Voltair Drone Simulator V3

DGCA compliance matrix · RPTO training simulator, rotorcraft, built as per DGCA guidelines · Version 3.1.1

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47
DGCA syllabus items covered (DTC 02 of 2022)

13 of 13
flown exercises R1.F.3 to R1.F.18

20
simulator and training requirements met

A to E
grade per manoeuvre, minimum C

1. Requirements and where they are met

#	REQUIREMENT AND DGCA SOURCE	HOW VOLTAIR DRONE SIMULATOR V3 MEETS IT	WHERE TO SEE IT	EDITION
1	**Simulate all exercises and manoeuvres of the RPC syllabus** DTC 01 of 2026, para 6.4.3; DTC 02 of 2022	Every simulator exercise R1.S.1 to R1.S.11, all 13 flown exercises R1.F.3 to R1.F.18, the Simulator Test, Progress Check and Final Test, the Digital Sky and safety briefings, and R1.A.1 to R1.A.6.	Home > DGCA course	**AV3**
2	**Flight trail feature** DTC 01 of 2026, para 6.4.3	Live 3D flight trail in every flight (T key), coloured by height, also on the map and in every replay.	In flight: T key; Records > Replay	**Free and AV3**
3	**Record the trainee's performance** DTC 01 of 2026, para 6.4.3	Every attempt is saved per trainee with grades, measured values, simulator time and the flight log.	Home > Records	**AV3**
4	**Assess and record performance per manoeuvre** DTC 01 of 2026, Annex II; DTC 02 of 2022; Model TPM	Grade A to E for each manoeuvre (minimum C), with the measured error shown; tolerances and grade bands set by the RPTO.	Scoreboard after every flight; Instructor > Assessment	**AV3**
5	**Replay of the digital flight log with date, time and location** DTC 01 of 2026, para 11.3	Each flight is recorded 10 times a second (position, attitude, sticks, mode, battery, events) and replays in 3D with the date, time, site name and coordinates on screen.	Records > Replay	**AV3**
6	**Mode 2 capability** DTC 01 of 2026, Annex II and III	Mode 2 by default (Modes 1 to 4 selectable), any USB radio or keyboard, with calibration.	Home > Radio setup	**Free and AV3**
7	**Software serial or key number** DTC 01 of 2026, Annex II	Licence key and a unique simulator ID per seat, on the Simulator information screen and printable sheet.	Home > Simulator info (badge at top right)	**AV3**
8	**At least 2 simulators per batch of up to 20** DTC 01 of 2026, para 6.4.1	Licensed per seat: each computer runs its own licensed copy with its own records.	One serial and simulator ID per seat	**AV3**
9	**Records kept for at least 5 years, protected** DTC 01 of 2026, para 11.6	Records cannot be deleted in the app, are sealed with a hash chain (Verify records), and export to CSV and full backups.	Records > Verify records, Backup all, Export CSV	**AV3**
10	**Rotorcraft training area 60 m x 60 m with a windsock** DTC 01 of 2026, para 6.2 and 6.2.6	The RPTO training ground has a marked 60 m x 60 m area and a live windsock. Leaving the area is grade E.	RPTO training ground (every exercise)	**Free and AV3**
11	**Dual remote configuration (instructor control)** DTC 01 of 2026, Annex VI	Instructor take-over: the drone holds position and the instructor flies it from the keyboard while the trainee's radio is ignored.	In flight: O key or TAKE OVER	**AV3**
12	**Instructor introduces failures; briefing and**	Failure buttons in flight (motor, GPS glitch, GPS loss, C2 link loss, low battery, gust), graded emergency exercises,	Esc menu > instructor events; R1.F.18	**AV3**

	debriefing DTC 01 of 2023 Rev 02	briefing before and scoreboard plus replay after every flight.		
13	**Theory course and test** DTC 02 of 2022, T1.1 to T1.12.T; Model TPM	Lessons for all 11 modules with quizzes, and a 40-minute test drawn at random from a question bank, 70% to pass.	DGCA course > Theory	**Free and AV3**
14	**Gimbal pan, tilt and zoom** DTC 02 of 2022, R1.S.9	Stabilised gimbal camera with pan, tilt and 1x to 10x zoom; graded target-framing exercise.	R1.S.9; in flight: B key	**Free and AV3**
15	**Night flying** DTC 02 of 2022, R1.S.10 and R1.F.17	Moonlit night scene with drone navigation lights, pad edge lights and area corner lights.	R1.S.10, R1.F.17	**Free and AV3**
16	**Mission planning, instrument flying and auto missions** DTC 02 of 2022, R1.F.15 and R1.F.16	Ground control station planner with geofence, no-fly zone, height and battery checks; instrument-only flying; Auto mode with a graded pilot take-over.	R1.F.15, R1.F.16	**Free and AV3**
17	**Abnormal and emergency procedures** DTC 02 of 2022, R1.S.11 and R1.F.18; T1.9	GPS loss, fly-away, C2 link loss, motor failure, low battery and strong gust, each graded on the drill.	R1.S.11, R1.F.18	**Free and AV3**
18	**Pre-flight and post-flight checks, log book** DTC 02 of 2022, R1.S.3 and R1.S.4; DTC 03 of 2022	Graded walk-around (motors turned by hand, the cover taken off to check the battery), accelerometer calibration, compass calibration by four methods, motor test, damage inspection and the DGCA log book entry.	R1.S.3, R1.S.4, R1.F.T; Home > Pre-flight check	**Free and AV3**
19	**Drone components, assembly and maintenance** DTC 02 of 2022, T1.5, T1.8, R1.A.1 to R1.A.6	Interactive components module, assembly and de-assembly, module integration, propulsion and ESC calibration, fault finding and the maintenance log.	Learn > Essential components; DGCA course > Assembly	**Components free; assembly AV3**
20	**Digital Sky airspace zones** DTC 02 of 2022, R1.F.1; airspace map rules	Green, yellow and red zone exercise on an airspace map; the zone check is also part of mission planning.	R1.F.1; mission planner zone check	**Free and AV3**

Key rule. DTC 01 of 2026, para 6.4.3: the RPTO simulator "shall be capable of simulating all exercises/manoeuvres prescribed in the RPC syllabus (DTC2/2022) and shall include provisions of flight trail feature and record the trainee's performance." Every RPTO needs at least 2 simulators (para 6.4.1).

2. The DGCA syllabus, item by item

Theory (ground classes) 14:40 incl. 0:40 test

CODE	DGCA ITEM	IN THE SIMULATOR	GRADED STEPS
T1.1	Stakeholders and their laws	Lesson and quiz	
T1.2	Basic principles of flight	Lesson and quiz	
T1.3	ATC procedures and radio telephony	Lesson and quiz	
T1.4	Fixed-wing operations and aerodynamics	Lesson and quiz	
T1.5	Rotorcraft operations and aerodynamics	Lesson and quiz	
T1.6	Hybrid operations and aerodynamics	Lesson and quiz	
T1.7	Weather and meteorology	Lesson and quiz	
T1.8	Drone equipment maintenance	Lesson and quiz	
T1.9	Risk assessment, safety management and TEM	Lesson and quiz	
T1.10	Payload installation and utilisation	Lesson and quiz	
T1.11	Introduction to drone data and analysis	Lesson and quiz	
T1.12.T	Final theory test (40 minutes)	Timed test from the question bank	

Simulator training 2:45 + 0:15 test

CODE	DGCA ITEM	IN THE SIMULATOR	GRADED STEPS
R1.S.1	Introduction to the flight simulator	Lesson and quiz	
R1.S.2	Simulator familiarisation, controls check	Graded flight exercise	
R1.S.3	Pre-flight checks, take-off and cruise	Graded flight exercise	
R1.S.4	Approach, go-around, landing and post-flight checks	Graded flight exercise	
R1.S.5	Cruise and turns, climbing and climbing turns	Graded flight exercise	
R1.S.6	Descent and descending turns	Graded flight exercise	
R1.S.7	Disorientation and recovery	Graded flight exercise	
R1.S.8	Circuit flying: rectangle, square, circle, orbit, figure of 8	Graded flight exercise	
R1.S.9	Gimbal controls (pan, tilt and zoom)	Graded flight exercise	
R1.S.10	Night flying	Graded flight exercise	
R1.S.11	Abnormal and emergency procedures	Graded flight exercise	
R1.S.T	Simulator test	Graded test flight	

Practical flying (the 13 flown exercises) 4:10 + 0:20 test

CODE	DGCA ITEM	IN THE SIMULATOR	GRADED STEPS
R1.F.1	Introduction to the Digital Sky platform	Interactive activity	
R1.F.2	RPAS familiarisation and safety briefing	Lesson and quiz	
R1.F.3	Introductory flight: sensitivity of controls, orientation	Graded flight exercise: Loiter	11
R1.F.4	Take-off, climbing, descending and maintaining height	Graded flight exercise: Alt hold	7
R1.F.5	Basic controls: pitch, roll and yaw	Graded flight exercise: Alt hold	9
R1.F.8	Disorientation and recovery	Graded flight exercise: Alt hold	3
R1.F.9	Progress check: multirotor	Graded test flight	

R1.F.10	Level turns in both directions	Graded flight exercise: Loiter	3
R1.F.11	Climbing and descending turns	Graded flight exercise: Loiter	3
R1.F.12	Left and right square circuit patterns	Graded flight exercise: Loiter	3
R1.F.13	Flying in circles	Graded flight exercise: Loiter	4
R1.F.14	Flying in figure of 8	Graded flight exercise: Loiter	3
R1.F.15	Mission planning and instrument flying	Graded flight exercise: Loiter	3
R1.F.16	Auto mission and flight	Graded flight exercise: Loiter	5
R1.F.17	Night flying	Graded flight exercise: Loiter, night	5
R1.F.18	Abnormal and emergency procedures	Graded flight exercise: Loiter, hexacopter	6
R1.F.T	Final test: multirotor	Graded test flight	

Assembly and maintenance 2:00

CODE	DGCA ITEM	IN THE SIMULATOR	GRADED STEPS
R1.A.1	Assembling the drone	Interactive activity	
R1.A.2	De-assembling the drone	Interactive activity	
R1.A.3	Integration of sub-sections and modules	Interactive activity	
R1.A.4	Integration of the propulsion system	Interactive activity	
R1.A.5	Fault finding and rectification	Interactive activity	
R1.A.6	Repair, maintenance and documentation	Interactive activity	

3. Free edition and AV3

Free edition (practice)

- Free flight in any location, weather and drone
- Drone tuning: angles, rates, speeds, failsafe and power
- RPTO Test (Trial Version) with marks: graded pre-flight (25), the 13 DGCA flown exercises (10 each), graded post-flight (25), 180 marks, pass 60%
- Practice any of the 13 exercises in any flight mode
- Theory lessons T1.1 to T1.11 with quizzes and the 40-minute theory test (one mark per question, grade A to E)
- Learn (drone components, Digital Sky zones) and this compliance list
- Pre-flight check, radio setup and calibration (Mode 2), India drone news
- Nothing is recorded: practice only

Voltair Drone Simulator AV3 (advanced version, for RPTOs)

- The full DGCA course: theory T1.1 to T1.11 (15 lessons), 188-question bank and the 40-minute theory test (70% pass)
- All simulator exercises R1.S.1 to R1.S.11, Simulator Test, Progress Check and Final Test
- Reference diagrams in every lesson and a YouTube search line per lesson; theory test marks sheet with every answer
- Course lists with each trainee's latest marks and a total per section
- Grades A to E per manoeuvre with measured values; tolerances set by the RPTO's TPM
- Every flight logged at 10 samples a second and replayable with date, time and location
- Trainee roster, sealed records kept 5 years, CSV export and backup
- Skill test reports, trainee logbook (FSTD / RPTS time) and the final training report
- Instructor mode: take-over (dual control), failures, PIN-locked settings
- Drone components, assembly and maintenance R1.A.1 to R1.A.6, Digital Sky zones, agriculture SOP

4. Not in this version

- Aeroplane and hybrid practical flying (their theory, T1.4 and T1.6, is included). Category 2 BVLOS training criteria are still reserved by DGCA; R1.F.15 instrument flying is its foundation.
- DGCA publishes no hardware, fidelity or certification standard for simulators; the requirements above are functional.

5. Sources

- DTC 02 of 2022, RPC syllabus: digitalsky.dgca.gov.in/assets/files/DTC-02-of-2022-Syllabus.pdf
- DTC 01 of 2026, minimum criteria for RPTOs (issued 7 May 2026, effective 13 May 2026), dgca.gov.in
- DTC 01 of 2023 Rev 02, Remote Pilot Instructors; DTC 03 of 2022, TPM; DGCA Model TPM for RPTO
- Drone Rules, 2021 and amendments; PIB releases on the airspace map and eGCA