Operational Suitability Data (OSD)
Flight Crew

R66

RTR 667

May 28, 2025

Revision Record

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OSD	All	All	30/06/2023
1	Updated formatting throughout document. Section 2: Added reference to Appendix 1. Section 8: Added Appendix 1, ODR Tables	All	28/05/2025

Contents

Abbreviations / Acronyms

AMC	Acceptable Means of Compliance
ATR	Additional Type Rating
DC	Direct Current (electrical)
FFS	Full Flight Simulator
FSTD	Flight Simulation Training Device
IFR	Instrument Flight Rules
ITR	Initial Type Rating
MDR	Master Difference Requirements
MGT	Measured gas (turbine) temperature
MTOM	Maximum Take Off Mass
N/A	Not Applicable
ODR	Operator Differences Requirements
OEB	Operational Evaluation Board
OPS	Flight Operations
RFM	Rotorcraft Flight Manual
RPM	Revolution Per Minute
SET(H)	Single Engine Turbine (Helicopter)
UK CAA	United Kingdom Civil Aviation Authority
VFR	Visual Flight Rules
VNE	Velocity Never Exceed

Part-ARA	Annex VI to Regulation (EU) No 290/2012 as retained (and amended in UK domestic law) under the European Union (Withdrawal) Act 2018
Part-ARO	Annex II to Regulation (EU) No 965/2012 as retained (and amended in UK domestic law) under the European Union (Withdrawal) Act 2018
Part-CAT	Annex IV to Regulation (EU) No 965/2012 as retained (and amended in UK domestic law) under the European Union (Withdrawal) Act 2018
Part-FCL	Annex I to Regulation (EU) No 1178/2011 as retained (and amended in UK domestic law) under the European Union (Withdrawal) Act 2018
Part-ORA	Annex VII to Regulation (EU) No 290/2012 as retained (and amended in UK domestic law) under the European Union (Withdrawal) Act 2018
Part-ORO	Annex III to Regulation (EU) No 965/2012 as retained (and amended in UK domestic law) under the European Union (Withdrawal) Act 2018
Part-SPA	Annex V to Regulation (EU) No 965/2012 as retained (and amended in UK domestic law) under the European Union (Withdrawal) Act 2018

1. Introduction

This document provides the requirements for pilot training, checking, and currency specific to the R66 type rating. The requirements herein apply only when the pilot is subject to UK CAA rules.

The operational suitability data addresses:

- Aircraft Type Designation and Pilot License Endorsement
- Pilot Initial Type Rating Training “minimum syllabus” (ITR)
- Additional Type Rating Training “minimum syllabus” (ATR)
- Training areas of special emphasis (TASE)

Where references are made to requirements and where extracts of reference texts are provided, these are at the amendment state at the date of evaluation or publication of this document. Users should take account of subsequent amendments to any references, in particular concerning requirement for civil aviation aircrew and air operations.

In accordance with UK Regulation (EU) No 69/2014, the Operational Suitability Data contained in this document are identified as follows:

[M] Mandatory Operational Suitability Data, bearing the status of rule (see GM No 3 to 21A.15(d))

[AMC] Non-mandatory Operational Suitability Data, bearing the status of Acceptable Means of Compliance (see GM No 3 to 21A.15(d))

General information on the operation of the R66 is included in R66 Pilot’s Operating Handbook available on the Robinson web site www.robinsonheli.com.

2. Operator Difference Requirement (ODR) Tables

See Appendix 1.

3. Master Difference Requirements (MDR) Tables

3.1. Difference Level Summary

As the R66 has no variants, no Master Difference Requirement tables have been produced.

4. Type Rating List and License Endorsement List [M]

4.1. Type Rating List

With reference to Part-FCL, FCL.010 ('type of aircraft') and GM1 FCL.700, the R66 has been evaluated for aircraft categorisation and license endorsement.

The license endorsement is established as R66.

Manufacturer	Helicopter Model / Name	Differences	License endorsement	Complex	OSD FC available	Remarks
Robinson - SE Turbine -	R66		R66		x	OSD_FC Data available @TC holders website: www.robinsonheli.com

5. Specification for Training

5.1. General

5.2. Course pre-entry requirements

All candidates must fulfil the requirements of Part-FCL.725 for the issue of class and type ratings.

These Specifications for Training only apply to Type Ratings defined under Part-FCL, Subpart H. These specifications do not affect the LAPL requirements under Part-FCL Subpart B and there is no restriction on the use of the R66 for initial pilot training.

5.3. Licensing requirements

All students must fulfil the requirements of Part-FCL Appendix 9, Flight instruction and skill test.

The AMC2 FCL.725 (a) of the Part –FCL requires.

- for an Initial issue of a SET(H) under 3175 Kg MTOM, an approved flight instruction of at least:

Helicopter types	In Helicopter	In Helicopter and FSTD associated training Credits
SET(H) under 3175 Kg MTOM	5 hrs	Using FFS level C/D: At least 2 hrs helicopter and at least 6 hrs total Using FTD level 2/3: At least 4 hrs helicopter and at least 6 hrs total

- for an additional issue of a SPH, SET (H) CS 27 and 29, an approved flight instruction of at least:
-

Helicopter types	In Helicopter	In Helicopter and FSTD associated training Credits
SET(H) to SET(H)	2 hrs	Using FFS level C/D: At least 1 hr helicopter and at least 3 hrs total Using FTD level 2/3: At least 2 hrs helicopter and at least 4 hrs total

Note:
These requirements have to be considered as the bare minimum, additional training could be necessary depending on:

- *Complexity of the aircraft type, handling characteristics, level of technology;*
- *Category of helicopter (SEP or SET helicopter, multi-engine turbine and multi Pilot helicopter);*
- *Previous experience of the applicant.*

5.4. Type Rating Training Program Summary

QUALIFICATION HELD	ITR	ATR
Single-Engine Piston→	√	
Single-Engine Turbine →		√
Multi-Engine Turbine →	√	
Total of theoretical knowledge instruction and test	17h00	15h00
Flight training	5h00	4h00* or 3h00**

* For holders of a SET type rating without a R22 or R44 type rating
** For holder of a SET type rating who additionally hold a R22 or R44 type rating.

5.5. Theoretical knowledge syllabus and test summary [AMC]

Theoretical instruction should be provided in accordance with Part FCL Subpart H – Section 1 – FCL.725

The following sections present a summary of the material that an Initial and Additional Type Rating training program should consider. Training providers should ensure their type specific courses cover the pertinent material.

Initial and Additional Type Rating theoretical knowledge syllabus	ITR	ATR
Turbine Engine Theory (*)	2.0	
Helicopter structure, engine, transmissions, electrical, fuel, rotors and equipment, normal and abnormal operation of the systems	8.0	8.0
Limitations (**)	1.0	1.0
Performance, flight planning and monitoring (**)	1.0	1.0
Weight and balance	1.0	1.0
Emergency procedures (**)	1.30	1.30
Pilots pre-flight walk around, ground handling, equipment installation removal, pilots servicing (****)	1.0	1.0
Optional equipment	In addition	In addition
TOTAL THEORETICAL KNOWLEDGE SYLLABUS	15.30	13.30
Theoretical examination session (***)	1.30	1.30
TOTAL (HOURS)	17.0	15.0

Note:

(*) If an initial type rating for a turbine powered aircraft is required, the candidate must first undergo a turbine engine theoretical course.

(**) *Theoretical instruction elements that can be covered during the ground training course and/or during flight training briefing phase.*

(***) The theoretical knowledge examination shall be written and consist of at least 50 multiple-choice questions distributed appropriately across the main subjects of the syllabus.

(****) Instruction elements that can be covered during ground training course and/or during flight training briefing phase

5.6. Flight training course summary [AMC]

5.6.1. Initial and Additional SET Type Rating

The following table indicates the minimum flight training required determined by the OSD for different combinations with/without regards to previous Robinson R22 or R44 experience. Each helicopter flight session could be extended or reduced at the discretion of the instructor, but the total minimum flight time is unchanged. Additional flight could be necessary at the discretion of the instructor if the trainee has not successfully demonstrated the ability to perform all maneuvers with a high degree of proficiency.

Type Rating Flight Training Syllabus	SET ITR	ATR*	ATR**
Helicopter exterior visual inspection, cockpit inspection, starting procedures(1), pre-take off /landing procedures, taxiing, Air taxiing, general handling, climbing/descending / turns, circuits	1.15	1.0	0.8
Take off / landing various profiles including simulated maximum take-off mass, sloping ground / crosswind take off and landings.	1.15	1.0	0.7
Basic and advanced autorotation's, practice forced landings, steep turns	1.15	1.0	0.7
Abnormal & Emergency Procedures, Autorotative landings, Simulated IF	1.15	1.0	0.8
Total Flight Time	5.0	4.0	3.0
Skill Test	As required	As required	As required

* ATR for holders of a SET **without** a R22 or R44 type rating

** ATR for holders of a SET **who additionally hold** a R22 or R44 type rating

(1) During training the candidate should have experience of at least 4 engine starts, ideally 1 of which should be with ground power.

Note

No credit is given for a reduction of flight training from the R66 towards the R22 or R44

5.7. Training Areas of special emphasis (TASE) [M]

The following procedures for training need special attention. Therefore, the OSD highlights the manufacturer's recommendations and training providers have to take into account the following elements:

5.7.1. TASE / Training Methodology for Pilots and Instructors

- **Autorotation / Autorotative landings**
  - Autorotation training as detailed in Section 4 of the FM shall be conducted within gliding distance of a suitable landing area.
  - Autorotation training shall be performed with a trainee and an Instructor only
  - An N1 Deceleration Check shall be conducted prior to the conduct of an autorotation.
  - Cabin heat must be selected off before commencing autorotation.
  - Practice autorotation entry
    - To initiate the autorotation, the throttle should be closed before lowering the collective.
    - Recommended airspeed of 60-70kts should be maintained with the rotor RPM in the green.
  - Power recovery procedure
    - At approximately 40ft AGL a cyclic flare should be commenced to reduce forward speed and rate of descent, and smoothly roll throttle full on to recover engine power
    - Pilots need to be aware of the lag in response of a turbine engine during the recovery phase.
    - At 8 feet AGL the aircraft should be levelled and collective applied to control descent.
  - Autorotative landing
    - When practicing an autorotation landing to the ground it should be performed in the same manner as power recovery autorotations except the throttle should be kept closed throughout the manoeuvre. Always contact the ground pointing straight ahead with skids level.
- **Simulated Hydraulic failure**
  - A switch located on the top of the pilot's cyclic grip is used to simulate a loss of hydraulic system pressure. Use care not to switch hydraulics off inadvertently.
  - If switched off, hydraulics should always be re-engaged with a relaxed grip on the controls to prevent over-control. Avoid re-engaging hydraulics between hover and 100 feet AGL
  - Hydraulics-off hovering can be challenging. A landing site where a run-on landing can be made should be available.
- **Low "G" Mast Bumping**

- Excessive rotor flapping can be caused by Low G Conditions and teetering of rotor.
- Due to light weight and high power of the R66, it can be susceptible to Low-G Mast Bumping in turbulent conditions.
- Example: low tank fuel, single pilot - light and fast.
- If significant turbulence is encountered, reduce airspeed to 60-70kts.
- Avoid abrupt forward cyclic movements and initiate descent with collective.
- Recover thrust by aft cyclic (to reload the disks) rather than lateral cyclic roll, then correct laterally.
- Ensure smooth input on controls; not abrupt, full range, un-coordinated input.

- **Engine Start**
  - Engine starting can be critical in a turbine engine. Extensive damage can result if excessive measured gas temperatures (MGT) are allowed to occur during the start process (hot start). Pilots need to be very familiar and focused on the proper starting procedure. Factors such as battery voltage, fuel introduction, MGT limitations and time between starts must be well understood.
  - If student has previous experience in R44, note difference in operation of fuel cutoff control in R66 and mixture control on R44 and R44 II.
  - Instructors are recommended to be in a position to be able to terminate the start sequence if the student is slow to react.

Notes

The OSD advises an in depth reading, analysis and knowledge of all the safety tips and notices listed in the Robinson Helicopter Company`s Pilot Operating handbook of the R66

6. Specification for Testing, Checking, Currency & Recent Experience

6.1. Skill test

As required by Part-FCL.725 (c).

6.2. Proficiency Checks

As required per FCL.740.H

6.3. Specification for Recent Experience

As required by Part FCL.060

7. Optional Specific Equipment

The following optional equipment installations require additional training:

- Pop-out Floats
- Police Version
- E.N.G. Version (Electronic News Gathering)
- Cargo Hook Version

Training materials for these options have not been evaluated by UK CAA as operational suitability data. Robinson recommends familiarization with these options and other optional equipment such as avionics and the autopilot through self-study of manuals or online training material. Additionally, Robinson recommends in-flight familiarization with the cargo hook version.

8. Appendices

Appendix 1: ODR tables

ODR Tables

OPERATOR DIFFERENCE REQUIRMENTS TABLE						
Difference Helicopter: R66 with symmetric horizontal stabilizer* Base Helicopter: R66 with asymmetric horizontal stabilizer				Compliance Method		
Design Feature	Remarks	Flight Characteristics	Procedures Change	Training	Checking	Currency
Horizontal stabilizer	Symmetric stabilizer mounted to lower tail cone forward of tail rotor replaces asymmetric stabilizer mounted at aft tail cone	None (Reduces right roll tendency in low-G (prohibited) flight conditions)	Minor: Pre-flight inspection	Level A: Self-instruction	N/A	N/A

*Level A training is also applicable for the R66 with symmetric horizontal stabilizer as base helicopter and R66 with asymmetrical horizontal stabilizer as difference helicopter..