

型号认可证数据单

TYPE VALIDATION CERTIFICATE DATA SHEET

编号/No: VTC0215A

版次/Revision: 0

型号/Type:

Ka-32A11BC

批准人/Approved By:

张仁德

日期/Date: 2008-05-21

本数据单是型号认可证(编号: VTC0215A)的组成部分, 它规定了符合中国民用航空总局的适航要求所颁发此型号认可证的产品状态和限制。

This data sheet, which is part of Validation of Type Certificate (No: VTC0215A), prescribes condition and limitation under which the product for which the type certificate was issued meets the airworthiness requirements of the Chinese Civil Aviation Regulation.

型号认可证持有人/Validation of Type Certificate Holder:

Kamov Company

8a, The 8th March str, Liubertsy, 140007, Moscow Region, Russia

有效页清单/List of effective pages:

页数/ Pages	1	2	3	4	5	6	7	8	9						
版次/Revision	0	0	0	0	0	0	0	0	0						

第1部分 概述/Section 1 GENERAL

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

	中国民用航空总局认可数据单号、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	VTC0215A、0、2008-05-21	No.36-32A, 20, Aug.29 2007
历史 History	无 NONE	不适用 NA

2. 类别/Category: 直升机/helicopter

3. 认可当局/Validation Authority: 中国民用航空总局/CAAC

审定当局/Certifying Authority: 国家航空委员会民航局/INTERSTATE AVATION COMMITTEE AVIATION REGISTER
(简称IAC AR)

4. 型号合格证持有人/Type Certificate Holder: Kamov Company

Address: 8a, The 8th March str, Liubertsy, 140007, Moscow
Region, Russia

5. 制造厂/Manufacturer: Kamov Company

6. ETOPS: 不适用/NA

7. CAAC专用要求/CAAC Special Requirements:

明确中国3号喷气燃料使用条件。详见发动机No.34-Ⅱ型号合格证数据单。

Define the operation condition for the P.R.C. JET fuel No.3. See Engines DATA SHEET No.34-Ⅱ.

第2部分/Section 2

A. 审定基础/Certification Basis

1. 适航标准/Airworthiness Standards:

俄罗斯 1992 年 9 月 14 日颁布的适航标准 NLG 32.29, 等效于 1984 年 12 月 6 日生效的, 从修正案 29-1 至 29-24 的 FAR 29;

1988 年 10 月 11 日生效的修正案 29-25 的 FAR 29.1459;

1988 年 10 月 3 日生效的修正案 29-26 的 FAR 29.954, 29.963, 29.991, 29.1011, 29.1027;

Airworthiness Standards NLG 32.29, NLG 32.2 dated September 14, 1992, effective on the date of the initial issue of this type certificate, harmonized with the U.S. Federal Aviation Regulations Part 29, Transport Category Rotorcraft, Amend. 29-1 through 29-24, effective December 6, 1984, and FAR 29.1459 of Amend. 29-25, effective October 11, 1988, and FAR 29.954, 29.963, 29.991, 29.1011, 29.1027 of Amend. 29-26, effective October 3, 1988.

2. 附加技术条件/Additional Technical Condition (ATC):

1) CCAR21.29 第(五)款, “有关适航规章、噪声规定所要求的手册、标牌、目录清单和仪表标记应当用中文或英文表述, 下列各项至少有中文表述:

a) . 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;

b) . 机上所有向旅客或者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;

c) . 旅客可能使用的机上所有应急设备的操作、使用说明。”

CCAR21.29 (5), the manual, placard, category list, and instrument marking required by the airworthiness regulation, noise requirement shall be in Chinese or English, the following items shall be presented in Chinese at least:

a). All on-board placard and marking for aware, warning, and note to the passenger;

b). All on-board placard and marking for opening method and location indication of the emergency exit and door to passenger and outside rescuer;

c). Operational instruction for all on-board emergency equipment possible operated by passenger.

2) 2002年8月1日生效的CCAR29.2协调于1991年8月16日颁发的美国联邦航空规章FAR29.2;

CCAR29.2 dated July 2, 2002, effective on Aug 1, 2002, harmonized with the U.S. Federal Aviation Regulations Part 29.2 Aug 16, 1991.

3) 所有适用的IAC AR颁发的适航指令;

All applicable IAC AR airworthiness directives.

4) 测量单位必须公制: 米(高度), 米/秒(垂直速度), 公里/小时(空速);

Measure units shall be: meter (altimeter), meter/sec (vertical speed), km/h (airspeed).

5) 定义中国《3号喷气燃料》(GB6537-94)的运行条件。

Define the operation condition for the P.R.C. JET fuel No.3 (GB 6537-94).

3. 等效安全项目/Equivalent Safety Findings (ESF): 无/none

4. 偏离/Deviations: 无/none

5. 环境标准/Environmental Standards: 无/none

B. 技术特性/Technical Characteristics

1. 型号设计/Type Design:

KA-32A11 BC型号被以下工作设计和运行文件目录设定: Nos.323.000.0000.000Ⅱ, 324.0000.0000.000D,

324.0000.0000.000D1, 324.0000.0000.000D2, 包括No324.0000.0000.000D3目录设定的PC-60F双腔液压控制组件(见注6)。

KA-32A11 BC model is determined by the set of Lists of Working Design and Operational Documentation

Nos.323.000.0000.000Ⅱ, 324.0000.0000.000D, 324.0000.0000.000D1, 324.0000.0000.000D2, and in case of the PC-60F control unit containing the dual hydraulic actuator, by the List No324.0000.0000.000D3(ref.to Note 6).

2. 发动机/Engines:

如果安装额外设备的设定考虑注6。

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两台发动机-Klimov公司的TB3-117BMA or TB3-117BMA series 02涡扇发动机。(发动机型号数据单No.34-Ⅱ)

In case of installation of additional equipment, type design is determined considering Note 6

Two engines-Klimov Scientific and Industrial enterprise TB3-117BMA or TB3-117BMA series 02 Turbo shaft engines.(Ref.Engine Type Certificate Data Sheet No.34-Ⅱ)

3.燃油/Fuel:

按照GOST 10227-86的TS-1和RT, 以及他们的混合物和防冰添加剂的GOST 8313-88。(发动机型号数据单No.34-Ⅱ备用油)

RT and TS-1 as per GOST 10227-86 and their mixture with anti-icing additive "fluid I"

GOST 8313-88.(Ref.Engine Type Certificate Data Sheet No.34-Ⅱ for alternate fuel)

C. 使用限制/Operational Limitations

1.发动机使用限制/Engine Operating Limits:

1)正常使用/Normal Operation

a)起飞(15分钟)/Takeoff(15 min):

两台发动机的每一台的轴马力输出不少于	2200
Output shaft power(shp)of each of the two engines,not less	2200
主旋翼转速表的自由涡轮转速指示/Free turbine speed(Nft)as indicated by main rotor tachometer*:	
最大/Maximum	89%
最小/Minimum	87%
燃气发生器转速最大/Gas generator speed** Maximum	101.15%
涡轮内部最大温度/Intet Turbine Temperature Maximum	990℃

b)最大连续状态/Max. Continuous:

两台发动机的每一台的轴马力输出不少于	1700
Output shaft power(shp)of each of the two engines,not less	1700
主旋翼转速表的自由涡轮转速指示/Free turbine speed(Nft)as indicated by main rotor tachometer*:	
最大/Maximum	92%
最小/Minimum	88%
燃气发生器转速最大/Gas generator speed** Maximum	99%
涡轮内部最大温度/Intet Turbine Temperature Maximum	955℃

2)一台发动机不工作/One Engine inoperative (OEI)

a)2½分钟限制/2½-minute limit:

轴马力输出不少于/ Output shaft power(shp),not less	2400
主旋翼转速表的自由涡轮转速指示/Free turbine speed(Nft)as indicated by main rotor tachometer*:	
最大/Maximum	89%
最小/Minimum	87%
燃气发生器转速最大/Gas generator speed** Maximum	101.15%
涡轮内部最大温度/Intet Turbine Temperature Maximum	990℃

b)30分钟限制/30-minute limit:

轴马力输出不少于/ Output shaft power(shp),not less	2200
主旋翼转速表的自由涡轮转速指示/Free turbine speed(Nft)as indicated by main rotor tachometer*:	
最大/Maximum	89%
最小/Minimum	87%
燃气发生器转速最大/Gas generator speed** Maximum	101.15%
涡轮内部最大温度/Intet Turbine Temperature Maximum	990℃

c)连续状态/Continuous:

轴马力输出不少于/ Output shaft power(shp),not less	1700
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主旋翼转速表的自由涡轮转速指示/Free turbine speed(Nft)as indicated by main rotor tachometer*:

最大/Maximum 92%

最小/Minimum 88%

燃气发生器转速最大/Gas generator speed** Maximum 99%

涡轮内部最大温度/Intet Turbine Temperature Maximum 955℃

*90.2%主旋翼转速表读数相当于自由涡轮到100%或15000rpm。/90.2% main rotor tach.reading corresponds to 100% or 15000 rpm of Free Turbine.

**100%燃气发生器读数相当于其至19537.48rpm。/100% gas generator tach.reading corresponds to 19537.48 rpm of Gas Generator.

3)旋翼限制/Rotor limits:

a)无动力/Power OFF 最大/Maximum 98% 最小/Minimum 68%

b)有动力/Power On 最大/Maximum 98% 最小/Minimum 83%

c)有动力, 一台发动机不工作Power On,OEL 最大/Maximum 98% 最小/Minimum 73%

注: 在各种飞行运行条件下的限制见涉及的旋翼飞行手册。

NOTE:Ref.Flight Manual for Rotor RPM Limits under various flight operating conditions.

4)空速限制/Airspeed limits:

基本V_{NE}(不可超越速度)在国际标准大气压海平面IAS受限至140海里。

V_{NE}受限于周围环境和总重, 与机组空速显示器红色指针的位置相对应。

对于仪表飞行规则, V_{NEI}受限于V_{NE} 减10海里。

基本不可超越自旋海平面IAS是受限至95海里。

根据目视飞行规则, 最小海平面带动力IAS受限至27海里。

根据仪表飞行规则, 最小海平面带动力IAS受限至54海里。

最大地面摇摆速度受限至40海里。

Basic V_{NE} is limited to 140knots IAS at sea level ISA conditions.

V_{NE} is limited for ambient conditions and Gross Weight in accordance with the position of the RED INDEX on Pilot' s Airspeed Indicator.

For IFR V_{NEI} is limited to V_{NE} minus 10 knots.

Basic never exceed autorotation airspeed is limited to 95 knots IAS.

Min.VFR power-on airspeed is limited to 27 knots IAS at altitudes above hover ceiling.

Min.IFR power-on airspeed is limited to 54 knots IAS

Max.ground roll speed is limited to 40 knots.

5)重心范围/C.G.range

a)纵向的重心限制(适用于全总重) /Longitudinal C.G.limits (applicable to all Gross Weights)

VFR (+5000) to (+5310) IFR (+5000) to (+5280)

b)侧向的重心限制(VFR和IFR) /Lateral C.G.limits(VFR and IFR)

中心线左边110mm / 110mm left of centerline. 中心线右边110mm / 110mm right of centerline.

对于装货指令涉及KA-32A11BC载重平衡手册/Refer to KA-32A11BC Weight and Balance Manual for loading instructions.

6)基准/Datum

0站位位于旋轴前方5280mm/Station 0 (datum) is located 5280 mm forward of Rotor axis.

7)空重0重心范围/Empty Weight C.O.rang

对于空重重心位置指配重平衡报告和每部直升机的记录簿。

Refer to Weight and Balance Report and logbook of each individual helicopter for Empty Weight C.G.position.

8)最大重量/Maximum Weight

内部装载/With internal load: 11000kg 外部挂载/With external load: 12700kg

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9)最小重量/Minimum Weight

7200kg

10)最小机组/Minimum crew

A和B类直升机运行在目视飞行规则下1人/1(pilot) for VFR for A and B Category operations.

在仪表飞行规则下2人(1名驾驶员和1名领航员)/2(one pilot and one flight-navigator)for IFR operations.

11)座位数/Number of Seats

最多13人在客(货)舱/Maximum 13 in transport(cargo) compartment

12)最大行李量/Maximum baggage

无。(见注4)/none.See NOTE 4.

13)最大外挂负载/Max. External Load

5000kg.

14)燃油容量/Fuel capacity

总计2450升(+5317)/2450 liters (+5317) total

可用2424升/2424 liters usable

不可用26升(+5280)/26 (+5280) liters unusable

在空重审查中包括不可用燃油重量的要求见注1。

See NOTE 1 for requirements to include unusable fuel wight in certificated empty weight.

左/Left

右/Right

1号油箱/Tank No.1 285升/liters(+3270)

1号油箱/Tank No.1 285升/liters(+3270)

2号油箱/Tank No.2 280升/liters(+4970)

2号油箱/Tank No.2 280升/liters(+4970)

3+4号油箱/Tank No.3+4 410升/liters(+6790)

3+4号油箱/Tank No.3+4 410升/liters(+6790)

5号油箱/Tank No.5 250升/liters(+5110)

5号油箱/Tank No.5 250升/liters(+5110)

总计1212升可用/1212 liters total usable

总计1212升可用/1212 liters total usable

不可用13升(+5280)/13 liters (+5280) unusable

不可用13升(+5280)/13 liters (+5280) unusable

前辅助油箱(6号油箱)Auxiliary Front Tank(Tank No.6) 后辅助油箱(6号油箱)Auxiliary Aft Tank(Tank No.6)

总计500升可用(+4180)/500 liters(+4180) total usable 总计500升可用(+6380)/500 liters(+6380) total usable.

关于前和后两个辅助油箱/With Both Froont and Aft Auxiliary Tanks:

当补充加油总油量达3450升时,不可用油量是26升(+5280)。

When filler refueling total fuel quantity is 3450 liters,unusable fuel is 26 liters(+5280).

当补充加油(1点加油)总油量达到3080升或1000升时,对于两个加油条件的压力,不可用油量是26升(+5280)。

When pressure refueling(one point refueling)total fuel quantity is either 3080 liters or 1000 liters.For both pressure refueling conditions,unusable fuel is 26 liters(+5280).

15)滑油量/Oil Capacity

总的滑油系统是90升(+5759)。在空重审查中包括燃油重量的要求见注1。

Total Sys.Capacity 90liters(+5759).See NOTE 1 for requirement to include oil weight in certificated empty weight.

16)最大运行高度/Maximum Operating Altitude,ft: 16400英尺/ft

17)旋翼桨叶及其控制/Rotor blade and Control Movements

对于校装信息见KA-32A维护手册/For rigging information refer to the Model KA-32A Maintenance Manual.

18)合格的序列号/Serial Nos.eligible

(31594)8801/03;(30004)8607/04;(31585)8707/05;(31600)8810/10;(9624)8811/11;(9625)8812/12;9708/23;9709/24;9710;9712, 9713,9714;9715;9801;9804;9805

对于Ka-32A11BC型号32.04-序列号9901至9906,见注5。

For Ka-32A11BC,version 32.04-serial Nos.9901 to 9906.Refer to Note 5.

19)调平方法/Leveling means

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旋翼轴被直立, 详见维护手册。/Rotor Axis to be vertical. See Maintenance Manual for details.

20) 设备/Equipment

直升机必须装备适用的适航规章(见审定基础和型号设计)中要求的基本设备。移动设备清单在载重平衡手册(对于KA-32A)或旋翼飞机飞行手册RFM第5部分“载重平衡”(对于Ka-32A11BC)提供。另外, 以下设备项目是每种直升机审定的要求:

The basic required equipment as prescribed in the applicable airworthiness regulations(See Certification Basic and Type Design) must be installed in the helicopter for certification. Removable equipment list is presented in Weight and Balance Manual (for the Ka-32A model) or RFM, Section 5 "Weight and Balance"(for the Ka-32A11BC model). In addition, the following items of equipment are required with each helicopter as specified:

a) 型号Ka-32A11BC: Ka-32A11BC在加拿大运行的旋翼飞机飞行手册, 1997年1月21日被IAC AR批准, 或以后经批准的版次。

a) Model Ka-32A11BC: Kamov Ka-32A11BC Rotorcraft Flight Manual for helicopters operated in Canada, approved by IAC AR in January 21, 1997, or later approved revision.

b) 型号Ka-32A11BC: 外挂运行的旋翼飞机补充飞行手册KA32A11BC-FMS-1.1, 1997年1月21日被IAC AR批准, 或以后经批准的版次。

b) Model Ka-32A11BC: Kamov Ka-32A11BC Rotorcraft Flight Manual Supplement KA32A11BC-FMS-1.1 for external loading operation, approved by IAC AR in January 21, 1997, or later approved revision.

c) 型号Ka-32A11BC: 带滑撬运行的旋翼飞机补充飞行手册KA32A11BC-FMS-2.1, 1997年1月21日被IAC AR批准, 或以后经批准的版次。

c) Model Ka-32A11BC: Kamov Ka-32A11BC Rotorcraft Flight Manual Supplement KA32A-FMS-2.1, Skis, approved by IAC AR in January 21, 1997, or later approved revision.

d) 型号Ka-32A11BC: 紧急浮筒运行的旋翼飞机补充飞行手册KA32A11BC-FMS-3.1, 1997年1月21日被IAC AR批准, 或以后经批准的版次。

d) Model Ka-32A11BC: Kamov Ka-32A Rotorcraft Flight Manual Supplement KA32A-FMS-3.1, Emergency Floats, approved by IAC AR in January 21, 1997, or later approved revision.

D. 注/Notes

注1: 当前的载重平衡报告包括设备清单、不可排出的燃油、不能用的燃油等包括在原型机审定时必须规定每架直升机空重和装货指令的审查中。空重的审定必须包括90升/90公斤总的滑油系统容量(旋翼轴前向489mm)和总的26升/20公斤不可用燃油。防冰液的重量不包括在空重内。

Note 1: Current weight and balance report including list of equipment and undrainable oil and unusable fuel included in the certificated empty weight, and loading instructions, when necessary, must be provided for each helicopter at the time of original certification. The certificated empty weight must include the total oil system capacity of 90 liters/90 kg (489mm rearward to rotor axis) and the total unusable fuel of 26 liters/20kg (rotor axis). Weight of deicing fluid is not included in empty weight.

注2: 以下标牌必须安装在前面让机组清晰地看到: “本架直升机必须按照经批准的旋翼飞机飞行手册的运行限制要求运行。”

Note 2: The following placard must be installed in front of and in clear view of the pilot: "This Helicopter is approved for operation in compliance with the operating limitation specified in the approved Rotorcraft Flight Manual".

注3: 旋翼飞机适航性限制部分列在IAC AR批准的维护手册适航限制部分(分部), 这数据仅依据确定A II-21的程序进行大改。另外, 直升机时间限制的维修和非维修计划指令、直升机及其部件的服务寿命都在维护手册中制定了适航性限制, 这数据在IAC AR预批准下, 依据确定的A II-21第12章程序进行大改。

Note 3: The airworthiness limitations of the rotorcraft components are specified in the Maintenance Manual Airworthiness Limitation section (subsection) approved by IAC AR. This data may be changed only according to procedure established by A II-21 for major changes.

In addition, instructions on the schedule and unschedule maintenance of the helicopter, time limits and service lives of the helicopter and its components established providing airworthiness limitations are observed are contained in the Maintenance Manual. This data may be changed according to procedure established for major changes by A II-21,

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Chapter 12, under preliminary IAC AR approval.

注4: 最大货物载重限制是3700公斤。客(货)舱地板最大允许的载重限制是: 在No.4至No.7隔框之间是3000公斤/平方米, 以及在No.7至No.13隔框之间是1500公斤/平方米。

Note 4: Maximum internal cargo weight is limited to 3700 kg.

Maximum allowable floor loading for transport(cargo) compartment is limited to:

-3000 kg/sq.m between frames No.4 to No.7, and -1500 kg/sq.m between frames No.7 to No.13.

注5: 允许用未完成的序列号替代, 如用31594替代8801/03, 用8707替代(31585) 8707/05, 等等。

Note 5: It is allowed to use the uncompleted serial numbers, such as 31594 instead of (31594) 8801/03, 8707 instead of (31585) 8707/05, and etc.

注6: 补充型号合格证	大改描述	适用性	型号设计更改
36-32A/Ⅱ1	用双腔作动筒PC-60F替换单腔的PC-60	Ka-32A11BC	324.0000.0000.000D3号目录
36-32A/Ⅱ2	直升机及其部件适航性限制的更改	Ka-32A	维护手册第4号更改
		Ka-32A11BC	维护手册第1号更改
36-32A/Ⅱ3	PC-60F作动筒适航性限制更改	Ka-32A11BC	维护手册第2号更改
36-32A/Ⅱ4	旋翼轴承适航性限制的更改	Ka-32A	维护手册第9号更改
		Ka-32A11BC	维护手册第4号更改
36-32A/Ⅱ5	旋翼桨叶设计增加碳部分的介绍	Ka-32A	图纸500.2906.8000.000BC
		Ka-32A11BC	图纸500.2906.8000.000BC
		Ka-32A	维护手册第10号更改
		Ka-32A11BC	维护手册第6号更改
36-32A/Ⅱ6	BP-252齿轮箱适航性限制的更改	Ka-32A	维护手册第11号更改
		Ka-32A11BC	维护手册第8号更改
36-32A/Ⅱ7	单纯救火系统的安装	Ka-32A	01/323/04-2006目录
			旋翼飞机补充飞行手册第18.1
			2006年4月3日更改的Ka-32
			维护手册第5部分
36-32A/Ⅱ8	医疗系统的安装	Ka-32A11BC	324.0000.0000.000D6目录:
			Ka-32A11BC旋翼飞机补充飞行
			手册第Ⅱ-37.1:
			Ka-32A11BC飞机维护手册第5和
			第25部分:
			补充技术条件324.04.0000.0000ⅡTY

Note 6: Supplements to Type Certificate	Major Change Description	Applicability	Type Design Change
36-32A/Ⅱ1	Replacement of PC-60 single chamber actuator on PC-60F dual chamber one	Ka-32A11BC	List No. 324.0000.0000.000D3
36-32A/Ⅱ2	Change of airworthiness limitation of the helicopter and its components	Ka-32A	MM Change No.4
		Ka-32A11BC	MM Change No.1
36-32A/Ⅱ3	Change of airworthiness limitation of the	Ka-32A11BC	MM Change No.2
36-32A/Ⅱ4	Change of airworthiness limitation of the rotor mnst bearings	Ka-32A	MM Change No.9
		Ka-32A11BC	MM Change No.4
36-32A/Ⅱ5	Introduction of the carbon band into upper rotor blade design	Ka-32A	Drawing
		Ka-32A11BC	500.2906.8000.000BC
		Ka-32A	MM Change No.10

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		Ka-32A11BC	MM Change No.6
36-32A/Ⅱ6	Change of airworthiness limitation of the	Ka-32A	MM Change No.11
	BP-252 GEARBOX	Ka-32A11BC	MM Change No.8
36-32A/Ⅱ7	Simplex firefighting system installation	Ka-32A	List No01/323/04-2006
			RFM Supplement No18.1
			Ka-32 MM,section 5
			Change dated April 03,2006
36-32A/Ⅱ8	Installation of the medical module	Ka-32A11BC	List No324.0000.0000.000D6;
			Supplements to Ka-32A11BC
			RFM No. Ⅱ-37.1;
			Supplement to Ka-32A11BC MM,
			Section 5 and Section 25;
			Supplement to Technical conditions
			324.04.0000.0000.000ⅡTY.

结束

END