INTERSTATE AVIATION COMMITTEE
AVIATION REGISTER

Type Certificate Data Sheet № 36-32A

Revision 38, March 30, 2016

This data sheet which is part of Type Certificate No 36-32A and Supplements Nos. 36-32A/Д1, СТ36-32A/Д2, 36-32A/Д3, 36-32A/4, СТ36-32A/Д5, 36-32A/Д6, 36-32A/Д7, 36-32A/Д08, 36-32A/Д09, 36-32A/Д10, 36-32A/Д11, 36-32A/Д12, 36-32A/Д13, 36-32A/Д14 thereto, Major change approval No. 36-32A/ОГИ-15 (ref. to Note 2). It prescribes the conditions and limitations under which the product for which the type certificate was issued, meets the airworthiness requirements of the Certification Basis.

Type Certificate Holder

KAMOV COMPANY, Lubertsy, Moscow Region, Russian Federation

Manufacturer

KAMOV COMPANY, Lubertsy, Moscow Region, Russian Federation.
Production Approval No ОП12-ПВС

KUMAPE COMPANY, Kumertau, Novozarinskaja str., 15a, Russian Federation.
Production Approval No ОП27-ПВС

1. Ка-32А Model

Aircraft description

Co-axial helicopter with the two turboshaft engines and fixed landing gear wheel.

Category

Transport, A and B.

Designation

The KA-32A helicopter is approved for flights under VFR, IFR in the day and night, over the land and water, in icing conditions, internal and external load transportation, and transportation of the persons directly involved with aerial works.

Type design definition

Description of the type design is contained in document: «Type design of the Ka-32A helicopter No Ka-32A-0000TK»

Certification Basis

СБ-32А-29 Certification basis includes:

- 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;
  Paragraph 29.1459 of Amend.29-25, effective October 11,1988;

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Paragraphs 29.954, 29.963, 29.991, 29.1011, 29.1027 of Amend.29-26, effective October 3,1988;
Ditching 32.29.801; 32.29.807; 32.29.1411; 32.29.1415;
Anti-ice protection 32.29.1093 and 32.29.1419.

- Requirements for noise level - Aviation Rules Part 36, Sections A, H, O and Chapter 8 of ICAO Annex 16, Volume I, Issue 3, 1993.

- Aviation rules Part 34 (АП-34) requirements "Environmental protection. Exhaust emission requirements for aircraft engines. Rules and tests".

- Equivalent level of safety is established for the following items: 32.29.173(b); 32.29.177; 32.29.923(c) and (i); 32.29.1027(b)(1); 32.29.1351 (d)(3); 32.29.1459(a)(5); Appendix B V(a), VII(a)(2), VIII(b)(1).

Centre of Gravity Range

(a) Longitudinal C.G. limits (applicable to all Gross Weights):

VFR	IFR	Flight with the external cargo
+280 to -30 mm	+280 to 0 mm	+280 to 0 mm

(b) Lateral C.G.Iimits (VFR and IFR):

110 mm left of centerline	110 mm right of centerline

Note: station 0 (datum) is located on the Rotor axis.

The serial numbers of the helicopters manufactured at Kamov company, in accordance with the approved Type design

(31033) 6108/01; 8903/06; 8904/07; (31598) 8805/08; (30001) 8603/11; (30005) 8608/14; (31586) 8708/15; (31589) 8711/16; 5235004991117.
See Note 1

The serial numbers of the helicopters manufactured at KumAPE company, in accordance with the approved Type design

55-03/014; 60-06/013; 88-08; 98-02; 5902/009; 86-04/011; 62-17/012; 9821; 9102/015; 9822.
See Note 1

2. Ка-32А11ВС model (including Ка-32А12)

Aircraft description

Co-axial helicopter with the two turboshaft engines and fixed landing gear wheel.

Category

Transport, A and B.

Designation

The KA-32A11BC helicopter is approved for flights under VFR, IFR in the day and night, over the land and water, in icing conditions, internal and external load transportation, and transportation of the persons directly involved with aerial works.

Type design definition

Description of the type design is contained in document: «Type design of the Ka-32A11BC helicopter No Ka-32A11BC-0000TK, issue 3».

Certification Basis

СБ-32A11BC-29 Certification basis includes:

- 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;
  Paragraph 29.1459 of Amend.29-25, effective October 11,1988;
  Paragraphs 29.954, 29.963, 29.991, 29.1011, 29.1027 of Amend.29-26, effective October 3,1988;
  Ditching 32.29.801; 32.29.807; 32.29.1411; 32.29.1415;
  Anti-ice protection 32.29.1093 and 32.29.1419.

- Requirements for noise level - Aviation Rules Part 36, Sections A, H, O and Chapter 8 of ICAO Annex 16, Volume I, Issue 3, 1993.

- Aviation rules Part 34 (АП-34) requirements “Environmental protection. Exhaust emission requirements for aircraft engines. Rules and tests”.

- Special technical conditions:
  - FAR-29 requirements: 29.695(b), 29.853, 29.903(c), 29.1103(d)(2), 29.1121(b), 29.1529, 29.1545(b)(4);
  -A32.29.4-PC60F.

Centre of Gravity Range

(a) Longitudinal C.G. limits (applicable to all Gross Weights):

VFR	IFR	Flight with the external cargo
+5000 to +5310 mm	+5000 to +5280 mm	+5000 to +5280 mm

(b) Lateral C.G.Iimits (VFR and IFR):

110 mm left of centerline	110 mm right of centerline

Note: station 0 (datum) is located 5280mm forward of Rotor axis.

The serial numbers of the helicopters manufactured at KumAPE company, in accordance with the approved Type design

(31594) 8801/03; (30004) 8607/04; (31585) 8707/05; (31587) 8709/02; 8807/016; (31599) 8809/09; (31600) 8810/10; (9624) 8811/11; (9625) 8812/12; 9708/23; 9709/24; 9710; 9712; 9713; 9714; 9715; 9801; 9804; 9805; 9811; 9812; 9813; 9814; 9815; 9816; 9817; 523324019828; 523324069832; 523324069833; 523324199839; 523324159836; 523324149838; 5233242010001; 5233241710003; 52332405028902/017; 5233242210005; 523324220006.
For the Ka-32A11BC as 324.04 – from 9901 to 9906
See Note 1.

Pertinent to all Models

Noise characteristics

Noise level EPNdB Aviation rules Part 36 (АП-36)

Helicopter model	M_{max}	engine	take-off	flyover	approach
Ka-32A, Ka-32A11BC	11000	ТВ3-117ВМА	93,5± 1,5	99,4±0,4	96,8±0,3
Limits by АП-36, ICAO Annex 16			100,4	99,4	101,4

Fuel

TS-1, RT (GOST 10227-86) and their mixture with anti-icing additive "fluid I" (GOST 8313-88).
(Ref. to RFM for foreign brands of fuel)

Oil

For the engines	Б-3В
For the APU	
For the gearbox	

Engines

Two turboshaft engines ТВ3-117ВМА or ТВ3-117ВМА series 02, JSC «Klimov» (Ref. Engine Type Certificate Data Sheet No.34-Д).
IAC AR Type Certificate for the engines No. 34-Д, dt. 24.04.2009

Auxiliary power unit (APU)

АИ-9, IAC AR Type Certificate No. 102-ВД, dt. 05.04.1996

Engines limitations

One Engine inoperative (2,5 minute limit):	
Output shaft power (shp), not less	2400
Free turbine speed (Nft) (as indicated by main rotor tachometer*), (%):	
Maximum	89
Minimum	87
Gas generator speed (%)**: Maximum	101,15
Inlet Turbine Temperature, (^{0}C) Maximum	990

One Engine inoperative (30-minute limit):	
Output shaft power (shp), not less	2200
Free turbine speed (Nft) (as indicated by main rotor tachometer*), (%): Maximum Minimum	 89 87
Gas generator speed (%)**: Maximum	 101,15
Inlet Turbine Temperature, (^{0}C) Maximum	 990

One Engine inoperative (Continuous):	
Output shaft power (shp), not less	1700
Free turbine speed (Nft) (as indicated by main rotor tachometer*), (%): Maximum Minimum	 92 88
Gas generator speed (%)**: Maximum (at T* higher than +35°C) Minimum (at T*= - 60°C)	 99 84,4
Inlet Turbine Temperature, (^{0}C) Maximum	 955

Takeoff (5 min):	
Output shaft power of each of the two engines (shp), not less	2200
Free turbine speed (Nft) (as indicated by main rotor tachometer*), (%): Maximum Minimum	 89 87
Gas generator speed (%)**: Maximum (at T* higher than +27°C) Minimum (at T*= - 60°C)	 101,15 87,3
Inlet Turbine Temperature, (^{0}C) Maximum	 990

Maximum Continuous:	
Output shaft power of each of the two engines (shp), not less	1700
Free turbine speed (Nft) (as indicated by main rotor tachometer*), (%): Maximum Minimum	 92 88
Gas generator speed (%)**: Maximum (at T* higher than +35°C) Minimum (at T*= - 60°C)	 99 84,4

Inlet Turbine Temperature, (^{0}C) Maximum	955

* 90,2% main rotor tach. reading corresponds to 100% or 15000 rpm of Free Turbine.
** 100% gas generator tach. reading corresponds to 19537,48 rpm of Gas Generator.
T* - OAT.

APU limits

For APU АИ-9: Minimal selection of compressed air, kg/sec	0,38
Compressed air temperature, C°	Not more than 130
Other APU limitations in accordance with the Type Certificate Data Sheet No.СТ 102-ВД	

Rotor Speed Limits

Speed	Power off	Power on	Power on OEI
Min.	70%	83% (below 87% no longer than 30 sec)	73% (below 83% no longer than 10 sec)
Max.	98% (higher than 92% no longer than 8 sec)	98% (higher than 92% no longer than 8 sec)	98% (higher than 92% no longer than 8 sec)

The maximum power delivered through the main gearbox

4850 hsp

Maximum takeoff weight

11000 kg

Helicopter's maximum weight with external load

12700 kg

Maximum internal cargo weight

3700 kg

Maximum allowable floor loading for transport (cargo) compartment:

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

Maximum External Load

5000 kg

Airspeeds limits

Vne Power on at sea level at ISA conditions, (km/h): 260

Vne Power off at sea level, (km/h): 180

Other limitations refer to the Flight Manual.

Minimum crew

1 (pilot) for VFR for A and B Category operations.
2 (one pilot and one flight-navigator) for IFR operations.

Number of seats in the transport compartment

13

Fuel capacity

Total, (liters)	2450
Unusable, (litres)	26

With both front and aft auxiliary tanks installed:

(a) when filler refueling:

Total fuel quantity, (liters)	3450
Unusable fuel, (liters)	26

(b) when pressure refueling (one point refueling):

Total fuel quantity, (liters)	3080
Unusable fuel, (liters)	26

Maximum operating altitude

5000 m

Additional restrictions for the pressure altitude are established by operating rules

Maximum altitude for take-off and landing

3000 m

Outside air temperature (OAT) limitations

-50^0C — $+45^0$C

Note 1

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

Note 2

Supplements to Type Certificate, Major change approvals	Major Change Description	Applicability	Type Design Change
36-32А/Д1	Replacement of PC-60 single chamber actuator on PC-60F dual chamber one	Ка-32А11ВС	List No. 324.0000.0000.000D3
СТ36-32А/Д2	Change of airworthiness limitation of the helicopter and its components	Ка-32А Ка-32А11ВС	ММ Change No. 4 ММ No.324.0000.0000РЭ, issue 3, 2011
36-32А/Д3	Change of airworthiness limitation of the PC-60F actuator	Ка-32А11ВС	ММ No.324.0000.0000РЭ, issue 3, 2011

36-32A/4	Change of airworthiness limitation of the rotor must bearings	Ka-32A Ka-32A11BC	MM Change No.9 MM No.324.0000.0000РЭ, issue 3, 2011
СТ36-32А/Д5	Introduction of the carbon band into upper rotor blade design	Ka-32A, Ka-32A11BC, Ka-32A Ka-32A11BC	Drawing 500.2906.8000.000BC MM Change No.10 MM No.324.0000.0000РЭ, issue 3, 2011
36-32А/Д6	Change of airworthiness limitation of the BP-252 gearbox	Ka-32A Ka-32A11BC	MM Change No. 11 MM No.324.0000.0000РЭ, issue 3, 2011
36-32А/Д7	Installation of the firefighting system «Simplex»	Ka-32A	List №01/323/04-2006; Ka-32A RFM Supplement №18.1; MM, Section 5, revision dated 03.04.06
36-32А/Д08	Installation of the medical module	Ka-32A11BC	List №324.0000.0000.000D6; Ka-32A11BC RFM Supplement № Д-37.1; MM No.324.0000.0000РЭ, issue 3, 2011; Supplement to Technical conditions 324.04.0000.0000.000ДТУ
36-32А/Д09	Replacement of the flight and navigation equipment to extend the helicopter operational conditions	Ka-32A11BC version 324.04	List №324.0000.0000.000D5; Ka-32A11BC RFM Supplements: №Д-7.1, №Д-9.1, №Д-10.1, №Д-11.1, №Д-12.1, №Д-13.1, №Д-26.1, №Д-27.1, №Д-29.1, №Д-32.1; MM No.324.0000.0000РЭ, issue 3, 2011; Supplement to Technical Conditions 324.04.0000.0000.000ДТУ
36-32А/Д10	Increase of the airframe airworthiness limitations from 16000 hours to 32000 hours for routine conditions or to 24000 hours for routine logging conditions during 30 years of the assigned service time.	Ka-32A11BC	MM No.324.0000.0000РЭ
36-32А/Д11	Changing the airworthiness limitations, increasing the service life and time limits of Ka-32A and Ka-32AO helicopters and their components on the basis of commonality with the airworthiness limitations, service life and time limits of the Ka-32A11BChelicopter, approved by IAC AR	Ka-32A	MM No.323.0000.0000РЭ, issue 3, 2011

36-32A/Д12	Installing of horizontal and vertical firefighting set	Ка-32А, Ка-32А11ВС,	Ка-32А11ВС ММ No 324.0000.0000РЭ, Supplement 5, 2013, Ка-32А ММ No 323.0000.0000РЭ, Supplement 6, 2013, Supplements No1 and 2 to the Ка-32А RFM, Supplements Ка-32А11ВС-Д-81.1 and Ка-32А11ВС-Д-78.1 to the Ка-32А11ВС RFM, Supplement No 13 to the КА32А11ВС-MSM-000 of the Ка-32А11ВС helicopter and Change No 1 to the КА32А-MSM-000 of the Ка-32А helicopter, The Conciliation protocols No Ка-32А11ВС/324.04-2/2013 and № Ка-32А-1/2013 to the Technical Conditions No323.0000.0000.000ТУ.
36-32A/Д13	Installing of the Honeywell KTA 970/KMH 980 Traffic alert and Collision Avoidance System (TCAS I)	Ка-32А11ВС	Supplement No3 to the СБ-32А11ВС-29; ММ 324.00000.0000РЭ Supplement No 24; КА32А11ВС-MSM-000 Supplement No 16; Supplement Ка-32А11ВС-Д-83.1 to the RFM; the Technical Conditions 324.0000.0000.ТУ.
36-32A/Д14	Introduction to the operational documentation of the helicopter the Master minimum equipment list.	Ка-32А11ВС	Master minimum equipment list 324.0000.0000ГПМО.
36-32A/ОГИ-15	Installation of the medical module Spectrum Aeromed	Ка-32А11ВС	Supplement No.4 to СБ-32А11ВС-29; Supplement No. 23 to ММ No.324.0000.0000РЭ; Supplement No. 12 to КА32А11ВС-MSM-000; Ка-32А11ВС RFM Supplement № Д-63.1; Technical conditions 324.0000.0000.ТУ

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(Originally signed by)

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