State Aviation Administration of Ukraine

SAAU

TYPE CERTIFICATE DATA SHEET No. TB 0025

Robinson R66

Model: R66

Issue 1, 18 April 2014

This Data Sheet is integral part of Type Certificate No. TB 0025 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. Airworthiness Category: Normal Category Helicopter

I.2. Type Certificate Holder: Robinson Helicopter Company
2901 Airport Drive
Torrance, California 90505, USA

I.3. Initial Certifying Authority: Federal aviation Administration (FAA)

I.4. Manufacturer: Robinson Helicopter Company
2901 Airport Drive
Torrance, California 90505, USA

I.5. Serial number eligible: 0002 and subsequent


I.7. SAAU Certification Date: 18.04.2014

Section II. Certification Basis:

II.1. FAA Certification Basic: See TCDS FAA R00015LA

II.2. SAAU Certification Basis:

II.2.1. SAAU Airworthiness requirements: See SAAU CRI G-1

II.2.2 Environmental Protection Requirements:

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 27.695 (а) (1) – Power boost and power operated control system (SM-4);
- AR 27.1303 (ж) – Flight and navigation instruments (CRI A-3);
- AR 27, Д27.1.4 – Flight recorders (A-5);
- AR 27, Д27.2.5.8.4.4.2.1, – The equipment of radio communication (CRI A-9)

II.4. Exemptions:

None
Section III Technical Characteristics and Operational Limitations:

III.1. Helicopter description: The Robinson R66 is a normal category helicopter with one turboshaft engine without supercharge, two main and two tail rotor blades with skid landing gear. Helicopter can accommodate 5 (five) occupants including pilots.

III.2. Type Design Definition:
- Helicopter Assembly Drawing № F001
- List of Optional Equipment No F025 with approved revisions.

III.3. Required equipment: See SAAU CRI G-2 and Note 6

III.4. Dimensions:

Fuselage:
- Overall Length: 11.65 m
- Overall Width: 2.28 m
- Overall Height: 3.47 m
- Main Rotor Diameter: 10.05 m
- Tail Rotor Diameter: 1.52 m

III.5. Engines:

III.5.1. Type and quantity: One Rolls-Royce 250-C300/A1

III.5.2. Type Design Approval by SAAU: TC N0, TD 0034, issue 04

III.5.3. Installed Engine Limits:

Power Ratings at N₂ speed of 6016 rpm (100% rpm):
- Maximum continuous 224 hp (83% Torque)
- Takeoff (5 minute) 270 hp (100% Torque)

Maximum speeds:
- Output shaft (N₂) 101% (6076 rpm)
- Gas producer shaft (N₁) 105% (53519 rpm)

Maximum Measured gas temperature:
- During start 927 °C (10 second limit above 810 °C)
- 5 minute during operation 782 °C
- Continuous during operation 706 °C

III.6. Rotor Speed Limits:
- Maximum power on: 412 rpm
- Minimum power on: 404 rpm
- Maximum power off: 432 rpm
- Minimum power off: 359 rpm
III.7. Fluids:

III.7.1. Fuel

See FAA approved R66 Pilot’s Operating Handbook (see Section IV)

Fuel capacities

Total: 282 liters (74.6 U.S. gallons)
Maximum Usable: 279 liters (73.6 U.S. gallons)
Unusable: 3.8 liters (1.0 U.S. gallons)

III.7.2. Oils:

Oil Capacities:

Engine: 5.7 liters (6 qt)
Main Rotor Transmission: 1.9 liters (2 qt)
Tail Rotor Transmission: 0.1 liters (0.11 qt)
Hydraulic Reservoir: 0.62 liters (0.65 qt)

III.8. Air Speeds Limits (indicated airspeed):

<table>
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<tr>
<th>Takeoff Gross Weight, kg (lb)</th>
<th>The never-exceed speed at sea level $V_{NE}$, KIAS (km/h)</th>
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<tbody>
<tr>
<td></td>
<td>Power on</td>
</tr>
<tr>
<td>Less than 998 (2200)</td>
<td>140 (259)</td>
</tr>
<tr>
<td>998 (2200) to 1225 (2700)</td>
<td>130 (241)</td>
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</table>

Note: For reduction of $V_{NE}$ with altitude and temperature, see R66 Pilot’s Operating Handbook and FAA Approved Rotorcraft Flight Manual RTR 661 (see Section IV).

For power settings above 83% torque: 65 KIAS (120 km/h)
For any combination of doors off: 100 KIAS (185 km/h)

III.9. Center of Gravity Limitations:

See R66 Pilot’s Operating Handbook (FAA approved Rotorcraft Flight Manual) RTR 661

Note: The beginning point is at a distance of 2.54 ahead of the axis of the main rotor

III.10. Weight Limitations

III.10.1. Maximum Takeoff Weight: 1225 kg (2700 lb)

III.10.2. Maximum Main baggage Compartment Weights:

Maximum Weight: 136 kg (300 lb)
Maximum loading density: 244 kg/m² (50 lb/ft²)

III.11. Minimum Flight Crew:

1 pilot in forward right seat

III.12. Maximum occupants:

5 (including pilot seat)
III.13. Maximum Operating Altitude:

Density Altitude: 4267 m (14,000 ft)
Above ground level: 2743 m (9,000 ft)

Note: *) See Note 5

Section IV Operating and Service Instructions:

For flight operation:
- Pilot’s Operating Handbook – POH, (FAA approved Rotorcraft Flight Manual) RTR 661
- FAA approved R66 Pilot’s Operating Handbook Ukrainian Supplement, Section 9.

Instructions for Maintenance and Continued Airworthiness:
- Maintenance Manual and Instructions for Continued Airworthiness (RTR 660);
- Illustrated Parts Catalogue;
- Service Letters and Service Bulletins.

Section V Notes:

Note 1: A current weight and balance report, including a list of equipment included in the certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original airworthiness certification and at all times thereafter, except in the case of operators having an approved weight control system and provisions centre of gravity.

Note 2: Helicopter 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 3: For flight above 60° north latitude a GPS navigation system must be installed. (reference drawing C078).

Note 4: Flight in icing conditions are prohibited.

Note 5: Maximum operating pressure altitude without supplemental oxygen is 2400 meters (7870 feet) with passengers on board. Maximum operating pressure altitude without supplemental 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 supplemental oxygen for the crew are limited to a maximum of 30 minutes.

Note 6: Helicopters shall be equipped with:
- VHF radio transmitter (RHC drawing No.C078);
- FDR (for regular commercial transportation);
- a COASPAS-SARSAT VHF/UHF emergency radio beacon (for flights over remote and sparsely populated region and spacious body of water ) (RHC drawing No. C078);
- analog clock;
- ATC transponder (RHC drawing No. C078);
- a VHF emergency locator beacon or VHF emergency (portable) radio transceiver, capable of operation on 121.5 MHz, should be placed in the baggage compartment under the pilot’s seat;
- a roll and pitch indicator (RHC drawing No. C078).
- first-aid kit (supplied by operator) which should be stored in the accessory box (P/N D417-5 Accessory Box) located in front of the forward left seat.

Head of Aeronautical Products
Type Certification Department

S. Haidenko