European Aviation Safety Agency

EASA

TYPE-CERTIFICATE DATA SHEET

No. IM.R.133

for
Kamov Ka-32A11BC

Type Certificate Holder
Kamov Company

Moscow
Russian Federation

For Models: Ka-32A11BC

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SECTION 1: Ka-32A11BC

I. General

1. Type/ Variant or Model	
1.1 Type	Ka-32A11BC
2. Airworthiness Category	Large Rotorcraft – Restricted
3. Manufacturer	Kamov Company Lubertsy, Moscow Region Russian Federation And KumAPP Company Kumertau, Bashkortostan Republic Russian Federation
4. EASA Certification Application Date	26 November 1999
5. National Certifying Authority	Interstate Aviation Committee – Aviation Register (IAC-AR)
6. National Authority Type Certificate Date	21 January 1997

II. Certification Basis

1. Reference Date for determining the applicable requirements	16 July 1988
2. Airworthiness Requirements	FAR 29 amt 29-24 effective 6 December 1984 FAR 29.1459 amt 29-25 effective 11 October 1988 FAR 29.954, 29.963, 29.991, 29.1011, 29.1027 amt 29-26 effective 3 October 1988
3. Special Conditions	N/A
4. Exemptions	N/A
5. Exceptions	The following parts of the certification basis are not complied with: FAR 29.613(d)

	FAR 29.1305(a)(14)
6. Equivalent Safety Findings	The following Equivalent Safety Findings were reviewed and accepted: FAR 29.173(b) FAR 29.177 FAR 29.923(c) and (i) FAR 29.1027(b)(1) FAR 29.1351(d)(3) FAR 29.1459(a)(5)
7. Requirements elected to comply	N/A
8. Environmental Protection Requirements	Noise Annex 16 to the convention on International Civil Aviation, Volume 1, Third Edition – 1993
9. Engine(s)	The engine is accepted as part of this type design and was approved using the following requirements: FAR 33 amendment 33-14, effective 10 September 1990

III. Technical Characteristics and Operational Limitations

1. Type Design Definition (See NOTE 5 and NOTE 6)	The type design of Ka-32A11BC helicopter defined on the results of type certification in EASA is specified by the following: 1) The type design of Ka-32A11BC helicopter approved by IACAR is defined as Set of Design and operational documentation №323.0000.0000.000Д, №324.0000.0000.000D, №324.0000.0000.000D1, №324.0000.0000.000D2, №324.0000.0000.000D3, and RFM issue 3, and MM issue 2007. 2) The changes in type design on the results of EASA type certification are defined by the “List of Technical Documentation №324.0000.0000.000ДПЧ Defining Ka-32A11BC Type Design Based on the Results of EASA Type Certification”.
2. Description	The Kamov Ka-32A11BC is a twin engine, co-axial rotor, transport category helicopter. Powered by two Klimov TV3-117VMA

turboshaft engines through the VR-252 gearbox to the two, three bladed co-axial rotors. The Maximum take-off weight is 11,000 kg plus a maximum 5000 kg external load up to a maximum weight of 12,700 kg.

3. Equipment — Refer to equipment list in approved Rotorcraft Flight Manual

4. Dimensions

4.1 Fuselage — Fuselage Length 11.215m (36 ft 10 in); Width 3.805m (12 ft 6 in); Height 5.45m (17 ft 11 in)

4.2 Main Rotor — Main Rotor Diameter 15.9m (52 ft 2 in)

4.3 Tail Rotor — N/A

5. Engine

5.1 Model — Klimov Scientific and Industrial Enterprise TV3-117VMA or TV3-117VMA Series 02 Turboshaft

5.2 Type Certificate — IAC AR TCDS No. 34-Д

5.3 Limitations — Refer to approved Rotorcraft Flight Manual

5.3.1 Installed Engine Limits

ENGINE LIMITS DATA SHEET 34-Д (IAC AR)	**Output Shaft Power (SHP)**	**Free Turbine Speed (Nf) %**	**Gas Producer Speed (Ng) %**	**Gas Temperature ^{o}C**
Normal Operation				
Take Off (15 Minutes)	2200	89 (Max) 87 (Min)	101 (Max)	990
Maximum Continuous	1700	92 (Max) 88 (Min)	99 (Max)	955
One Engine Inoperative				
2 ½ Minute Limit	2400	89 (Max) 87 (Min)	101 (Max)	990
30 Minute Limit	2200	89 (Max) 87 (Min)	101 (Max)	990

Continuous	1700	92 (Max) 88 (Min)	99 (Max)	955

6. Fluids (Fuel/ Oil/ Additives)

6.1 Fuel

NOMENCLATURE	SPECIFICATION		
	Russian Federation	U.S.A.	Europe
PT, TC-1	ГОСТ 10227-85		
Kerosene Jet A, A-1		ASTM D1655	
High Flash JP4, JP5		MIL-T-5624	

6.2 Oil — Refer to approved Rotorcraft Flight Manual

6.3 Additives

NOMENCLATURE	SPECIFICATION		
	Russian Federation	U.S.A.	Europe
Anti-Icing additive fluid И	ГОСТ 8313-88		

7. Fluid capacities

7.1 Fuel — Fuel useable: 2450 Litres, 2424 Litres

7.2 Oil — Oil: 90 Litres

7.3 Coolant system capacity — N/A

8. Air Speeds Limits

Vne Power on IAS) at sea level: 140 KIAS (260 km/h

Vne Power off IAS) at sea level: 95 KIAS (180 km/h

Vmin VFR Power on at altitudes above hover ceiling: 27 KIAS (50 km/h)

9. Rotor Speed Limits

	Maximum	Minimum
Power On	98%	83%
Power Off	98%	70%
Power On OEI	98%	73%

10. Maximum Operating Altitude and Temperature

10.1 Altitude	5000 m (16400 ft) pressure altitude Refer to approved Rotorcraft Flight Manual for altitude limitations
10.2 Temperature	Refer to approved Rotorcraft Flight Manual for temperature limitations
11. Operating Limitations	Category B VFR Day and Night
12. Maximum Masses	With internal load 11000 kg (24200 lb) With external load 12700 kg (27998 lb)
13. Centre of Gravity Range	Refer to approved Rotorcraft Flight Manual (see NOTE 1)
14. Datum	Station 0 (datum) is located 5280 mm forward of rotor axis
15. Levelling Means	Rotor axis to be vertical. See Maintenance Manual for details.
16. Minimum Flight Crew	2 Pilots for VFR, Category B operations
17. Maximum Passenger Seating Capacity	9 – Persons essential to the aerial work being performed only No passengers allowed
18. Maximum Baggage/ Cargo Loads	3700 kg internal (see note 4) 5000 kg external
19. Rotor Blade control movement	For rigging information refer to the Maintenance Manual
20. Auxiliary Power Unit (APU)	АИ-9
21. Life- limited parts	Life limited components and approved retirement times are listed in the approved Chapter 4, Airworthiness Limitations section of the Maintenance Manual MM32A11BC-01-1 dated 28 September 2009 or later EASA approved revision. (See note 3)
22. Wheels and Tyres	See Maintenance Manual listed in Section IV

23. Serial Numbers eligible (See NOTE 5)	8607/04, 8807/016, 8811/11(9624), 8812/12(9625), 9708/23, 9709/24, 9710, 9712, 9713, 9714, 9715, 9801, 9804, 9805, 9814, 9815, (31587) 8709/2 and (31599) 8809/09.

IV. Operating and Service Instructions

1. Flight Manual (See NOTE 2 and 7)	Model Ka-32A11BC Rotorcraft flight manual revision 3 approved 28 September 2009 or later EASA approved revision; Model Ka-32A11BC Rotorcraft flight manual Supplement Ka-32A11BC-FMS-1.1 for external loading operation, revision 3 approved 28 September 2009 or later EASA approved revision; Model Ka-32A11BC Rotorcraft Flight Manual Supplement Ka-32A11BC-FMS-2.1 Skis, revision 3 approved 28 September 2009 or later EASA approved revision.
2. Maintenance Manual	Model Ka-32A11BC Rotorcraft Maintenance Manual MM32A11BC-01-1 issue 2007 or later approved revision
3. Structural Repair Manual	N/A
4. Service Letters and Service Bulletins	As published by Kamov Company and approved by IAC AR.
5. Required Equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (See Certification Basis and Type Design) must be installed in the helicopter for certification. Removable equipment list is presented in Weight and Balance Manual or RFM, Section 5 "Weight and Balance".

V. Notes

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 litres/90 kg (489 mm rearward to rotor axis) and the total unusable fuel of 26 litres/20 kg (rotor axis). Weight of deicing fluid is not included in empty weight.

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"

3. The airworthiness limitations of the rotorcraft components are specified in the Maintenance Manual Airworthiness Limitation section (subsection) approved by EASA. This data may be changed only according to procedure established by EC Regulation 1702/2003 for major changes.
In addition, instructions on the scheduled and unscheduled 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 minor changes by АП-21, Chapter 12, under preliminary IAC AR approval.

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.

5. Ka-32A11BC helicopters serial numbers (31587) 8709/2 and (31599) 8809/09 have the designation of Ka-32A12. These serial numbers have the following changes incorporated:

	Documentation for Introduction of change		
	Notification No.	To Design Documentation No.	Modification Description
1	324.053.2925ПИ…2941ПИ	5.00.5320.0200.000 5.00.5320.0500.000	Hydraulic reservoir modification for leakage sensor installation
2	324.177.4321ПИ…4322ПИ	323.7201.0800.000	Electric equipment harness installation in the hydraulic system compartment
3	324.172.12940ПИ…12947ПИ	521.7200.0011.999	Hydraulic system control. Schematic electric connection diagram change.
4	324.171.1389ПИ…1396ПИ	521.7200.0021.999	Caution/warning indication system. Schematic electric connection diagram change.
5	326.00.078.4224С3		Modification of instrument panel and overhead control panel in connection with introduction of hydraulic system leakage warning

			indication.

6. Ka-32A11BC and Ka-32A12 helicopters must have Kamov Service Bulletin number 324.01-061-БД applied.

7. Ka-32A12 helicopters must be operated in accordance with Model Ka-32A11BC Rotorcraft Flight Manual revision 3 approved 28 September 2009 or later EASA approved revision and EASA approved Flight Manual Supplements.

SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

Acronym or Abbreviation	Meaning
amt	Amendment
ft	Feet
IAC-AR	Interstate Aviation Committee – Aviation register
in	Inches
kg	Kilogram
KIAS	Knots Indicated Airspeed
km/h	Kilometres per hour
lb	Pounds
m	Meters
max	Maximum
min	Minimum
Nf	Free Turbine Speed
Ng	Gas Producer Speed
^{o}C	Degrees Celcius
OEI	One Engine Inoperative
shp	Shaft horse power
Sq.m	Square meters

II. Type Certificate Holder Record

Kamov Company

III. Change Record

Issue	Date	Changes	TC issue
Issue 01	28 September 2009	Initial Issue	Initial Issue
Issue 02	8 June 2011	Serial numbers eligible and NOTE 5, 6 and 7 added.	Initial Issue

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