State Aviation Administration of Ukraine

SAAU

TYPE CERTIFICATE DATA SHEET № TB 0010

Bell 407

Model: Bell 407

Issue 2, 07 November 2012

This Data Sheet which is integral part of Type Certificate № TB 0010 prescribes the conditions and limitations under which the product(s) for which the Type Certificate was granted meet(s) the airworthiness requirements and environmental protection requirements, stated in Certification basis mentioned in this Data Sheet paragraph 2.II.2. of the Section 2.

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SECTION 1. GENERAL

1.1. Data Sheet (TCDS) №: TB 0010
1.2. Type Certificate Holder: Bell Helicopter Textron Canada Limited
12800 rue de l'Avenir
Mirabel, Quebec
Canada
1.3. Initial Certifying Authority: Transport Canada (TCCA)
1.4. Airworthiness Category: Normal Category Rotorcraft
1.5. Manufacturer: Bell Helicopter Textron Canada Limited
12800 rue de l'Avenir
Mirabel, Quebec
Canada

SECTION 2. MODEL BELL 407

2.1. General:
2.1.1. Helicopter designation: Bell 407
2.1.2. Application Date for State Department of Aviation Transport of Ukraine validation: 14.06.2001
2.1.3. Department of Aviation Transport of Ukraine Validation Date: 30.04.2004
2.1.4. Eligible serial number: Helicopter serial numbers from 53000 to 53003, from 53005 to 53138, from 53140 to 53279, from 53281 to 53470, from 53472 to 53900, 53911, 54300 and subsequent.

2.2. Certification Basis:
2.2.1. TCCA Certification Basis: Refer to Data Sheet (TCDS) TCCA № H-92
2.2.2. Department of Aviation Transport of Ukraine Certification Basis:
   - Environmental Protection Requirements: ICAO Annex 16, Volume I, Chapter 11.
2.2.2.2. Exemption: N./A.
2.III. Technical Characteristics and Operational Limitations:

2.III.1. Helicopter description:

The Bell 407 is a small (normal category) helicopter with skid gear, four blade main rotor, two blade tail rotor and single turbine engine. Helicopter can accommodate 7 (seven) persons (1 crew and 6 passengers maximum).

2.III.2. Type Design Definition:

The helicopter Type Design is defined by Drawing 407-900-001 for S/N 53000 to 54299 and 407-900-003 for S/N 54300 and subsequent (see Note 2.V.5.).

See Note 2.V.1 for Ukrainian registered helicopters.

2.III.3. Required equipment:

List of required equipment are in RFM.
See Note 2.V.1 for Ukrainian registered helicopter.

2.III.4. Dimensions:

Length over-all: 12.62 m
Tread: 2.28 m
Height: 3.10 m
Main Rotor Diameter: 10.66 m
Tail Rotor Diameter: 1.65 m

2.III.5. Engines:

2.III.5.1. Model:

The State Department of Aviation Transport of Ministry of Transport of Ukraine TC No. TD 0020.
2.III.5.2. Installed Engine Limits:

<table>
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<tr>
<th></th>
<th>Torque Pressure</th>
<th>Output Shaft Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take-off (5 min.)</td>
<td>100% (91.4 psi) (674 shp)</td>
<td>100% (6.317 R.P.M.)</td>
</tr>
<tr>
<td>Max. Continuous</td>
<td>93.5% (85.5 psi) (630 shp)</td>
<td>100% (6.317 R.P.M.)</td>
</tr>
<tr>
<td></td>
<td>Turbine Temp. 779°C</td>
<td>Gas. Gen. Speed 105% (53.550 R.P.M.)</td>
</tr>
<tr>
<td>Take-off (5 min.)</td>
<td>727°C</td>
<td></td>
</tr>
<tr>
<td>Max. Continuous</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note:* Refer to approved RFM for additional detailed (RFM - see Subsection 2.IV of this Data Sheet).

2.III.6. **Rotor Limits:**

<table>
<thead>
<tr>
<th></th>
<th>Power Off</th>
<th>Power On</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum</td>
<td>442 R.P.M. 107%</td>
<td>413 R.P.M. 100%</td>
</tr>
<tr>
<td>Minimum</td>
<td>351 R.P.M. 85%</td>
<td>409 R.P.M. 99%</td>
</tr>
</tbody>
</table>

2.III.7. **Fluids (Fuel/Oil/Additives/Hydraulics):**

2.III.7.1. Fuel and additives:

- see Section 1 of RFM (see Subsection 2.IV of this Data Sheet).

2.III.7.2. Oils type, conditions and limitations:

- see Section 1 of RFM (see Subsection 2.IV of this Data Sheet).

2.III.7.3. Hydraulics:

- see Section 1 of RFM (see Subsection 2.IV of this Data Sheet).

2.III.7.4. Fuel capacities (liters):

- usable: 483.7
- unusable: 10

2.III.8. **Air Speeds Limits** (unless otherwise specified, speeds are indicated airspeeds):

2.III.8.1. Never exceed Airspeed ($V_{NE}$):

- see Section 1 of RFM (see Subsection 2.IV of this Data Sheet).

2.III.9. **Operating pressure altitude:**

2.III.9.1. Maximum:

- 20 000 ft (6 096 m)
2.III.9.2. Maximum without oxygen equipment:
- without passengers: 9,842 ft (3,000 m)
- with passengers: 7,874 ft (2,400 m)

*Note*: If oxygen equipment are used, its installation on the helicopter must be approval by the State Aviation Administration of Ukraine.

2.III.10. Ambient air temperature at the see level:
- Maximum: +51.7 °C
- Minimum: -40 °C

2.III.11. Weight, Center of Gravity and Loading
2.III.11.1. Maximum weight for take-off and landing:
Maximum Certified Weight:
- Internal loading: 2,268 kg
- Internal loading*: 2,381 kg
- External loading**: 2,722 kg

*Note*: *- If kit (407-706-020) is installed.
** - If an External Cargo Hook P/N 206-706-341 is installed.

2.III.11.2. Datum: station 0 (datum is 2.54 cm (1 in) forward of most forward point of fuselage cabin nose section or 140 cm (55.16 in) forward of jack point centre line).

2.III.11.3. Center of Gravity Data: in accordance with the RFM (see Subsection 2.IV of this Data Sheet).

2.III.11.4. Baggage compartment: in accordance with the RFM (see Subsection 2.IV of this Data Sheet).

2.III.12. Minimum Flight Crew: 1 pilot
2.III.13. Maximum Occupants: 7 (includes crew)
2.III.14. Emergency exits: 2
2.III.15. Placards and markings: All placards and markings listed in approved RFM (see Subsection 2.IV of this Data Sheet) must be installed in the specified locations.

2.III.16. Other Limitations: see approved RFM (see Subsection 2.IV of this Data Sheet).
2.IV. **Operating and Service Instructions:**

For Flight operation:

  for S/N 53000 to 54299 and Document No.BHT-407-FM-2 for
  S/N 54300 and subsequent (see Note 2.V.5.).

- Master Minimum Equipment List (MMEL) – TCCA approved Document, Rev. 02
  dated 18.12.2007 and later approved Revisions;

- Manufacturer's Data – Document No.BHT-407-MD-1 and
  Document No.BHT-407-MD-2 for
  S/N 54300 and subsequent.
  See Note 2.V.5.

Instructions for Maintenance and Continued Airworthiness:

  approved Chapter 4 «Airworthiness Limitations Schedule and later approved
  Revisions.

2.V. **Notes**

2.V.1. In helicopters, which are included in the State Register of Civil Aircraft of Ukraine
should be additionally installed:

- For regular commercial operations a FDR must be installed.

- Rotorcraft must be equipped with a VHF emergency radio station or radio beacon
  which operates on frequency 121.5 MHz or a COSPAS-SARSAT VHF/UHF emergency
  radio beacon, which operates on frequency 121.5/406 MHz.

- Rotorcraft which flies over difficult of access and rarely populated regions and
  large water surfaces must be equipped with a one as minimum COSPAS-SARSAT
  VHF/UHF emergency radio beacon that must be activated both automatically and
  forcibly by crew.

- Rotorcraft which flies over large water surfaces in the distance from the land that
  exceeds the maximum distance of autorotolation flight must be equipped, as least,
  with a one COSPAS-SARSAT VHF/UHF emergency radio beacon that must be
  activated both automatically and forcibly by crew, and a one portable COSPAS-
  SARSAT VHF/UHF emergency radio beacon for used on one of emergency liferaft.

Equipment installation must be approved.
2.V.2. The operation in cases or areas where the communication by VHF radio stations cannot be carried out is prohibited.

The noise levels of the helicopter are not greater than the noise level prescribed in ICAO, Annex 16, Volume I, Chapter 11 noise limits. The noise levels are as follows:

<table>
<thead>
<tr>
<th>Gmax, kg</th>
<th>Noise levels in control points EPNL, EPNdB</th>
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<tbody>
<tr>
<td></td>
<td>Overflight level</td>
</tr>
<tr>
<td>2381</td>
<td>86.8</td>
</tr>
<tr>
<td>2268</td>
<td>84.6</td>
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</tbody>
</table>

2.V.4. Each of the documents listed below and their revisions and supplements to them which contain a statement that it is approved by the TCCA and which are issued by Bell Helicopter Textron Canada Limited (BHTCL) in accordance with design organization authorities are accepted by the SAAU and are considered as SAAU approved:

- Rotorcraft Flight Manual;
- Maintenance Manual;
- BHTCL Service Bulletins and Modifications;
- Repair Manuals;
- Repair Instructions.

2.V.5. Model 407 S/N 54300 and subsequent with installation of Integrated Avionics System (Garmin 1000H) have the commercial designation of 407GX.

*       *       *

Deputy Head of Aeronautical Products
Type Certification Department

Kostiantyn Kryvodubskyi