

	TANZANIA CIVIL AVIATION AUTHORITY DIRECTORATE OF SAFETY REGULATIONS PERSONNEL LICENSING	Revision: 0 Advisory circular
Document No.: TCAA -AC -SR-PEL 033	Title: Helicopter (Generic) Type Rating Curriculum	Page 1 of 13

HELICOPTER (GENERIC) TYPE RATING CURRICULUM

ToC Table of Contents

1	Student.....	1
1.1	Records.....	1
1.2	Attendance theoretical knowledge.....	1
1.3	Attendance flight instruction	1
2	Introduction	1
2.1	Syllabus	1
2.2	The aim of the course.....	1
2.3	Pre-entry requirements.....	1
2.3.1	Pre-solo requirements	2
2.4	Summary of minimum training hours	2
2.4.1	Initial type rating (ITR)	2
2.4.2	Additional type rating (ATR).....	2
2.5	Theoretical knowledge training	2
2.6	Flight instruction	2
2.6.1	Air exercises.....	3
2.6.2	Flight instructor pre-requisites	3
2.7	Teaching materials	3
2.8	Time scale.....	3
2.9	Course completion standards and skill test	4
2.10	Renewal	4
2.11	Difference level table.....	4
2.11.1	Training, checking and recurrent training difference requirements	4
2.11.2	Operator difference requirement (ODR) table	4
3	Theoretical knowledge training.....	4
3.1	Theoretical knowledge subjects and time scale.....	4
3.2	TASE / training methodology for pilots and instructors	6

	TANZANIA CIVIL AVIATION AUTHORITY DIRECTORATE OF SAFETY REGULATIONS PERSONNEL LICENSING	Revision: 0 Advisory circular
Document No.: TCAA -AC -SR-PEL 033	Title: Helicopter (Generic) Type Rating Curriculum	Page 2 of 13

4

Flight instruction.....

7

4.1

Time scale.....

10

	TANZANIA CIVIL AVIATION AUTHORITY DIRECTORATE OF SAFETY REGULATIONS PERSONNEL LICENSING	Revision: 0 Advisory circular
Document No.: TCAA -AC -SR-PEL	Title: Helicopter (Generic) Type Rating Curriculum	Page 1 of 13

LoA List of Abbreviations

The following abbreviations are within this syllabus:

Abbreviation	Definition	Abbreviation	Definition
AC	Alternating Current	LoC	List of Effective Chapters
AGL	Above Ground Level	LoR	Log of Revisions
ATO	Approved Training Organisation	m	metre
ATR	Additional Type Rating	MET	Multi Engine Turbine
CFI	Chief Flight Instructor	min	minimum
CS	Certification Specifications	N/A	Not Applicable
DC	Direct Current	ODR	Operator Difference Requirement
DTO	Declared Training Organisation	OSD	Operational Suitability Data
EASA	European Aviation Safety Agency	PC	Proficiency Check
FCD	Flight Crew Data	POH	Pilot Operating Handbook
FFS	Full Flight Simulator	REV	Revision
FCL	Flight Crew Licence	RFM	Rotorcraft Flight Manual
FOCA	Federal Office of Civil Aviation	RPM	Revolution Per Minute
FSTD	Flight Simulation Training Devices	RRPM	Rotor Revolution Per Minute
FTD	Flight Training Device	SBFL	BAZL Abteilung Sicherheit Flugbetrieb (SB), Sektion Flugschulen und Leichtaviatik
(H)	Helicopter	SE	Single Engine
H/V	Height / Velocity diagram	SEP	Single Engine Piston
HIGE	Hover In Ground Effect	SET	Single Engine Turbine
HT	Head of Training	TASE	Training Areas of Special Emphasis
HOGE	Hover Out of Ground Effect	TM	Training Manual
IMC	Instrument Meteorological Conditions	ToC	Table of Content
ITR	Initial Type Rating	VMC	Visual Meteorological Conditions
LoA	Log of Abbreviations		

	TANZANIA CIVIL AVIATION AUTHORITY DIRECTORATE OF SAFETY REGULATIONS PERSONNEL LICENSING	Revision: 0 Advisory circular
Document No.: TCAA -AC -SR-PEL	Title: Helicopter (Generic) Type Rating Curriculum	Page 1 of 13

1 Student

2 Introduction

2.1 Syllabus

This syllabus, produced by Tanzania Civil Aviation Authority for the helicopter type rating, conforms to the requirements of Regulation 68 of The Civil Aviation (Personnel Licensing) Regulations, 2017 as amended. The purpose of this syllabus is to provide all required information to the student and to the instructors who are involved in the training course.

The training consists of theoretical knowledge training and flight instruction by an instructor who is authorized to instruct toward a helicopter type rating.

2.2 The aim of the course

1. The training course is designed to give the student adequate theoretical knowledge, training in ground handling and flying techniques based on established teaching methods.
2. The aim of the training course is to become proficient in single-engine piston operation to operate safely and proficiently the helicopter under normal, abnormal and emergency operations. Therefore, this training course gives the student:
 - a) a thorough knowledge of the aircraft systems, power plant, avionics and their associated limitations;
 - b) a knowledge of the positioning and operation of the flight deck controls and indicators for the aircraft and its systems;
 - c) an understanding of system malfunctions, their effect on aircraft operations and interaction with other systems;
 - d) an understanding of normal, abnormal and emergency procedures stated in the rotorcraft flight manual; and
 - e) an understanding of performance and mass and balance charts.
3. During the training course the student is made aware of hazardous attitudes and their effect on flight safety. Safety awareness and risk management are a fundamental part of the course.

2.3 Pre-entry requirements

Initial type rating (ITR): If the student does not hold a pilot's licence, this type rating syllabus should be used together with the applicable syllabus for the issue of the licence.

Additional type rating (ATR): The student must hold or have held a SEP(H) / SET(H) / MET(H) type rating.

This is a Controlled Document	TCAA -AC -SR-PEL	Issued on April 2025
-------------------------------	------------------	----------------------

	TANZANIA CIVIL AVIATION AUTHORITY DIRECTORATE OF SAFETY REGULATIONS PERSONNEL LICENSING	Revision: 0 Advisory circular
Document No.: TCAA -AC -SR-PEL	Title: Helicopter (Generic) Type Rating Curriculum	Page 2 of 13

2.3.1 Pre-solo requirements

If required according to OSD.

2.4 Summary of minimum training hours

2.4.1 Initial type rating (ITR)

The training course includes:

- a) 9 hours of theoretical knowledge training; and
- b) flight instruction:
 - in helicopter: 5 hours; or
 - using FFS level C / D: 2 hours in helicopter and 6 total; or
 - using FTD level 2 / 3: 4 hours in helicopter and 6 total.

The skill test is additional to the training course time.

2.4.2 Additional type rating (ATR)

The training course includes:

- a) 7:30 hours of theoretical knowledge training; and
- b) flight instruction:
 - in helicopter: 5 hours; or
 - using FFS level C / D: 2 hours in helicopter and 6 total; or
 - using FTD level 2 / 3: 2 hours in helicopter and 7 total.

The skill test is additional to the training course time.

2.4.3 IR(H) extension

To extend IR(H) privileges to helicopter, the training course includes an additional 2 hours of flight training on helicopter by sole reference to instruments according to IFR which may be conducted in an FFS C/D or FTD 2/3.

2.5 Theoretical knowledge training

The theoretical knowledge training consists of all instruction given for the purpose of the training course and includes classroom lessons and instructor briefings.

Additional theoretical knowledge necessary for the specific air exercise are covered by the instructor during the instructor's briefing.

2.6 Flight instruction

The numbering of air exercises has to be used primarily as an exercise reference list and as a broad instructional sequencing guide: therefore, the demonstrations and practices do not necessarily need

This is a Controlled Document	TCAA -AC -SR-PEL	Issued on April 2025
-------------------------------	------------------	----------------------

	TANZANIA CIVIL AVIATION AUTHORITY DIRECTORATE OF SAFETY REGULATIONS PERSONNEL LICENSING	Revision: 0 Advisory circular
Document No.: TCAA -AC -SR-PEL	Title: Helicopter (Generic) Type Rating Curriculum	Page 3 of 13

to be given in the order listed. The actual order and content will depend upon the following interrelated factors:

- the student progress and ability;
- the weather conditions affecting the flight;
- the available flight time;
- instructional technique considerations; and
- the local operating environment.

2.6.1 Air exercises

Air exercises are not independent, therefore sessions can be combined; times reported on the air exercise table are indicative only. Each of the exercises involves the need for the applicant to be aware of good airmanship and look-out, which should be emphasised at all times.

2.6.2 Flight instructor pre-requisites

A flight instructor may provide instruction in a helicopter only if that instructor:

- completes the awareness training in Chapter 3.1;
- has a minimum of 200 flight hours in helicopter, a minimum of 50 flight hours of which were in that particular helicopter.
- has completed flight training in a helicopter on the following abnormal and emergency procedures:
 - enhanced training in autorotation procedures.
 - RPM control without the use of the governor; and
 - low RPM recognition and recovery.

2.7 Teaching materials

The following list represents the reference material that covers the subject details shown in the main body of the syllabus:

- RFM Rotorcraft flight manual / POH Pilot's operating handbook (Manufacturer)
- OSD Flight crew data (Manufacturer)
- ...

2.8 Time scale

The applicant shall pass the skill test within a period of 6 months after commencement of the helicopter type rating training course and within a period of 6 months preceding the application for the issue of the helicopter type rating.

The co-ordination of ground and flight training is a necessary and important part of any pilot course. Particular care should be given in ensuring that flying training sessions are appropriate to the student's level of theoretical knowledge.

This is a Controlled Document	TCAA -AC -SR-PEL	Issued on April 2025
-------------------------------	------------------	----------------------

	TANZANIA CIVIL AVIATION AUTHORITY DIRECTORATE OF SAFETY REGULATIONS PERSONNEL LICENSING	Revision: 0 Advisory circular
Document No.: TCAA -AC -SR-PEL	Title: Helicopter (Generic) Type Rating Curriculum	Page 4 of 13

2.9 Course completion standards and skill test

Upon completion of the training course, the student has the experience, the competence in flying and the knowledge for the initial issue of a specific helicopter type rating and is aware of the privileges of the rating and of the responsibilities and duties as pilot-in-command. The written examination consists of multiple-choice questions, performance and mass and balance calculations. The pass mark for the examination is 75%.

The applicant for helicopter type rating shall demonstrate to an examiner the ability to handle the helicopter safely and confidently under normal, abnormal and emergency operations, including pre-flight and post-flight.

2.10 Renewal

Refer to the Civil Aviation (personnel Licensing) Regulations, 2017.

2.11 Difference level table

Difference levels are summarised in the table below regarding training, checking, and currency:

Difference level	Training	Checking	Currency / recurrent training
A	Self-instruction	Not applicable (or integrated with next PC)	Not applicable
B	Aided instruction	Task or system check	Self-review
C	System devices	Partial check using device	Designated system
D	Manoeuvre device	Partial PC using device	Designated manoeuvre(s)
E	Simulator C / D or Aircraft	Full PC using simulator C / D or aircraft	As per regulations (take-off and landing in simulator C / D or the aircraft)

2.11.1 Training, checking and recurrent training difference requirements

According to OSD.

2.11.2 Operator difference requirement (ODR) table

According to OSD.

3 Theoretical knowledge training

3.1 Theoretical knowledge subjects and time scale

	ITR theory hours	ATR theory hours
Helicopter systems	4:00	3:30
Helicopter general - Dimensions - Helicopter structure and equipment	0:30	0:30

This is a Controlled Document	TCAA -AC -SR-PEL	Issued on April 2025
-------------------------------	------------------	----------------------

	TANZANIA CIVIL AVIATION AUTHORITY DIRECTORATE OF SAFETY REGULATIONS PERSONNEL LICENSING	Revision: 0 Advisory circular
Document No.: TCAA -AC -SR-PEL	Title: Helicopter (Generic) Type Rating Curriculum	Page 5 of 13

Power plant • Type of engine • General function of the following systems or components: - engine - oil system - fuel system - ignition system - starting system - generators and generator drive - power indication • Engine controls (including starter), engine instruments and indications in the cockpit, their function, interrelation and interpretation • Engine operation, during engine start, start and engine malfunctions, procedures for normal operation in the correct sequence • Transmission system • Type of rotor system	0:45	0:45
Fuel system • Location of the fuel tanks, fuel pumps, fuel lines to the engines, tank capacities, valves and measuring • Location of the following systems: - filtering - fuelling - venting • In the cockpit: - monitors and indicators of the fuel system - quantity and flow indication - interpretation • Fuel procedures distribution into the various tanks and fuel supply	0:30	0:30
Skids fixed and floats • Main components	0:15	0:15
Flight controls • Cyclic • Collective • Throttle and governor • Pedals	0:45	0:30
Electrical power supply • Number, power, voltage, frequency and location of the main power system (AC or DC) • Location of the controls, monitors and indicators in the cockpit; • Flight instruments, communication and navigation systems, main and back-up power sources • Location of vital circuit breakers • Generator operation and monitoring procedures of the electrical power supply	0:45	0:30
Instrumentation, communication and navigation equipment • Visible antennas • Controls and instruments of the following equipment in the cockpit during normal operation: - flight instruments - communication and navigation systems - warning systems	0:15	0:15
Emergency equipment • Operation and correct application of the mobile emergency equipment in the helicopter: - portable fire extinguisher - first-aid kits - portable oxygen equipment - life-jacket - emergency transmitters	0:15	0:15

	TANZANIA CIVIL AVIATION AUTHORITY DIRECTORATE OF SAFETY REGULATIONS PERSONNEL LICENSING	Revision: 0 Advisory circular
Document No.: TCAA -AC -SR-PEL	Title: Helicopter (Generic) Type Rating Curriculum	Page 6 of 13

Limitations	1:00	1:00
According RFM / POH	0:40	0:40
Minimum equipment list - Structure and philosophy - Application	0:20	0:20
Performance, flight planning and monitoring	1:00	0:30
According RFM / POH	1:00	0:30
Weight and balance	0:30	0:30
According RFM / POH	0:30	0:30
Emergency procedures	0:30	0:30
According RFM / POH	0:30	0:30
Ground operations	1:00	0:30
Pilot pre-flight walk around	0:15	0:05
Ground handling	0:15	0:10
Equipment installation / removal	0:15	0:05
Servicing on the ground - Servicing connections for: - fuel - oil - Safety regulations for servicing	0:15	0:10
Optional equipment	Additional	Additional
Insert content as required		
...		
Theoretical examination	1:00	1:00
Theoretical examination session	1:00	1:00
Totals:	9:00	7:30

3.2 TASE / training methodology for pilots and instructors

According OSD.

This is a Controlled Document	TCAA -AC -SR-PEL	Issued on April 2025
-------------------------------	------------------	----------------------

	TANZANIA CIVIL AVIATION AUTHORITY DIRECTORATE OF SAFETY REGULATIONS PERSONNEL LICENSING	Revision: 0 Advisory circular
Document No.: TCAA -AC -SR-PEL	Title: Helicopter (Generic) Type Rating Curriculum	Page 7 of 13

4 Flight instruction

List of air exercise sections:

- 1 Familiarisation
- 2 Abnormal and emergency

1.1 Familiarisation 1

Instructor briefing	ITR flight session	ATR flight session	Instructor debriefing	Equipment
0:30	1:15	1:15	0:15	Insert type

Program

- Hover taxi exercises
- Hover exercises
- Normal circuits
- Spot turns
- Basic air work (level flight, climbs, descents and turns)

Exercise content

- Introduction to the helicopter and explanation of the cockpit layout and engine systems
- Checklists, drills, controls
- Escape drills: location and use of emergency equipment and exits
- External and internal features
- All systems: normal operation and general handling
- Limitations
- Helicopter exterior visual inspection (walk around)
- Cockpit inspection
- Ground operations
- Starting procedures
- Pre take-off procedures
- Lift-off: avoid of dynamic rollover
- Hover and hover taxi (air taxi)
- Visual attitude for descent, climb and level flight, including effect of power and air speed
- Take-off to a hover and landing from hover
- Quick stop
- Pre landing procedures
- Ground safety procedures

Theoretical basis

- POH chapters: ...
- ...

This is a Controlled Document	TCAA -AC -SR-PEL	Issued on April 2025
-------------------------------	------------------	----------------------

	TANZANIA CIVIL AVIATION AUTHORITY DIRECTORATE OF SAFETY REGULATIONS PERSONNEL LICENSING	Revision: 0 Advisory circular
Document No.: TCAA -AC -SR-PEL	Title: Helicopter (Generic) Type Rating Curriculum	Page 8 of 13

Targets

- 1 Good knowledge of cockpit layout
- 2 Appropriate control inputs during maneuvers
- 3 The student is comfortably installed and has a good feeling with the helicopter
- 4 The student is familiar with the normal procedures
- 5 Personal:

1.2 Familiarisation 2

Instructor briefing	ITR flight session	ATR flight session	Instructor debriefing	Equipment
0:30	1:15	1:15	0:15	helicopter

Program

- Take-off: various profiles
- Landing: various profiles, including go-around
- Demonstration of incipient stage of vortex ring, recognition and recovery (from a safe altitude)

Exercise content

- Performance, flight planning and monitoring
- Weight and balance
- Height-velocity (H/V) diagram
- Abandoned take-off
- Normal and crosswind take-off
- Normal and crosswind landing
- Maximum performance take-off
- Steep approach
- Sloping ground take-off and landing
- Go-around
- Operation at maximum take-off mass
- Incipient stage of vortex ring, recognition and recovery (various entry situations)
- Sideways and backwards manoeuvring (including combination)

Theoretical basis

- POH chapters: ...

Targets

- 1 Recognition and correct recovery procedure of vortex ring
- 2 Safe take-offs and landings
- 3 The student is comfortable with normal procedures under more challenging conditions

This is a Controlled Document	TCAA -AC -SR-PEL	Issued on April 2025
-------------------------------	------------------	----------------------

	TANZANIA CIVIL AVIATION AUTHORITY DIRECTORATE OF SAFETY REGULATIONS PERSONNEL LICENSING	Revision: 0 Advisory circular
Document No.: TCAA -AC -SR-PEL	Title: Helicopter (Generic) Type Rating Curriculum	Page 9 of 13

4 Personal:

2.1 Abnormal and emergency 1

Instructor briefing	ITR flight session	ATR flight session	Instructor debriefing	Equipment
0:30	1:30	1:30	0:15	helicopter

Program

- Basic and advanced autorotations
- Steep turns with various speeds and bank angles

Exercise content

- Possible causes leading to emergency or precautionary landing
- Control inputs during autorotation out of hover flight
- Safety checks, verbal warning and look-out before autorotation exercise
- Engine failure handling: control of air speed and RRPM, rotor and engine limitation
- Autorotation entry, development and characteristics
- Power recovery procedures
- Low RPM recognition and recovery
- Ditching
- Steep (level) turns (30° bank)
- Maximum rate turns (45° bank)

Theoretical basis

- POH chapters: ...

Targets

- 1 Appropriate control inputs and correct energy management during autorotation
- 2 Steep turns within tolerances
- 3 The student is familiar with the abnormal and emergency procedures
- 4 The student is applying normal procedures with confidence
- 5 Personal:

2.2 Abnormal and emergency 2

Instructor briefing	ITR flight session	ATR flight session	Instructor debriefing	Equipment
0:30	1:00	1:00	0:15	helicopter

Program

- Simulated emergencies according to instructor

This is a Controlled Document	TCAA -AC -SR-PEL	Issued on April 2025
-------------------------------	------------------	----------------------

	TANZANIA CIVIL AVIATION AUTHORITY DIRECTORATE OF SAFETY REGULATIONS PERSONNEL LICENSING	Revision: 0 Advisory circular
Document No.: TCAA -AC -SR-PEL	Title: Helicopter (Generic) Type Rating Curriculum	Page 10 of 13

- Simulated instrument flight

Exercise content

- Abnormal and emergency procedures
- Tail rotor control or tail rotor drive failure (briefing only)
- Governor failure
- Basic instrument flight: flying with attitude indicator (basic maneuvers)
- Use of carburettor heat
- Actions after landing, helicopter security
- Airmanship and decision making
- Administration before skill test according «Examiner guide »

Theoretical basis

- POH chapters: ...

Targets

- 1 Correct application of emergency and abnormal procedures / checklists
- 2 The student is applying the knowledge gained from the RFM
- 3 Ready for type rating skill test
- 4 Personal:

Note: the training must be performed in VMC conditions; to simulate IMC conditions the student shall wear «foggles».

Time scale

The table on the following page shows the breakdown of hours for flight instruction of the helicopter type rating training course.

No	Air exercise	Instructor briefing	ITR flight session	ATR flight session	Instructor debriefing
1.1	Familiarisation 1	0:30	1:15	1:15	0:15
1.2	Familiarisation 2	0:30	1:15	1:15	0:15
2.1	Abnormal and emergency 1	0:30	1:30	1:30	0:15
2.2	Abnormal and emergency 2	0:30	1:00	1:00	0:15
Totals:		2:00	5:00	5:00	1:00



Director Safety Regulation

This is a Controlled Document	TCAA -AC -SR-PEL	Issued on April 2025
-------------------------------	------------------	----------------------