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)
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, №324.0000.0000.000Д, №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

<table>
<thead>
<tr>
<th>ENGINE LIMITS DATA SHEET 34-Д (IAC AR)</th>
<th>Output Shaft Power (SHP)</th>
<th>Free Turbine Speed (Nf) %</th>
<th>Gas Producer Speed (Ng) %</th>
<th>Gas Temperature ºC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Operation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Take Off (15 Minutes)</td>
<td>2200</td>
<td>89 (Max) 87 (Min)</td>
<td>101 (Max)</td>
<td>990</td>
</tr>
<tr>
<td>Maximum Continuous</td>
<td>1700</td>
<td>92 (Max) 88 (Min)</td>
<td>99 (Max)</td>
<td>955</td>
</tr>
<tr>
<td>One Engine Inoperative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 ½ Minute Limit</td>
<td>2400</td>
<td>89 (Max) 87 (Min)</td>
<td>101 (Max)</td>
<td>990</td>
</tr>
<tr>
<td>30 Minute Limit</td>
<td>2200</td>
<td>89 (Max) 87 (Min)</td>
<td>101 (Max)</td>
<td>990</td>
</tr>
</tbody>
</table>
Continuous 1700 92 (Max) 88 (Min) 99 (Max) 955

6. Fluids (Fuel/ Oil/ Additives)

6.1 Fuel

<table>
<thead>
<tr>
<th>NOMENCLATURE</th>
<th>SPECIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russian Federation</td>
<td>U.S.A.</td>
</tr>
<tr>
<td>PT, TC-1</td>
<td>ГОCT 10227-85</td>
</tr>
<tr>
<td>Kerosene Jet A, A-1</td>
<td></td>
</tr>
<tr>
<td>High Flash JP4, JP5</td>
<td></td>
</tr>
</tbody>
</table>

6.2 Oil

Refer to approved Rotorcraft Flight Manual

6.3 Additives

<table>
<thead>
<tr>
<th>NOMENCLATURE</th>
<th>SPECIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russian Federation</td>
<td>U.S.A.</td>
</tr>
<tr>
<td>Anti-Icing additive fluid II</td>
<td>ГОCT 8313-88</td>
</tr>
</tbody>
</table>

7. Fluid capacities

7.1 Fuel

Fuel 2450 Litres, 2424 Litres useable

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 27 KIAS (50 km/h) at altitudes above hover ceiling

9. Rotor Speed Limits

<table>
<thead>
<tr>
<th>Power On</th>
<th>Power Off</th>
<th>Power On OEI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum</td>
<td>Minimum</td>
<td>Maximum</td>
</tr>
<tr>
<td>98%</td>
<td>83%</td>
<td>98%</td>
</tr>
<tr>
<td>98%</td>
<td>70%</td>
<td>70%</td>
</tr>
<tr>
<td>98%</td>
<td>73%</td>
<td>73%</td>
</tr>
</tbody>
</table>

10. Maximum Operating Altitude and Temperature
<table>
<thead>
<tr>
<th>Section</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.1 Altitude</td>
<td>5000 m (16400 ft) pressure altitude&lt;br&gt;Refer to approved Rotorcraft Flight Manual for altitude limitations</td>
</tr>
<tr>
<td>10.2 Temperature</td>
<td>Refer to approved Rotorcraft Flight Manual for temperature limitations</td>
</tr>
<tr>
<td>11. Operating Limitations</td>
<td>Category B&lt;br&gt;VFR Day and Night</td>
</tr>
<tr>
<td>12. Maximum Masses</td>
<td>With internal load 11000 kg (24200 lb)&lt;br&gt;With external load 12700 kg (27998 lb)</td>
</tr>
<tr>
<td>13. Centre of Gravity Range</td>
<td>Refer to approved Rotorcraft Flight Manual (see NOTE 1)</td>
</tr>
<tr>
<td>14. Datum</td>
<td>Station 0 (datum) is located 5280 mm forward of rotor axis</td>
</tr>
<tr>
<td>15. Levelling Means</td>
<td>Rotor axis to be vertical. See Maintenance Manual for details.</td>
</tr>
<tr>
<td>16. Minimum Flight Crew</td>
<td>2 Pilots for VFR, Category B operations</td>
</tr>
<tr>
<td>17. Maximum Passenger Seating Capacity</td>
<td>9 – Persons essential to the aerial work being performed only&lt;br&gt;No passengers allowed</td>
</tr>
<tr>
<td>18. Maximum Baggage/ Cargo Loads</td>
<td>3700 kg internal (see note 4)&lt;br&gt;5000 kg external</td>
</tr>
<tr>
<td>19. Rotor Blade control movement</td>
<td>For rigging information refer to the Maintenance Manual</td>
</tr>
<tr>
<td>20. Auxiliary Power Unit (APU)</td>
<td>AИ-9</td>
</tr>
<tr>
<td>21. Life- limited parts</td>
<td>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)</td>
</tr>
<tr>
<td>22. Wheels and Tyres</td>
<td>See Maintenance Manual listed in Section IV</td>
</tr>
</tbody>
</table>
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 Maintenance Manual MM32A11BC-01-1 issue 2007 or later approved revision


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 AP-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:

<table>
<thead>
<tr>
<th>Notification No.</th>
<th>To Design Documentation No.</th>
<th>Modification Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 324.053.2925ПИ…2 941ПИ</td>
<td>5.00.5320.0200.000 5.00.5320.0500.000</td>
<td>Hydraulic reservoir modification for leakage sensor installation</td>
</tr>
<tr>
<td>2 324.177.4321ПИ…4 322ПИ</td>
<td>323.7201.0800.000</td>
<td>Electric equipment harness installation in the hydraulic system compartment</td>
</tr>
<tr>
<td>3 324.172.12940ПИ…12947ПИ</td>
<td>521.7200.0011.999</td>
<td>Hydraulic system control. Schematic electric connection diagram change.</td>
</tr>
<tr>
<td>4 324.171.1389ПИ…1396ПИ</td>
<td>521.7200.0021.999</td>
<td>Caution/warning indication system. Schematic electric connection diagram change.</td>
</tr>
<tr>
<td>5 326.00.078.4224СЗ</td>
<td></td>
<td>Modification of instrument panel and overhead control panel in connection with introduction of hydraulic system leakage warning</td>
</tr>
</tbody>
</table>

SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

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

II. Type Certificate Holder Record
Kamov Company

III. Change Record

<table>
<thead>
<tr>
<th>Issue</th>
<th>Date</th>
<th>Changes</th>
<th>TC issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue 01</td>
<td>28 September 2009</td>
<td>Initial Issue</td>
<td>Initial Issue</td>
</tr>
<tr>
<td>Issue 02</td>
<td>8 June 2011</td>
<td>Serial numbers eligible and NOTE 5, 6 and 7 added.</td>
<td>Initial Issue</td>
</tr>
</tbody>
</table>

-END-