

THE VALIDATION OF CERTIFICATE DATA SHEET

日期/Date: 2016-11-15

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第1部分 型号认可证概述
SECTION 1 GENERAL OF VTC

1. CAAC 认可数据单和型号合格证数据单
CAAC Validation Data Sheet and Type Certificate Data Sheet

	中国民用航空局认可数据单号、版次和颁发日期 CAAC Validation Data Sheet Number, Revision and issuance date	型号合格证数据单号、版次和颁发日期 Type Certificate Data Sheet Number, Revision and issuance date
当前 Current	MBB-BK117 D-2 VTC0332A REV 0 2016-11-15	MBB-BK117D-2 EASA R.010 Issue08 12 MAY 2015
历史 History		

2. 认可当局/Validation Authority:

审定当局/Certifying Authority:
- 中国民用航空局/CAAC

欧洲航空局/EASA
3. 型号合格证 Type Certificate Number:

型号合格证持有人/Type Certificate Holder:
- EASA R.010

AIRBUS HELICOPTERS DEUTSCHLAND GmbH

Industriestrasse 4

D-86609 Donauwoerth

Germany

型号合格证持有人记录

Type Certificate Holder Record

N/A

4. 进口要求/Import Requiriement
- 为具备在中国运行的资格，按本型号认可证制造的每架航空器必须具有一份出口适航证，其上签注有出口国适航当局的审定声明，即：本架航空器符合 CAAC 所批准的型号设计，并处于可安全运行的状态。
- To be considered eligible for operation in China, each aircraft manufactured under this Validation of Type Certificate must be accompanied by a certificate of airworthiness for export endorsed by Export Authority which states (in English language): This aircraft conforms to its CAAC type design and is in a condition for safe operation.

2部分 型号数据
SECTION 2 TYPE DATA

I.型别: MBB-BK117 D-2
MODEL: MBB-BK117 D-2

一、 产品型别和批准日期/THE PRODUCT MODEL AND APPROVAL DATE

CAAC 认可日期 2016-11-15
CAAC Validated Date

1. 型号合格证数据单号 EASA R.010
Type Certificate Data Sheet No.

2.型号、衍生型或型别 Type / Variant or Model
(a) 型号/Type MBB-BK117
(b) 衍生型或型别 Variant or Model: MBB-BK117 D-2

3.适航类别 运输类旋翼航空器 A 类和 B 类
Airworthiness Category Transport Rotorcraft, Category A and B

4. 型号合格证持有人 AIRBUS HELICOPTERS DEUTSCHLAND GmbH
Type Certificate Holder Industriestrasse 4
D-86609 Donauwoerth
Germany

5. 国外适航当局申请日期 27 February 2009
Foreign Authority Application Date:

6. 国外适航当局型号审定日期 16 April 2014
Foreign Authority Type Certification
Date

一、 合格审定基础和生产依据 CERTIFICATION BASIS AND PRODUCTION BASIS

CAAC 型号认可审定基础/CAAC Validation CAAC 型号认可审定基础定义如下:
Certification Basis

1 EASA 型号合格审定基础。

2 CAAC 附加技术条件:

(1) 根据 CCAR 21.29(5), MBB-BK117 D-2 机上所有对旅客进行的提示、警告和通知的文字标记和标牌, 机上所有向旅客或机外营救人员指示应急出口和门的位置以及开启方法的文字标记和标牌, 旅客可能使用的机上所有应急设备的操作、使用说明应当至少有简体中文表述。

(2)必须评估 MBB-BK117 D-2 燃油系统以证明在使用 3 号喷气燃料(符合中国国家标准 GB 6537 - 2006)时的性能符合要求。在中国运行前符合要求的证明数据必须提供 EASA 批准。

CAAC validation basis was defined as follows:

- 4 - Revision 0

- 1 EASA Certification basis.
- 2 CAAC Additional Technical Conditions:
 - (1) As per CCAR 21.29(5), all literal markings and placards on MBB-BK117 D-2 used for advising, warning or notifying passengers must be at least in Chinese. All literal markings and placards on MBB-BK117 D-2 used for indicating passengers or outboard rescue personnel of the location of emergency exits and doors and their means of opening must be at least in Chinese, and all operation instructions of MBB-BK117 D-2 emergency equipment that may be used by passengers must be in Chinese.
 - (2) The fuel system of MBB-BK117 D-2 must be evaluated to demonstrate the satisfactory performance when using No.3 Jet Fuel (conforming to P.R.C National Standard GB 6537-2006). The data demonstrating satisfactory performance must be provide to the EASA for approval before its operation in china.

CAAC 型号认可证申请日期 /CAAC 2014-05-19
Validation of Type Certificate Application Date

(1). 国外适航当局合格审定基础/Foreign
Authority Certification Basis

a. 适航要求/Airworthiness Requirements

- 以下条款要求按 CS-29 修正案 2:

CS 29.1	CS 29.81	CS 29.351	CS 29.1359
CS 29.25	CS 29.85	CS 29.602	CS 29.1457
CS 29.59	CS 29.143	CS 29.923	CS 29.1459
CS 29.62	CS 29.173	CS 29.1323	CS 29.1587
CS 29.67	CS 29.175	CS 29.1329	CS 29 Appendix B.V
CS 29.77	CS 29.177	CS 29.1351	CS 29 Appendix B.VII
- FAR 29 修正案 43:
 - FAR 29.865 (外挂物)
- FAR 29 修正案 16:
 - FAR 29.863 (BK117 C-1 未受影响的部分)
 - FAR 29.917 (BK117 C-1 未受影响的部分)
 - FAR 29.1309 (b), (d), (e) (BK117 C-1 未受影响的部分)
- 以上未提及的 CS/FAR 29 条款要求按 1965 年 2 月 1 日生效的 FAR 29 加修正案 29-1 至 29-40。
- CS-29, Amendment 2 for the requirements listed below:

CS 29.1	CS 29.81	CS 29.351	CS 29.1359
CS 29.25	CS 29.85	CS 29.602	CS 29.1457
CS 29.59	CS 29.143	CS 29.923	CS 29.1459
CS 29.62	CS 29.173	CS 29.1323	CS 29.1587
CS 29.67	CS 29.175	CS 29.1329	CS 29 Appendix B.V
CS 29.77	CS 29.177	CS 29.1351	CS 29 Appendix B.VII
- FAR 29 Amendment 43:
 - FAR 29.865 (External Loads)

- FAR 29 Amendment 16:
 - FAR 29.863 (for unaffected parts of BK117 C-1)
 - FAR 29.917 (for unaffected parts of BK117 C-1)
 - FAR 29.1309 (b), (d), (e) (for unaffected parts of BK117 C-1)
- FAR 29 effective Feb. 1, 1965 plus Amendments 29-1 through 29-40, for all other requirements that are not listed in CS/FAR 29 requirements above
- b. 专用条件/Special Conditions
 - 30 分钟扩展功率特性.(CRI E-05)
 - 锂电池安装 (CRI F-09)
 - HIRF 防护: JAA INT/POL/27&29/1, Issue 3 (CRI F-01)
 - 30 min Extended Power Rating.(CRI E-05)
 - Lithium Battery Installations (CRI F-09)
 - High-intensity Radiated Fields (HIRF) Protection: JAA INT/POL/27&29/1, Issue 3 (CRI F-01)
- c. 豁免/Exemptions
 -
- d. 偏离/Deviations
 - FAR 29.631 对驾驶舱窗户(BK117 C-2 未受影响的部分)
 - FAR 29.1027 对主减(BK117 A-1 未受影响的部分)
 - FAR 29.631 for Cockpit Windows (for unaffected parts of BK117 C-2)
 - FAR 29.1027 for Main Gear Box (for unaffected parts of BK117 A-1)
- e. 等效安全/Equivalent Safety Findings
 - FAR 29.807 (a)(4), (应急出口) (CRI D-01 和 CRI D-07)
 - FAR 29.1305, FAR 29.1321(e), FAR 29.1351(b)(6) , FAR 29.1435(a)(3), (整机参数的部分时间显示) (CRI F-29)
 - FAR 29.1545(b)(4), 29.1549(b), (空速和动力装置参数指示 绿色标示) (CRI G-03)
 - FAR 29.1305, 29.1309, 29.1549 (OEI 训练模式) (CRI G-01)
 - FAR 29.601, 29.603, 29.605(a), 29.865(a) (绞车安装) (CRI D-08)
 - FAR 29.1457(a), (c) (CVR, 绞盘操纵时的通讯) (CRI F-10)
 - FAR 29.807 (a)(4), (for emergency exit) (CRI D-01 and CRI D-07)
 - FAR 29.1305, FAR 29.1321(e), FAR 29.1351(b)(6) , FAR 29.1435(a)(3), (for Part Time Display of vehicle parameters) (CRI F-29)
 - FAR 29.1545(b)(4), 29.1549(b), (for Airspeed & Powerplant indication green marking) (CRI G-03)
 - FAR 29.1305, 29.1309, 29.1549 (for OEI training mode) (CRI G-01)
 - FAR 29.601, 29.603, 29.605(a), 29.865(a) (for hoist installation) (CRI D-08)
 - FAR 29.1457(a), (c) (for CVR, communication during winch operation) (CRI F-10)
- f. 环境标准包括噪声 /Environmental Standards including Noise ICAO Annex 16, Volume I, Chapter 8 (8.4.1) Amendment 10.

(2) 生产依据
Production Basis

POA No: AHD-DE.21G.0013 制造商 AHD (德国)
POA No: AHD-DE.21G.0013 for manufacturer site AHD (Germany)

二、 技术特性和使用限制/TECHNICAL CHARACTERISTICS AND OPERATIONAL LIMITATIONS

1.型号设计定义
Type Design Definition

TDD D0000M170200 版本 B， 2014-04-04
TDD D0000M170200 ISSUE B， 04 April 2014

2.中文标牌和标识
Chinese Placards and marking

中文标牌和标识包含在图纸 TDD D0000M01CHN， Issue. 01 或 CAAC 接受的更新版本中。
Chinese Placards and markings are included in TDD D0000M01CHN， Issue. 01 or later revisions CAAC accepted.

3.设备
Equipment

适用的适航规章（见审定基础）所要求的基本设备必须安装在航空器上以满足型号合格审定要求。。
Basic equipment required by the Airworthiness Specifications (see Certification Basis) shall be installed on the helicopter for Airworthiness Certificate release.

4. 尺寸
Dimensions

机身/Fuselage

长/ Length6.170 m
宽/Width1.845 m
高/Height3.450 m

主旋翼/Main Rotor4 片桨叶-直径/ 4 blades - Diameter11.0m

尾桨/Tail Rotor10 片桨叶-直径/ 10 blades - Diameter1.150m

5.发动机
Engine

2 台 Turbomeca 公司 Arriel 2E 涡轮轴发动机
Turbomeca Arriel 2E Turbo shaft engines
国外适航当局发动机 TC 证编号EASA.E.001
Foreign Authority Engine TC EASA.E.001
CAAC 型号认可证编号： VTC0190E； 数据单版次： 4
CAAC VTC No. VTC0190E； Revision of VTCDS: 4

6.发动机限制及传动系统扭矩限制
Installed Engine Limits and Transmission Torque Limits

	扭矩/Torque Limits %	燃气发生器转 速/Gas generator rpm %	动力涡轮转 速/Power turbine rpm %	TOT温度 /Temperature TOT °C
所有发动机工作/All Engine Operation (AEO)				
AEO-TOP (5 min)	2 x 95	100.6	108.3	918
AEO-MCP (无限制的 /unlimited)	2 x 74	89.5	108.3	901
扩展功率特性 /Extended	2 x 95	100.6	108.3	918

Power Rating (30 min)				
一台发动机不工作/One Engine Inoperative (OEI)				
30秒/30 econds OEI-TOP	1 x 150	105.7	108.3	1006
2分钟/2 min OEI-TOP	1 x 130	104.3	108.3	987
OEI-MCP	1 x 100	101.7	108.3	945

- 在 AEO 状态,允许一个发动机的扭矩分别超过给定的 MCP 和 TOP 限值 3%,只要两个发动机平均扭矩分别低于 74%和 95%.
- 在低于 VY+10 节速度下,AEO 瞬态限制值可达 2x104.5%,最大持续时间 12 秒。
- 在大于 Vy +10 节速度下,AEO 瞬态限制值可达 2x79%,最大持续时间 12 秒。
- In AEO, the torque of one engine is allowed to exceed the given MCP resp. TOP limit value by up to 3% as long as the average torque of both engines is below 74% resp. 95%.
- An AEO transient limit of 2x104.5% is available for unintended use below VY + 10 kts for a maximum duration of 12 sec.
- An AEO transient limit of 2x79% is available for unintended use above Vy + 10 kts for a maximum duration of 12 sec.

其它发动机和传动系统扭矩限制：见 EASA 批准的飞行手册。/Other Engine and Transmission Torque Limits:Refer to EASA approved Flight Manual

7 燃油
Fuel

见 EASA 批准的飞行手册第二部分
Refer to EASA approved Flight Manual, Section 2.
3 号喷气燃料。(符合标准 GB 6537-2006)
No.3 Jet Fuel. (according to Standard GB 6537-2006)

7.1 燃油容量
Fuel capacities

标准燃油箱/Standard Fuel Tank:
总油量/Total fuel: 915.8 l
可用油量/Usable fuel: 903.8 l

8 滑油
Oil

见 EASA 批准的飞行手册第二部分
Refer to EASA approved Flight Manual, Section 2.

9 空速限制
Airspeed limits

V_{NE} = 150 knots
V_{NE} 随高度下降以及及其它速度限制数据见 EASA 批准的飞行手册
refer to EASA approved Flight Manual for reduction in V_{NE} with altitude and other speed limitations

10. 旋翼转速限制
Rotor Speed Limits

有动力/Power on : 最大/maximum 108.3%
 最小/minimum 94%
无动力/Power off: 最大/maximum 109%
 最小/minimum 80% (至 2000 公斤/up to 2000kg)
 最小/minimum 85% (大于 2000 公斤 /above

	2000kg)	
	瞬时/Transient	(见 EASA 批准的飞行手册/see EASA approved RFM).
11. 最大使用升限及温度 Maximum Operating Altitude and Temperature	升限/altitude	6095 m (20000 ft) 4877 m (16000 ft PA 与 DA 中的小者/16000 ft PA or DA whichever is less) 对于有地效悬停, 起飞和着陆/for Hover in ground effect , take-off and landing)
	温度/Temperature	见 EASA 批准的飞行手册/refer to EASA approved RFM
12. 使用限制 Operating Limitations	在已知非结冰条件下, 昼夜间目视飞行 对仪表飞行和 A 类运行, 见 EASA 批准的飞行手册 VFR Day and Night, No flight into known icing condition For IFR and for Cat A Operation refer to the EASA approved RFM	
13.最大重量 Maximum Weights	3700 kg	
14. 重心范围 Centre of Gravity Range	<i>纵向重心限制/Longitudinal C.G Limits,</i> 最大前向限制/maximum forward limit: 4347 mm 基准点后, 2400公斤/aft of DP at 2400 kg 4379 mm 基准点后, 3700公斤/aft of DP at 3700 kg 最大后向限制/maximum rearward limit: 4700 mm 基准点后, 2000公斤/aft of DP at 2000 kg 4540 mm 基准点后, 3700公斤/aft of DP at 3700 kg <i>横向重心限制/Lateral C.G Limits,</i> 左/右最大偏差/maximum deviation on right / left: 100 mm (至3000公斤/up to 3000 kg) 80 mm (大于 3000 公斤/above 3000 kg)	
15. 测量基准 Datum:	纵向: 后门框水平测量点前 3950mm。 横向: 机身中心平面。 Longitudinal: 3950 mm forward of the levelling point in the aft door frame Lateral: fuselage median plane.	
16. 水平测量措施 Leveling Means	见MBB-BK117 D-2维护手册。 refer to Maintenance Manual MBB-BK117 D-2	
17. 最小飞行机组 Minimum Flight Crew	一名单驾驶员 One pilot	
18.最大乘员座位数量 Maximum Passenger Seating Capacity	9 批准的座椅配置见飞行手册。 Nine Refer to RFM for the approved seat configurations	

19. 乘客应急出口 Passenger Emergency Exit	两个（客舱两侧各一）。 two (one on each side of the passengers cabin)
20. 最大行李/货物装载 Maximum Baggage/Cargo Loads	600 kg/m ²
21. 旋翼桨叶操纵面运动范围 Rotor Blade Control movement	见MBB-BK117 D-2维护手册。 For rigging information refer to the Aircraft Maintenance Manual MBB-BK117 D-2.
22. 辅助动力装置和辅助动力装置限制/Auxiliary Power Unit (APU) and APU Limitations	N/A
23. 寿命件 Life-limited parts	见EASA批准的主维修手册04章适航限制章节。 EASA approved Airworthiness Limitation Section Chapter 04 of the Master Servicing Manual.
24. 机轮和轮胎 Wheels and Tyres	滑撬式起落架 Skid type landing gear

三、 使用和维修技术资料/Operating and Service Instructions

1. 飞行手册 Rotorcraft Flight Manual	BK117 D-2, 由 EASA 于 2014 年 4 月 16 日首次批准, 包括特殊操作和选装设备的补充资料, 及后续批准的版本。 BK117 D-2, firstly EASA approved on 16 April 2014, including the supplements for Special Operations and Optional Equipment, or subsequent approved issues
2. 维护手册 Maintenance Manual	a. 航空器维护手册(AMM) MBB-BK117 D-2/Aircraft Maintenance Manual (AMM) MBB-BK117 D-2 b. 布线图册(WDM) MBB-BK117 D-2/Wiring Diagram Manual (WDM) MBB-BK117 D-2 c. 发动机文件见发动机数据单TCDS EASA.E.001/Engine documents as per Engine TCDS EASA.E.001 d. 主维修手册 (MSM) MBB-BK117 D-2/Master Servicing Manual (MSM) MBB-BK117 D-2
3. 结构修理手册 Structural Repair Manual	结构修理手册(SRM) BK117/Structural Repair Manual (SRM) BK117
4. 重量平衡手册 Weight and Balance Manual	参考飞行手册第 6 章。 Refer to Flight Manual Section 6.
5. 图解零件目录 Illustrated Parts Catalogue	BK117图解零件目录/Illustrated Parts Catalogue BK117
6. 服务信件和服务通告 Service Letters and Service	安全信息通告, 信息通告, 紧急服务通告, 服务通报维修设计批准表 Safety information notice, Information Notice, Alert Service Bulletin, Service

Bulletins

Bulletin Repair Design Approval Sheets.

7.必备设备

Required Equipment

见 EASA 批准的旋翼机飞行手册和其他批准的强制性及可选设备的相关补充章以及主最低设备清单。

Refer to EASA Approved Rotorcraft Flight Manual and related supplements for other approved mandatory and optional equipment and Master Minimum Equipment List.

四、 注释/NOTES

1. 合格系列号: 20003 及以上

Eligible serial numbers: 20003 and upwards

2. 生产商记录: AIRBUS HELICOPTERS DEUTSCHLAND GmbH, Industriestrasse 4, D-86609 Donauwörth.

Record of Manufacturer: AIRBUS HELICOPTERS DEUTSCHLAND GmbH, Industriestrasse 4, D-86609 Donauwörth.

3. 型号代号: H145 用作 MBB-BK117 D-2 直升机的销售型号代号。

Designation: H145 is used as marketing designation for MBB-BK117 D-2 helicopters.

4. 夜视镜运行能力/Night Vision Goggles Operational Capability:

仅当直升机配备了夜视设备并经过当局运行批准,才允许夜视镜辅助运行,该运行应符合飞行手册补充部分 9.2-11 及其相关的飞行手册附录 FMA 11-x 要求。

已经获得 NVIS 构型批准的运营人,可以在系列号 AHD NVIS 的证明报告中找到包含已批准的与使用夜视镜相关的 NVIS 照明组件的直升机构型描述。

Night Vision Goggles aided operations are permitted according to Rotorcraft Flight Manual Supplement RFMS 9.2-11 in conjunction with a serial number specific Flight Manual Appendix FMA 11-x, when the rotorcraft is equipped accordingly and a competent authority has granted operational authorisation only. The helicopter configuration containing NVIS lighting components approved for the use with Night Vision Goggles is described in a serial number specific AHD NVIS Substantiation Report for operators having received an approval for their NVIS configuration.

5. 水上迫降/Ditching:

飞行手册 9.2-9 节所述的应急漂浮系统已经按照 FAR29 关于水上迫降的要求进行了审定。

如果安装以下设备并按照相关适航要求获得批准,则直升机可能获得水上迫降许可。

- 救生型应急定位发射机
- 救生筏安装
- 救生用具

The emergency floatation system according to Rotorcraft Flight Manual Supplement 9.2-9 is certified as ditching provision in accordance with FAR29.

The helicopter may be certified 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.

第 3 部分所有型号相关数据

SECTION 3 DATA PERTINENT TO ALL MODELS

无

None

第 4 部分注释

SECTION 4 NOTES

无

None

- THE END -