



**GOVERNMENT OF INDIA**

**OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION**

**DRONE TRAINING CIRCULAR 03 OF 2022**

**E-File No. DGCA-31018/3/2022-DRONE-Dte**

**Dated 15 February 2022**

**Subject: Training & Procedures Manual for Remote Pilot Training**

**1. Introduction**

The Training and Procedures Manual describes the way the organisation conducts its activities in accordance with Drone Rules, 2021 and DTC 01 of 2022. As such it is a document which is essential for the organisation as it provides the management and accountable personnel with a clear guidance on the policy of the organisation as well as the procedures and processes which are used to provide RPA training.

During the approval process, it helps the DGCA to assess whether the procedures developed by the organization are in line with the existing requirements. Once the remote pilot training organisation is functioning, DGCA will ensure that the organisation is functioning in line with the Training and Procedures Manual, through a planned surveillance.

This training and procedure manual is applicable to all authorised RPTO for imparting Practical training on Remotely Piloted Aircraft as specified in The Drone Rules, 2021 and DTC 01 of 2022.

**2. General Consideration**

In preparing the Training and Procedures Manual, it is important for the RPTO to ensure that the Training and Procedures Manual is consistent with regulations, manufacturer requirements, other guide lines issued by the training organization and in line with and human factors principles. It is also necessary to ensure consistency across all departments within the organisation.

**3. Contents of the TPM**

The content of the Training and Procedures Manual spelt out in this Annexure-I, provides a detailed list which expands on the structure expected for the manual. Depending on the size and scope of training provided by the organisation, some of the elements contained in the Annexure can be combined / subdivided further as determined by RPTO and acceptable to DGCA.

**4. Organising the Manual**

- 4.1. The Training and Procedures Manual should be organised as far as practicable.
- 4.2. The manual should be consistent with the remote pilot training organisation's philosophy, policies, procedures and practices and in accordance with the Drone Rules, 2021 and DTC 01 of 2022.

## **5. Design**

- 5.1 The structure of the manual should be easy to understand, appropriate for the information documented and clearly identified through headings and other formatting devices. The document structure should be identified at its beginning by explaining organising elements such as headings, the numbering scheme, and main parts of the document and other sources of coding or grouping.
- 5.2 Precise language should be used wherever possible. Significant terms for common items and actions should be maintained throughout the manual. Terms must be clear and easily understood.
- 5.3 Writing style, terminology, formatting, and use of graphics and symbols should be consistent throughout the document. This includes the location of specific types of information and consistent use of units of measurement and codes.
- 5.4 The manual should include a glossary of terms, acronyms, abbreviations and associated definitions. The glossary should be updated on a regular basis to ensure access to the most recent terminology.
- 5.5 The revision process should be considered when designing the manual for ease of amendment and distribution.
- 5.6 The training and procedures manual should comply with the requirements of the training organisation's quality assurance system.

## **6. Deployment**

The RPTO should have a system in place to monitor use of the Training and Procedures Manual after it is published. This will ensure appropriate and realistic use of the manual, based on the operational environment, in a way that is operationally relevant and beneficial to the personnel for whom it is intended. The monitoring system should include formal feedback to obtain inputs from the principal users of the manual and other persons who would be affected by a new or revised policy, procedure or practice.

## **7. Record, Distribution, & Amendment**

- 7.1. The RPTO should develop an effective information gathering, review, and distribution and revision control system to process information obtained from all sources relevant to the organisation. Sources include, but are not limited to the DGCA safety regulations, manufactures and equipment vendors.

Note. — Manufactures' provide information for the operation of specific aircraft that emphasizes the aircraft systems and procedures under conditions that may not fully match the requirements of the training organisation. Training organisations should ensure that such information meets the philosophy, policies, procedures and practices and in accordance with the Drone Rules, 2021 and DTC 01 of 2022.

- 7.2. The training organisation should develop an information review, distribution and revision control system to process information resulting from changes that originate within the organisation. This includes changes:
  - a. in the organisation's policies, procedures and practices;
  - b. in response to operating experience;
  - c. to the scope of training provided;
  - d. to the content of training programs;
  - e. resulting from the installation of new equipment;
  - f. to an approval document or authorisation certificate; and
  - g. For the purpose of maintaining standardization.
- 7.3. The training and procedures manual should be reviewed in association with other operational documents that form the organisation's flight safety documents system:

- a. on a regular basis (at least once a year);
  - b. After major events such as mergers, acquisitions, rapid growth, downsizing, etc.;
  - c. After technology changes, e.g.: the introduction of new equipment; and
  - d. After changes in safety regulations.
- 7.4. Permanent changes to the training and procedures manual shall be communicated through a formal amendment process. The manual should be amended or revised as necessary to ensure that the information contained is kept up to date.
- 7.5. Distribution of amendments and revisions should include a tracking system. The tracking system should include some form of log combined with a procedure to ensure that all amendments are furnished promptly to all organisation or persons to whom the manual has been issued.

Sd/-

**(Arun Kumar)**

**(Director General of Civil Aviation)**

**Checklist for Developing Training and Procedures Manual for RPTO**

This checklist may be used as a guidance for developing of Training and Procedures Manual by the RPTO.

Name of RPTO: _____
Date: _____
Address of RPTO: _____
Contact details & e-mail of RPTO:
Name of Accountable manager _____
Name of approved RPA Trainers with email address and phone numbers:
_____ Tel. _____
_____ Tel. _____
_____ Tel. _____
Scope of Training _____

**PART-I**

No.	Subject	Page & Para no. of TPM	Remarks
<b>1.</b>	<b>GENERAL</b>		
1.1	Preamble relating to use and authority of the Training and Procedures Manual.		
1.2	Table of contents.		
1.3	Amendment, revision and distribution.		
	a) Procedures for amendment;		
	b) Amendment record page;		
	c) Distribution list; and		
	d) List of effective pages.		
1.4	Glossary of significant terms and definitions.		

1.5	Description of the structure and layout of the manual, including:		
	a) Various parts, sections, their contents and use;		
	b) The paragraph numbering system.		
<b>2.</b>	<b>Scope of Training and Organization</b>		
2.1	Scope of training i.e. category and Type of RPAs.		
2.2	Organisation chart (of management organisation)		
2.3	Qualifications, responsibilities and succession of command of management and key operational personnel, including but not limited to:		
	a) Accountable manager		
	b) RPA instructor and training coordinator		
<b>3.</b>	<b>Facilities</b>		
<b>3.1</b>	<b>RPA details –(at least with following details)</b>		
#	RPAs		
a)	Type of RPA with Mode and Serial Number		
b)	Unique Identification Number (UIN)		
c)	Cat. of RPA- Fixed wing/ Rotary Wing/ Others		
d)	Details of the UAS owner		
i)	Payload Details and Payload Capability		
<b>3.2</b>	<b>RPA Simulators details – (with following details)</b>		
a)	RPA Simulator Name		
b)	Manufacturer		
c)	RPA Supported Types (Rotary/ Fixed wing/Others)		
3.3	System to ensure proper functioning of simulators and serviceable RPAs.		

3.4	Space for waiting, Operations, flight planning etc.		
a)	Office space for operation and admin		
b)	Storage area including secure area for trg. and personnel record		
c)	Space for the students waiting for their training.		
d)	Flight Operation room or area.		
e)	Flight Planning room or area.		
f)	Space for pilot briefing/ debriefing.		
g)	Arrangement and equipment for pilot briefing.		
h)	Office facility for instructors is available.		
i)	Room for Simulator and RPA Assembling and repair room		
j)	Battery charging and Storing Facilities		
<b>3.5</b>	<b>Class Rooms</b>		
a)	Proper class rooms commensurating with the plan.		
b)	Training aids such as computer, projector/suitable monitor, multimedia aids etc.		
<b>3.6</b>	<b>Library</b>		
a)	Library with system of ready access to trainee pilots.		
b)	System to track the revisions and stock position of books / study material.		
c)	Adequate number of text books for ground subjects specific to RPSs as specified in syllabus		
<b>3.7</b>	<b>Radio Telephony</b>		
a)	Arrangement for Radio telephony training and testing with facilities for Radio Telephony basic training for RPAs as specified in the syllabus		
<b>4.</b>	<b>THE TRAINING PLAN</b>		
4.1	Aim of the course - <ul style="list-style-type: none"> <li>• A statement of what the student is expected to do as a result of the training on RPA as per DTC 1 of 2021.</li> </ul>		

	<ul style="list-style-type: none"> <li>• The level of performance on specific category of RPA- Fixed Wing/ Rotary Wing/ others</li> <li>• The training constraints to be observed</li> </ul>		
4.2	Pre-entry requirements -		
	<ul style="list-style-type: none"> <li>• Minimum age</li> <li>• Educational requirements</li> <li>• Language requirements</li> <li>• Medical requirements</li> <li>• Any Other Requirements</li> </ul>		
4.3	Training curricula/ Training Plan -		
	<ul style="list-style-type: none"> <li>• Training schedule and End of Course report</li> <li>• The flying curriculum and Training Methodology (Fixed Wing RPAs)</li> <li>• The flying curriculum and Training Methodology (Rotary Wing PRAs)</li> <li>• The flying curriculum and Training Methodology (Hybrid RPAs)</li> <li>• The RPA Simulator training curriculum</li> <li>• The Ground training Curriculum</li> </ul>		
4.4	Training programme -		
	<ul style="list-style-type: none"> <li>• The general arrangements of daily and weekly programs for RPA flying, ground and Simulator training.</li> <li>• Program constraints in terms of maximum student training times, (flying, theoretical knowledge, simulator) e.g. per day/week/month</li> <li>• Restrictions in respect of duty periods for students</li> <li>• Duration of solo and instructor assisted flights at various stages</li> <li>• Maximum flying hours in any day</li> <li>• Maximum number of training flights in any day</li> </ul>		
4.5	Training records -		
	<ul style="list-style-type: none"> <li>• Training Certificate/Card Format and Flight Log records</li> </ul>		

	<ul style="list-style-type: none"> <li>• De Briefing , Evaluation Sheets , Flight Training Progress Report and End of Course RPA Pilot Training Report</li> </ul>		
	<ul style="list-style-type: none"> <li>• Procedure for maintaining integrity of record and documents i.e. protection from alteration and removal etc.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Attendance records.</li> </ul>		
	<ul style="list-style-type: none"> <li>• The form of training records to be kept e.g. dossier.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Persons responsible for checking.</li> </ul>		
	<ul style="list-style-type: none"> <li>• The nature and frequency of records checks.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Standardization of entries in training records. Rules concerning training log entries.</li> </ul>		
4.6	Safety training		
	<ul style="list-style-type: none"> <li>• Individual responsibilities.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Battery Changing procedures, emergencies and Maintenance of Battery Changing Log Book</li> </ul>		
	<ul style="list-style-type: none"> <li>• Essential exercises.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Emergency drills including GPS fail safe landing, Communication fail, Wind drift procedure and Low battery etc.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Checks</li> </ul>		
	<ul style="list-style-type: none"> <li>• Requirement before first RPA training flight</li> </ul>		
4.7	Checks and tests –		
	<ul style="list-style-type: none"> <li>• Flying: Progress checks and skill tests.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Knowledge: Progress tests and knowledge tests.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Authorization for test.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Rules concerning refresher training before retest.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Test reports and records.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Test/retest procedures.</li> </ul>		
4.8	Training effectiveness -		
	<ul style="list-style-type: none"> <li>• Individual responsibilities.</li> </ul>		
	<ul style="list-style-type: none"> <li>• General Assessment.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Liaison between departments.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Identification of unsatisfactory progress (individual students).</li> </ul>		



	<ul style="list-style-type: none"> <li>• Actions to correct unsatisfactory progress.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Procedure for changing RPA Trainer.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Maximum number of instructor changes per student. Internal feedback system for detecting training deficiencies.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Procedure for suspending a student from training.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Standards and level of performance at various stages.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Individual responsibilities.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Standardization.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Standardization requirements and procedures.</li> </ul>		
<b>5.</b>	<b>BRIEFING AND AIR EXERCISES</b>		
5.1	Air exercise -		
	<ul style="list-style-type: none"> <li>• A detailed statement of the content specification of all the air exercises to be taught, arranged in the sequence to be flown with main and sub-titles.</li> </ul>		
5.2	Air exercise reference list		
	<ul style="list-style-type: none"> <li>• An abbreviated list of the above exercises giving only main and sub-titles for quick reference, preferably in flip-card form to facilitate daily use by instructors.</li> </ul>		
5.3	Student progress		
	<ul style="list-style-type: none"> <li>• The requirement for student progress and include a brief but specific statement of what a student is expected to be able to do and the standard of proficiency he or she must achieve before progressing from one phase of exercise to the next.</li> </ul>		
	Include minimum experience requirements in terms of hours, satisfactory exercise completion, etc. As necessary before significant exercises/ maneuvers/emergency handling.		
5.4	Instructional methods -		
	<ul style="list-style-type: none"> <li>• The RPTO requirements, particularly in respect of pre and post flying briefing, adherence to curricula and training specifications, authorization and supervisions</li> </ul>		
5.5	Progress tests -		

	<ul style="list-style-type: none"> <li>The instructions given to examining staff in respect of the conduct and document of all progress tests.</li> </ul>		
5.6	Annexures -		
	<ul style="list-style-type: none"> <li>Progress test report forms.</li> </ul>		
	<ul style="list-style-type: none"> <li>Skill test report forms.</li> </ul>		
	<ul style="list-style-type: none"> <li>RPTO certificates of experience, competence, etc. as required.</li> </ul>		
5.7	Standardized check-lists for normal, abnormal and emergency procedures		
5.8	Maps and charts and other equipment's required to be carried for RPA flights.		
5.9	Check-list to show the documents required to be carried		
5.10	Digi Sky flight planning/ approval procedures.		
5.11	Procedures for carrying out flying check of trainees		
5.12	System of keeping of certificates and logs for ready reference.		
5.13	Occurrence reporting procedure for RPAs.		
5.14	Procedure for disposing off damaged RPA		
<b>6.</b>	<b>RPA Simulator Training</b>		
6.1	Exercise Details		
6.2	Exercise reference list		
6.3	Course structure-phase of training		
6.4	Course structure integration of curricula		
6.5	Student progress		
6.6	Instructional methods		
6.7	Progress tests		
6.8	Glossary of terms		
6.9	Annexures		
<b>7.</b>	<b>RPA OPERATING INFORMATION</b>		
7.1	RPA descriptive notes		
7.2	RPA handling (including checklists, limitations, maintenance and technical logs, in accordance with relevant requirements, etc.)		

7.3	Emergency procedures		
7.4	Radio and radio navigation		
7.5	Allowable deficiencies		
7.6	Flight Log Book ,Battery Charging Log Book / Log Card , Line Replaceable Units (LRUs) cannibalization Record and Firmware/Software Version Records		
<b>8.</b>	<b>STAFF TRAINING</b>		
8.1	Appointments of persons responsible for standards/ competence of staff		
8.2	Initial training		
8.3	Refresher training		
8.4	Standardization training		
8.5	Proficiency checks		
8.6	Upgrading training		
8.7	RPTO staff standards		

## **PART-II**

<b>9.</b>	<b>Flying Area/Aerodrome (Requirements &amp; Procedures)</b>		
9.1	Proper airport perimeter fencing and/ or watch and ward for preventing runway incursion during aircraft operations.		
9.2	Procedure for runway inspection (if Fixed wing RPA is operational).		
9.3	Check availability of smooth runway of adequate length for the type of a/c.		
9.4	Check availability of sufficient length of runway for type of a/c for clearing all obstacles in the take-off flight path by at least 50 feet.		
9.5	Proper communication arrangements with ATC.		
9.6	Proper and adequate safety services are provided by the training institute or by ATC (as applicable).		
9.7	Visibility of wind sock or wind direction indicator from each end of the runway at ground level.		
9.8	Proper traffic pattern for carrying out the flying training.		

9.9	Proper drills for RPA emergency during flying at airport.		
9.10	Airport perimeter fencing with adequate watch and ward for preventing runaway incursion during aircraft operation?		
9.11	Proper air ground communication to supervise the flying training activities.		
9.12	Alarm bell and siren facilities at a suitable location.		
9.13	Sufficient number of fire extinguishers.		
9.14	First-aid room with proper kits and validity.		
9.15	Trained manpower to handle safety services.		
9.16	Proper coordination procedure with local fire station.		
9.17	Display of 'No-Smoking' sign at prominent places.		
9.18	Suitable and adequate hangar space for parking, mooring and maintenance of aircraft. The hangar shall be well lighted and suitable for aircraft maintenance. (if applicable)		
<b>10.</b>	<b>RETURNS TO BE SUBMITTED TO DGCA</b>		
10.1	Students Records		
10.2	RPA records and Utilization		