State Aviation Administration of Ukraine

SAAU

TYPE CERTIFICATE DATA SHEET № TB 0026

Robinson R22

Model R22 BETA

Issue 1, 07 August 2014

This Data Sheet is integral part of Type Certificate No. TB 0026 and 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.

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Section I. General Information

I.1. Model Designation: R22 BETA

I.2. Airworthiness Category: Normal Category Rotorcraft

I.3. Type Certificate Holder: Robinson Helicopter Company
2901 Airport Drive
Torrance, California 90505, USA

I.4. Initial Certifying Authority: Federal Aviation Administration (FAA)

I.5. Initial Certification Date: 12.08.1985

I.6. Manufacturer: Robinson Helicopter Company
2901 Airport Drive
Torrance, California 90505, USA

I.7. Serial number eligible: 0501 and subsequent.

I.8. Application Date for SAAU Certification: 06.12.2013

I.9. SAAU Certification Date: 07.08.2014

Section II. Certification Basis:

II.1. FAA Certification Basis: See TCDS FAA H10WE

II.2. SAAU Certification Basis: See SAAU CRI G-1

II.2.1 SAAU Airworthiness requirements: "Airworthiness requirements for normal category rotorcraft. Part 27" (AR-27).

II.2.2 Environmental Protection Requirements: See SAAU CRI N-1 (ICAO Annex 16, Chapter 11)

II.3. SAAU Equivalent Safety Findings:

- AR 27.395(6) – Control system (CRI ST - 2);
- AR 27.561 – Emergency landing conditions (CRI ST - 3);
- AR 27.853, AR 27.855 – Compartment interiors. Cargo and baggage compartments (CRI SL-4);
- AR 27.610(5)(2)-The provision of electric contact to a surface (CRI A-1);
- AR 27.1303 (ж) – Flight and navigation instruments (CRI A-3);
- AR 27.1401(d)-Anticollision light system (CRI A-5);
- AR Д27.1.4 – Flight recorders (CRI A-6);
- AR Д27.2.5.8.4.4.2.1 – The equipment of radio communication (CRI A-10)

II.4. Special Conditions: None

II.5. Exemptions: None

Section III Technical Characteristics and Operational Limitations:

III.1. Rotorcraft description: The Robinson R22 BETA is a normal category rotocraft with one piston engine, two blades main and tail rotors with skid landing gear. The rotocraft can accommodate 2 (two) occupants including pilots.

III.2. Type Design Definition:
- Rotorcraft Assembly Drawing № A001
- List of Optional Equipment No A025 with approved revisions.

III.3. Required equipment:
See SAAU CRI G-2 and Note 5

III.4. Dimensions:
Fuselage:
Length: 6.24 m
Width: 1.12 m
Height: 2.37 m
Main Rotor Diameter: 7.67 m
Tail Rotor Diameter: 1.07 m

III.5. Engines:

III.5.1. Type and quantity: One Lycoming O-320-B2C or O-360-J2A

III.5.2. Type Design Approval by SAAU:
TC N₀. TD 0005, issue 02 for O-320-B2C
TC N₀. TD 0006, issue 03 for O-360-J2A
III.5.3. Installed Engine Limits:
- Maximum continuous 124 hp at 2652 rpm (104%)
- Takeoff (5 minute) 131 hp at 2652 rpm (104%)

III.6. Rotor Speed Limits:

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<thead>
<tr>
<th></th>
<th>Maximum</th>
<th>Minimum</th>
</tr>
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<tbody>
<tr>
<td>O-320-B2C Power on:</td>
<td>530 rpm</td>
<td>495 rpm</td>
</tr>
<tr>
<td>O-360-J2A Power on:</td>
<td>530 rpm</td>
<td>515 rpm</td>
</tr>
<tr>
<td>Power off:</td>
<td>561 rpm</td>
<td>459 rpm</td>
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III.7. Fluids:

III.7.1. Fuel

- in accordance with the current technical publications Robinson Helicopter Company and Lycoming Engines and FAA approved R22 Pilot’s Operating Handbook Ukrainian Supplement. Section 9

**Fuel capacities, liters (gallons)**

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Without Bladders</th>
<th>With Bladders</th>
</tr>
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<tbody>
<tr>
<td>The Main tank:</td>
<td>75 (19.8)</td>
<td>69 (18.3)</td>
</tr>
<tr>
<td>The Auxiliary tank:</td>
<td>41 (10.9)</td>
<td>37 (9.7)</td>
</tr>
<tr>
<td><strong>Usable</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Main tank:</td>
<td>73 (19.2)</td>
<td>64 (16.9)</td>
</tr>
<tr>
<td>The Auxiliary tank:</td>
<td>40 (10.5)</td>
<td>36 (9.4)</td>
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III.7.2. Oils:

See FAA approved R22 Pilot’s Operating Handbook (RTR 061), Section 8.

**Oil Capacities:**

- Engine: 5.7 liters (1.5 U.S. gallons)
- Transmission: 1.14 liters (0.3 U.S. gallons)
III.8. Air Speeds Limits:
Never-exceed calibrated air speed $V_{NE}$ Power On and Power Off: 182 km/h (98 KCAS) at the sea level or the value specified in the approved Pilot’s Operating Handbook (see Section IV)

III.9. Center of Gravity Limitations:
III.9.1. See R22 Pilot’s Operating Handbook (see Section IV)

III.9.2. Datum:
2.540 m (100 ins) forward of main rotor shaft centreline.

III.10. Weight Limitations
III.10.1. Maximum Weight:
621 kg (1370 lb)
Minimum Weight:
417 kg (920 lb)

III.10.2. Maximum Baggage/Cargo Loads:
23 kg (50 lbs) of baggage and installed equipment in either baggage compartment, except combined seat load plus baggage and equipment not to exceed 109 kg (240 lbs)

III.11. Minimum Flight Crew:
1 pilot in forward right seat

III.12. Maximum Occupants:
2 (including pilot seat)

III.13. Maximum Operating Altitude*: Density Altitude:
4270 m (14000 ft)

*See Note 4

III.14. Operating Limitations:
General:
VFR day and night
Additional limitations for take-off and landing:
None

III.15. Other limitations:
See Operation and Maintenance documentation (see Section IV)

Section IV Operating and Service Instructions:
For flight operation:
- Pilot’s Operating Handbook – POH, (FAA approved Rotorcraft Flight Manual) RTR 061;
- FAA approved R22 Pilot’s Operating Handbook Ukrainian Supplement (see Section 9 POH).
Instructions for Maintenance and Continued Airworthiness:
- Maintenance Manual and Instructions for Continued Airworthiness (RTR 060);
- Illustrated Parts Catalogue;
- Service Letters and Service Bulletins.

Section V  
Notes:
Note 1: Rotorcraft is not approved for ditching. Flights with passengers over water beyond safe auto-rotation distance from land are prohibited without floats installed. Extended over-water operation is prohibited.

Note 2: For flight in unmarked area at geographical latitude from 60° and higher a GPS must be installed. (reference drawing C078).

Note 3: Flight in icing conditions is prohibited.

Note 4: Maximum operating pressure altitude without oxygen is 2400 meters (7870 feet) with passengers on board. Maximum operating pressure altitude without oxygen is 3600 meters (11810 feet) with crew on board only. Flights between 3000 meters and 3600 meters (8940 feet and 11810 feet) pressure altitude without oxygen for the crew are limited to a maximum of 30 minutes.

Note 5: Rotorcrafts shall be equipped with:
- FDR (for regular commercial transportation);
- VHF radio transceiver (RHC drawing No.C078). Flights are permitted only along routes with continuous VHF coverage.
- a COSPAS-SARSAT VHF/UHF emergency radio beacon (ELT) or portable radio or emergency locator beacon. ELT for flight over remote and sparsely populated regions and large bodies of water. For other cases, if an ELT is not installed, a VHF emergency locator beacon or VHF emergency (portable) radio transceiver, capable of operation on 121.5 MHz, must be provided by the operator and should be placed in the baggage compartment under the pilot’s seat;
- a transponder (RHC drawing No. C078);
- analog clock;
- A first-aid kit (supplied by operator) should be stored under the pilot’s seat.
- The bladder fuel tank (Reference R22 SB-109).

Deputy Head of Airworthiness Directorate –
Head of Aeronautical Product Type
Certification Department

S. Haidenko