, Para. IV (c) “Static Longitudinal Stability”
   - Equivalent Safety Finding concerning JAR 27.1549(b) related to the installation of the Vehicle and Engine Multifunction Display (VEMD) in the CPDS Variants.
   - Equivalent Safety Finding concerning CS 27.865(c) related to dual activation device for the Primary Quick Release Subsystem (Cyclic Stick) for the Double Cargo Hook System

7. Requirements elected to comply
   - Elect to Comply with CS27.25 (a) (1) and CS27.143 (c) (1), Amdt 2; the provisions of CS27.143(c)(1) are demonstrated as a function of altitude and temperature: ECD is taking advantage of this possibility which is being provided from Amdt 1 of CS27 and later.

8. Environmental Protection Standards
   - See EASA Type Certificate Data Sheet for Noise: TCDSN.R.009

III. Technical Characteristics and Operational Limitations

1. Type Design Definition
   - EC135 Basic Master List Drawing No. L000M0007051
   - Drawings of EC135 T2 (CPDS) + L000M0021051 and following modifications

2. Description
   Main rotor: bearingless, 4 blades
   Tail rotor: Fenestron, 10 blades
   Fuselage: metal-composite structure with Skid-type landing gear
   Power plant: Two independent freewheel turbines
3. Equipment
Basic equipment must be installed and operational prior to
registration of the helicopter.

4. Dimensions
4.1 Fuselage
Length 5,87 m
Width 1,56 m
Height 3,35 m

4.2 Main Rotor
4 blades, diameter 10,2 m

4.3 Tail Rotor
10 blades, diameter 1,0 m

5. Engine
5.1 Model
Turbomeca, Arrius 2B2

5.2 Type Certificate
E.029

5.3 Limitations
Installed Engine Limits and Transmission Torque Limits:

<table>
<thead>
<tr>
<th>All Engine Operation</th>
<th>Torque Limits</th>
<th>Gas generator rpm min⁻¹ [%]</th>
<th>Power turbine rpm %</th>
<th>Temperature TOT °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEO-TOP (5 min)</td>
<td>2 x 78</td>
<td>54117 [100]</td>
<td>104</td>
<td>897</td>
</tr>
<tr>
<td>AEO-MCP</td>
<td>2 x 69</td>
<td>53576 [99]</td>
<td>104</td>
<td>879</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>One Engine Inoperative</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 seconds OEI-TOP</td>
</tr>
<tr>
<td>2 min OEI-TOP</td>
</tr>
<tr>
<td>OEI-MCP</td>
</tr>
</tbody>
</table>

6. Fluids (Fuel/ Oil/ Additives)
6.1 Fuel
see EASA approved RFM

6.2 Oil
see EASA approved RFM

6.3 Additives
see EASA approved RFM

7. Fluid capacities
7.1 Fuel: with standard fuel tank
(up to S/N 249)
    total fuel: 680 l maximum
    useable fuel: 670.5 l

    with self sealing fuel tank
    (up to S/N 249)
    total fuel: 673.4 l maximum
    useable fuel: 664 l

    with modified fuel tank
    (from S/N 250 or S/B
    EC135-28-007)
    total fuel: 710.0 l maximum
    useable fuel: 700.5 l

    with self sealing fuel tank
    (from S/N 250)
    total fuel: 701.0 l maximum
    useable fuel: 691.6 l

7.2 Oil
see EASA approved RFM

7.3 Coolant system capacity n/a

8. Air Speeds Limits
V_{NE} = 155 knots
(see EASA approved RFM for reduction in VNE with altitude and other speed limitations)

9. Rotor Speed Limits

- **Power on:**
  - maximum: 104 %
  - minimum: 97 %

- **Power off:**
  - maximum: 106 %
  - minimum: 80 % (up to 1900 kg)
  - minimum: 85 % (above 1900 kg)

- **Transient:** (see EASA approved RFM)

10. Maximum Operating Altitude and Temperature

10.1 Altitude

- 6096 m [20,000 ft] (see EASA approved RFM for variation according to MTOW)

10.2 Temperature

(see EASA approved RFM)

11. Operating Limitations

VFR Day and Night, No flight in icing condition;

for IFR, Category A Operation see additional equipment requirements and limitations in the relevant EASA approved RFMS)

for Ditching see Note 3

12. Maximum Masses

- 2910 kg /2950 kg (See note)

Note:
Operation of the aircraft with MTOW up to 2950 Kg is only permitted in accordance with FMS 9.1-5, FMS 9.1-6 and FMS 9.1-7 from S/N 1055 and subsequent or after SB EC135-62-028

13. Centre of Gravity Range

- **Longitudinal C.G Limits,**
  - maximum forward limit
    - 4180,0 mm aft of DP at 1840 kg
    - 4227,3 mm aft of DP at 2910 kg
    - 4229,3 mm aft of DP at 2950 kg
  - maximum rearward limit
    - 4570,0 mm aft of DP at 1500 kg
    - 4369,0 mm aft of DP at 2910 kg
    - 4362,6 mm aft of DP at 2950 kg

- **Lateral C.G Limits,**
  - maximum deviation on right / left: 100 mm

14. Datum

- **Longitudinal:** 2160 mm forward of the levelling point in the front door frame

- **Lateral:** fuselage median plane

15. Levelling Means

(see Levelling Procedure document No. L082M0801X01)

16. Minimum Flight Crew

- one pilot, right side

17. Maximum Passenger Seating Capacity

- six (or seven if the kit described in FMS 9.2-31 is installed and operated)

18. Passenger Emergency Exit

- two (one on each side of the passenger cabin)

19. Maximum Baggage/ Cargo Loads

- 1130 kg with maximum loading 600 kg/m2
20. Rotor Blade control movement (see EC135 Aircraft Maintenance Manual)
21. Auxiliary Power Unit (APU) n/a
22. Life-limited parts (Refer to EASA approved Chapter 4 of the EC135 Master Servicing Manual)
23. Wheels and Tyres Skid type landing gear

IV. Operating and Service Instructions

   b. EC135 Aircraft Maintenance Manual  
   c. Wiring Diagram Manual, latest revision  
   d. Engine documents as per EASA Engine TCDS No.E.029  
4. Weight and Balance Manual see above  
5. Illustrated Parts Catalogue EC135 Illustrated Parts Catalogue  
6. Service Letters and Service Bulletins  
7. Required Equipment special equipment and kits necessary for intended kind of operations as defined in the LBA/EASA-approved Flight Manual Supplements FMS 9.2 are permissible.

V. Notes

1. Eligible serial numbers: 0506 and upwards  
   Upgraded EC135 T2 model according to Service Bulletin EC135-71-033  
2. Night Vision Goggles Operational Capability:  
   Night Vision Goggles aided operations are permitted according to Rotorcraft Flight Manual Supplement 9.2-86 and the related serial number specific Flight Manual Appendix FMA 11-x, when the rotorcraft is accordingly equipped. The helicopter configuration involving internal/external emitting/reflecting equipment approved for use with Night Vision Goggles is described in the serial number specific ECD NVIS Substantiation Report. 
   Subsequent modifications and deviations to the NVG helicopter configuration are managed in accordance with ECD document ECD-TN-ETZN-025-2009.  
3. Ditching The emergency floatation system in accordance with RFMS 9.2-67, is certified as ditching provision in accordance with JAR27.
The helicopter may be certificated for ditching provided the following additional equipment are fitted and approved in accordance with the relevant airworthiness requirements:
- survival type emergency locator transmitter
- life raft installation
- life preserver
SECTION 11: EC635 T2+

I. General

1. Type/ Variant or Model
   1.1 Type EC135
   1.2 Model EC635 T2
   1.3 Variant +

2. Airworthiness Category Small Rotorcraft

3. Manufacturer EUROCOPTER DEUTSCHLAND GmbH

4. EASA Certification Application Date* 17 July 2006
   Note* (Primary Certification Authority certification application date for Grandfathered products)

5. National Certifying Authority Luftfahrt-Bundesamt, Germany

6. National Authority Type Certificate Date 06 December 2006

II. Certification Basis

1. Reference Date for determining the applicable requirements 17 July 2006

2. Airworthiness Requirements
   - JAR 27, first issue 06 September 1993.
   - For IFR Certification: JAR 27 Appendix B, first issue of 06 September 1993
   - Category A Engine Isolation Requirements of JAR 29, first issue 05 November 1993.
     Applicable paragraphs, selected from Appendix C to JAR 27, are:
     29.861 (a) Fire Protection of Structure, controls, and other parts
     29.901 (c) Powerplant: Installation
     29.903 (b),(c),(e) Engines
     29.908 (a) Cooling fans
     29.917 (b),(c)(1) Rotor Drive System: Design
     29.927 (c)(1) Additional tests
     29.953 (a) Fuel system independence
     29.1027 (a) Transmission and gearboxes
     29.1045 (a)(1),(b),(c),(d),(f) Climb cooling test procedures
     29.1047 (a) Take-off cooling test procedures
     29.1181 (a) Designated fire zones: regions included
     29.1189 (c) Shutoff means
     29.1191 (a)(1) Firewalls
     29.1193 (e) Cowling and engine compartment covering
     29.1305 (a)(6),(b) Powerplant instruments
     29.1309 (b)(2)(i), (d) Equipment, systems and installations
     29.1331 (b) Instruments using power supply
     29.1351 (d)(2) Electrical systems and equipment: General

   - For CAT A Certification:
     JAR27 Appendix C, first issue of 06 September 1993
- JAA Interim HIRF Policy (INT/POL/278.29-1 dated 01 June 1997) applies for:
  - Dual Pilot IFR certification with 3-axis SAS, Pitch-Damper and Avionique Nouvelle CPDS and FCDS
  - Single Pilot/Dual Pilot IFR certification with AFCS and Avionique Nouvelle CPDS and FCDS

3. Special Conditions
- Special Condition No. SC 1 "Primary Structures Designed with Composite Material"
- Special Condition No. SC 2 "Protection for Electrical and Electronic Systems from High Intensity Radiated Fields"
  This Special Condition applies only for VFR and IFR certification with conventional instruments and for VFR certification with EFIS EFS 40.
- Special Condition No. SC 3 "Electronic Flight Instrument Systems"
- Special Condition No. SC 4 "Protection of air intake of EC135 against ingestion of foreign objects (Rain and Hail/Bird strike)"

4. Exemptions n/a
5. (Reserved) Deviations n/a
6. Equivalent Safety Findings
- Equivalent Safety Finding for Dual Pilot IFR certification concerning JAR 27 Appendix B, Para. IV (c) “Static Longitudinal Stability”
- Equivalent Safety Finding concerning JAR 27.1549(b) related to the installation of the Vehicle and Engine Multifunction Display (VEMD) in the CPDS Variants.
- Equivalent Safety Finding concerning CS 27.865(c) related to dual activation device for the Primary Quick Release Subsystem (Cyclic Stick) for the Double Cargo Hook System

7. Requirements elected to comply
- Elect to Comply with CS27.25 (a) (1) and CS27.143 (c) (1), Amdt 2; the provisions of CS27.143(c)(1) are demonstrated as a function of altitude and temperature: ECD is taking advantage of this possibility which is being provided from Amdt 1 of CS27 and later.

8. Environmental Protection Standards
- See EASA Type Certificate Data Sheet for Noise: TCDSN.R.009

III. Technical Characteristics and Operational Limitations

1. Type Design Definition
- EC135 Basic Master List Drawing No. L000M0007051
- Drawings of EC135 T2 (CPDS) + L000M0021051 and following modifications
- EC635 Kit (Drawing No. W533M1700051)

2. Description
- Main rotor: bearingless, 4 blades
- Tail rotor: Fenestron, 10 blades
- Fuselage: metal-composite structure with Skid-type landing gear
- Power plant: Two independent freewheel turbines
Note: The variant EC635 T2+ corresponds to the EC135 T2+ plus structural reinforcement of cabin structure according to the drawing W533M1700051

3. Equipment
Basic equipment must be installed and operational prior to registration of the helicopter.

4. Dimensions

4.1 Fuselage
Length 5.87 m
Width 1.56 m
Height 3.35 m

4.2 Main Rotor
4 blades, diameter 10.2 m

4.3 Tail Rotor
10 blades, diameter 1.0 m

5. Engine
5.1 Model
Turbomeca, Arrius 2B2

5.2 Type Certificate
E.029

5.3 Limitations
Installed Engine Limits and Transmission Torque Limits:

<table>
<thead>
<tr>
<th>All Engine Operation</th>
<th>Torque Limits %</th>
<th>Gas generator rpm min(^{-1}) [%]</th>
<th>Power turbine rpm %</th>
<th>Temperature TOT ° C</th>
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</thead>
<tbody>
<tr>
<td>AEO-TOP (5 min)</td>
<td>2 x 78</td>
<td>54117 [100]</td>
<td>104</td>
<td>897</td>
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<tr>
<td>AEO-MCP</td>
<td>2 x 69</td>
<td>53576 [99]</td>
<td>104</td>
<td>879</td>
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</table>

<table>
<thead>
<tr>
<th>One Engine Inoperative</th>
<th>Torque Limits %</th>
<th>Gas generator rpm min(^{-1}) [%]</th>
<th>Power turbine rpm %</th>
<th>Temperature TOT ° C</th>
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</thead>
<tbody>
<tr>
<td>30 seconds OEI-TOP</td>
<td>1 x 128</td>
<td>56823 [105.0]</td>
<td>104</td>
<td>1024</td>
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<tr>
<td>2 min OEI-TOP</td>
<td>1 x 125</td>
<td>56011 [103.5]</td>
<td>104</td>
<td>994</td>
</tr>
<tr>
<td>OEI-MCP</td>
<td>1 x 89.5</td>
<td>54821 [101.3]</td>
<td>104</td>
<td>942</td>
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</tbody>
</table>

6. Fluids (Fuel/ Oil/ Additives)

6.1 Fuel
see EASA approved RFM

6.2 Oil
see EASA approved RFM

6.3 Additives
see EASA approved RFM

7. Fluid capacities

7.1 Fuel
with standard fuel tank
(total fuel: 680 l maximum
(useable fuel: 670.5 l

with self sealing fuel tank
(total fuel: 673.4 l maximum
(useable fuel: 664 l

with modified fuel tank
(from S/N 250 or S/B EC135-28-007)
(total fuel: 710.0 l maximum
(useable fuel: 700.5 l

with self sealing fuel tank
(from S/N 250)
(total fuel: 701.0 l maximum
(useable fuel: 691.6 l

7.2 Oil
see EASA approved RFM
7.3 Coolant system capacity  n/a

8. Air Speeds Limits  \( V_{NE} = 155 \text{ knots} \)

   (see EASA approved RFM for reduction in VNE with altitude and other speed limitations)

9. Rotor Speed Limits

   Power on: maximum 104 %
             minimum 97 %

   Power off: maximum 106 %
              minimum 80 % (up to 1900 kg)
              minimum 85 % (above 1900 kg)

   Transient: (see EASA approved RFM)

10. Maximum Operating Altitude and Temperature

   10.1 Altitude  6096 m [20,000 ft] (see EASA approved RFM for variation according to MTOW)

   10.2 Temperature (see EASA approved RFM)

11. Operating Limitations

   VFR Day and Night, No flight in icing condition;
   for IFR, Category A Operation see additional equipment requirements and limitations in the relevant EASA approved RFMs)
   for Ditching see Note 3

12. Maximum Masses  2910 kg /2950 kg (See note)

   Note:
   Operation of the aircraft with MTOW up to 2950 Kg is only permitted in accordance with FMS 9.1-5, FMS 9.1-6 and FMS 9.1-7 from S/N 1055 and subsequent or after SB EC135-62-028

13. Centre of Gravity Range

   Longitudinal C.G Limits,
   maximum forward limit 4180,0 mm aft of DP at 1840 kg
                         4227,3 mm aft of DP at 2910 kg
                         4229,3 mm aft of DP at 2950 kg

   maximum rearward limit 4570,0 mm aft of DP at 1500 kg
                          4369,0 mm aft of DP at 2910 kg
                          4362,6 mm aft of DP at 2950 kg

   Lateral C.G Limits,
   maximum deviation on right / left: 100 mm

14. Datum

   Longitudinal:  2160 mm forward of the levelling point in the front door frame
   Lateral:     fuselage median plane

15. Levelling Means

   (see Levelling Procedure document No. L082M0801X01)

16. Minimum Flight Crew

   one pilot, right side

17. Maximum Passenger Seating Capacity

   six (or seven if the kit described in FMS 9.2-31 is installed and operated)
18. Passenger Emergency Exit: two (one on each side of the passenger cabin)
19. Maximum Baggage/Cargo Loads: 1130 kg with maximum loading 600 kg/m²
20. Rotor Blade control movement: (see EC135 Aircraft Maintenance Manual)
21. Auxiliary Power Unit (APU): n/a
22. Life-limited parts: (Refer to EASA approved Chapter 4 of the EC135 Master Servicing Manual)
23. Wheels and Tyres: Skid type landing gear

**IV. Operating and Service Instructions**

2. Maintenance Manual: 
   a. EC135 Master Servicing Manual
   b. EC135 Aircraft Maintenance Manual
   c. Wiring Diagram Manual, latest revision
   d. Engine documents as per EASA Engine TCDS No.E.029
4. Weight and Balance Manual: see above
5. Illustrated Parts Catalogue: EC135 Illustrated Parts Catalogue
7. Required Equipment: special equipment and kits necessary for intended kind of operations as defined in the LBA/EASA-approved Flight Manual Supplements FMS 9.2 are permissible.

**V. Notes**

1. Eligible serial numbers: 0506 and upwards
3. Ditching

The emergency floatation system in accordance with RFMS 9.2-67, is certified as ditching provision in accordance with JAR27.

The helicopter may be certificated for ditching provided the following additional equipment are fitted and approved in accordance with the relevant airworthiness requirements:
– survival type emergency locator transmitter
– life raft installation
– life preserver
SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations
CDS: Cockpit Display System
CPDS: Central Panel Display System

II. Type Certificate Holder Record
EUROCOPTER DEUTSCHLAND GmbH

III. Change Record

<table>
<thead>
<tr>
<th>Issue</th>
<th>Date</th>
<th>Changes</th>
<th>TC issue</th>
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</thead>
<tbody>
<tr>
<td>Issue 01</td>
<td>23 May 2006</td>
<td>Adaptation of LBA TCDS 3061 and Implantation of the EC135 P2+/T2+ variants</td>
<td>Initial Issue, 23 May 2006</td>
</tr>
<tr>
<td>Issue 02</td>
<td>06 December 2006</td>
<td>Implantation of the EC635 P2+/T2+ variants</td>
<td>Initial Issue, 17 April 2007</td>
</tr>
<tr>
<td>Issue 03</td>
<td>10 October, 2008</td>
<td>Equivalent Safety Finding concerning CS 27.865(c) related to dual activation device (CRI D-4) and Manufacturer for Eurocopter ESPANA S.A., Poligono de los Llanos, Carretera de las Penas (CM3203),</td>
<td>Initial Issue, 17 April 2007</td>
</tr>
<tr>
<td>Issue 04</td>
<td>Dd month YYYY</td>
<td>New EASA Template and MTOW for 2950 Kg for the EC135/EC635 T2+/P2+</td>
<td>Initial Issue, 17 April 2007</td>
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[insert rows as needed]

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