# National Paragliding Pilot Rating System - INDIA



### **Document Revision History**

Compiled By	Date	Version	Remarks
Rohit Kawaley	29/06/2020	Ver. 01	With Contributions/suggestions from :
			Gurpreet Dhindsa, CFI-PG Gurukul, Bir
			Eric Menezes, CFI-Wings & Flight, Pune
			Tanaji Takve, CFI-Paragliding Mantra
			Vijay Soni, CFI-Orangelife, Kamshet
			Samson D'Silva, CFI-Space Apple, Mumbai
			Sanjay Pendurkar – CFI-Indus Paragliding, Kamshet
			Debu Choudhury, Experienced Instructor, Manali
			Ajay Kumar, Experienced Instructor, Manali
Raghav Sundar	31/08/2020	Ver.02	Formatted document and added introduction and
			other sections

### Introduction

This document describes the Paragliding proficiency or Skill levels of the National Paragliding Rating System – India. **These levels** are considered equivalent of major systems around the world and follows the FAI Safepro Para system.

Levels	ΡΑΙ	ВНРА	USHPA	APPI
Level 1 (P2)	Student	Elementary	Novice	Explore
Level 2 (P3)	Novice	Club Pilot	Intermediate	APPI Pilot
Level 3 (P4)	Pilot	Pilot	Advanced	Intermediate Pilot
Level 4 (P5)	Advanced Pilot	Advanced	Master	Advanced Pilot
Level 5	Sports Tandem Pilot	Tandem	Tandem Instructor	Non-Commercial Tandem

### **Paraglider Pilots Levels**

### 1. "Introduction to Paragliding" or Level 0:

The main purpose of this non-certificate course is to bring more people into the sport by letting them experience the joys of free flying without any major time or financial commitment. This course can be counted towards the tasks needed to be completed for the "Student" course. In case there is a gap of more than 4 weeks between this course and the "Student" course, refresher days will be added by the schools as they seem fit. Training excercises must be maintained in a Logbook and signed off by an Instructor.

This course introduces students to:

- i) Theory Knowledge
  - Paraglider as an aircraft, how the glider flies, how it is controlled in the air, etc.
  - Introduction to different parts of the paraglider, weight range, etc.
  - Basics of airflow in which a new student can fly safely
- ii) Ground handling
  - Glider layout on the ground
  - Forward Inflation with A risers
  - Raising sail and control (including aborting take-off): On flat ground and on slope
- iii) Task List for Introduction level
  - Equipment routines: Assembly, unfolding sail on ground, moving it when needed, daily check, adjustment, disassembly
  - Packing and unpacking the glider
  - Clearing the lines
  - Strapping into harness safety checks
  - Preflight check: Connections, conditions, visualizing run or flight, clear area
  - Take-off: Sight forward, acceleration and trajectory control, gradual loading of glider

- Flight control: Correct airspeed and directional control, smooth corrections
- Landing: Directly into wind, sight forward, ready to run, using glider as a brake
- Proper PLF emergency landing

### 2. Level - STUDENT :

The course at this level is intended to create responsible, well aware and safe student pilots. Some of the tasks listed in this course can be considered completed if they were completed in the "Introduction to Paragliding" course within a 4 week period. Instructors will add refresher days if the gap between courses is longer than that. The instructor shall be convinced that the student is able to take care of his own and others safety, while altitude gliding within the recommendations given.

Training excercises must be maintained in a Logbook and signed off by an Instructor.

- i) Minimum Requirement
  - Introduction Course where available but not mandatory

#### ii) Theory content

- How the wing flies, how controls work, under what conditions the wing stops to fly, wind over surface, concepts of lee and rotor and basic concept of high and low pressure and how wind flows.
- Nomenclature of paragliding equipment. Adjusting the harness for comfort and safety. Introduction to different parts of paraglider, weight range, etc.
- Active Piloting and safe control range for student level.
- Ridge soaring/ Thermal flying traffic rules.

#### iii) Ground handling

- Glider layout on the ground with respect to the wind
- Forward Inflation with A risers
- Demonstrating good understanding of controlling the inflation and keeping the glider above head depending on site and wind conditions

#### iv) Task List

- Planning: Insight, evaluations and decisions, flight plan, axis, drift, height, landmarks
- Pre-flight check
- Mental state and stress level awareness, techniques to lower stress
- Take-off: Canopy raising and control, stop-line/decision, acceleration, liftoff, clearing terrain, transition to sitting position
- Shallow turns: Visual check, gentle to medium bank, drift correction
- Approach: Setting relative to terrain and wind, types of approach, hands up, straight final, overcoming gradient with speed
- Landing: Aiming towards a preset area, hands up and braking
- After landing: Checking traffic, leaving landing for next pilots
- Daily inspection, preparation, and pre-flight checks (unassisted)
- Pilot should have done minimum 6 flights and at least two flights without instructor inputs

### 3. Level - Novice :

The course at this level is intended to create independent soaring pilots. Pilots having completed NOVICE Level level can fly independently. The Instructor shall be convinced that the student can take care of his own and others' safety within applicable rules and regulations, recommendations and code of good practice, while operating alone. It is recommended that they fly a minimum of 10 hours in the company of experienced pilots.

Active flying is maintaining the normal flying mode in turbulent air. It includes keeping the angle of attack within the limits, managing pitch and roll movements, preventing and recovering from collapses, tucks and stalls, and quick descent techniques.

Training excercises must be maintained in a Logbook and signed off by an Instructor.

- i) Minimum Requirement
  - STUDENT Level Rating
  - 6 Flights (with 2 flights without instructor inputs)
- ii) Theory Content
  - Flight theory: angle of attack, stall, drag and their relationship to speed, polar curve and speed to fly. Air interaction with wing during deflations and instabilities like stall and spin.
  - Take-off: Stop-line awareness and decision before accelerating for take-off
  - Pitch and roll control: Simulation and dampening swings (stabilizing the glider), speed bar
  - Big ears: Collapsing wingtips, holding them, recovering them; big ears and weight shift turns; big ears plus speed system; other descending techniques
  - Asymmetric collapse: Like a one side big ear or slightly bigger if possible inducing, holding, recovery
  - Big ears, effect on angle of attack explained .
  - Speed bar use and effect on angle of attack and stability.
  - Meteorology theory: deeper discussion into lee side and turbulence around thermals, cloud types, fronts and associated weather. Also clarify that clouds can be pure convection clouds too not just from fronts. Lapse rate and energy in over-developing clouds. Inversion explained in terms of lapse rate.
  - Airspace rules, Ridge soaring/ Thermal flying traffic rules.

iii) Task List

- Demonstrate soaring with outside weight shift with drift control
- Speed control: Minimum sink speed, best glide angle including with lift/sink or wind.
- Turns: Ordinary speed and at minimum sink, coordinated, no sign of stall
- Introduction to controlled 360 with bank angle control

- Use of speed bar with big ears
- Roll and pitch, induced and corrected. 360 turns, short of spiral dive
- In mountains where over-development is common. B line stall.
- In dynamic conditions if available top and slope landing.
- Precision approach and landing: Safe and inside an area decided by the instructor, figure 8 and standard aircraft patterns

### 4. Level - Pilot:

Soaring involves using updraughts to extend the flight duration, be it flying on a ridge facing wind or in thermals. At least 25 successful flights from 3 different sites with 15 flying hours, including thermal soaring. At this stage, the pilot should be able to take care of his own and others' safety while flying during displays, demonstrations, and local/friendly competitions.

A student can do this one at time and can get endorsement for each and complete PILOT Level when the pilot has both endorsements. Also need to understand air space distribution, air laws and air maps to qualify, as the next level is XC and this knowledge is required for the next step. PILOT Level exam will be evaluated by an authorized person from outside the school that student belongs to and pilots can self study and apply for the exam too however their Logbook will need to be countersigned by a pilot of higher rating.

### i) Minimum Requirement

- NOVICE Level
- 50 hours of flying (10 hours in thermic conditions)
- ii) Task List
  - Take-off in strong wind, reverse position.
  - Manoeuvring in lift band: Figure 8 pattern, drift and gradient corrections, no sign of stall, manoeuvring according to terrain and traffic, keeping a good lookout
  - Ridge soaring: Best lift zone, best speed along the ridge, managing priorities, maintaining easy reach of landing options .
  - 360° turns: From minimum sink to steep bank, correcting drift
  - Thermal soaring: Finding and following thermal cores, choosing exit direction

• Landing in wind: Positioning according to wind strength, traffic control, ground handling.

### 5. Advanced Pilot level :

Pilots should successfully complete an SIV course prior to starting this course. At this level, pilots should exhibit the ability to remain calm and give the right inputs (note to instructors: if the pilot is nervous and not in control of their wing, the level cannot be considered completed). Additionally, pilots need to have completed a 100km XC flight in mountainous terrains or a 50km XC flight in flatland. XC Distances may be re-quantified according to the standard of difficulty at each site. Pilots should exhibit a clear understanding of the aerodynamics of the wing in all conditions. They should also have a clear understanding of when conditions are getting unsuitable to fly safely.

- i) Minimum Requirement
  - PILOT Level
  - 100 flying hours
  - SIV course
  - Minimum qualifying distance in a single XC flight (60km in Bir, 35 Panchgani, 25 Vagamon)
- ii) Task List
  - Choosing the best launch with regard to the weather analysis
  - Taking off with less than ideal conditions, managing traffic
  - Ease to turn both directions in a thermal, alone or in traffic
  - Sustaining flight in very weak conditions while maintaining a good safety margin (close to terrain, with limited landing fields, in glider traffic, etc.)
  - Thermalling in strong wind while maintaining safety with drift and elusive lift
  - Using the MacCready theory, choosing thermal exit time and speed to fly
  - Thermalling in gaggles: This practice should be acquired gradually, with first one, then more pilots at the learner's level
  - Managing:
    - Accelerated asymmetric collapse

- Amplified pitch with dampening, with front collapse, amplified roll
- Autorotation, stall
- Choosing the best landing field while in flight and setting up a precision approach for a short field with possible barriers
- Landing with other gliders at the same time

#### 6. Sports Tandem Level :

This rating shows that the Pilot has mastered the specific skills needed to fly a tandem Paraglider. Pilot must have completed his "PILOT Level" certification successfully and should complete the SIV course in next 6 months or 50 tandem flights. Pilot should attend a "Tandem Clinic" to learn about legal obligations, soft skills, safety focus, etc.

- i) Minimum Requirement
  - PILOT Level
  - Pilot should have flown in 5 different sites with at least 100 hours and 100 flights after completing his NOVICE level.
  - Pilot should have completed a first aid training course from a reputed organization.
  - Tandem Clinic organized by PAI
- ii) Task List
  - Pilot should display thoroughness in securing themselves and the passenger to the tandem glider. Pilot should demonstrate rigorous and verbal safety check before actual takeoff.
  - Pilot should ensure securing helmets for both the passenger and self and reserve installation during every flight.
  - Pilot should demonstrate the ability to brief the passenger regarding the flying conditions, and explain the flight plan to them. Pilots must also practice and demonstrate the appropriate soft skills needed to put anxious passengers at ease.
  - Pilot should demonstrate controlled inflation and takeoff in different wind conditions.
  - Pilot should demonstrate the ability to be alert regarding the passenger's mental state. Soft skills must also be practiced to relax

anxious passengers mid-flight and make small talk to improve the flying experience.

- Pilot should be able to adapt his landing style to different wind conditions keeping the safety of the passenger in mind.
- Pilot should understand different glider trim settings and the right settings for suitable conditions.
- Pilot should have good knowledge regarding this glider trim check and recognize when it needs periodic health checks.

### Standard Operating Procedure for Rating of Pilots

### 1. TRAINEE PILOT SCENARIO

- 1.1 Trainee joins a school for the Student Level and starts training. The schools complete all the pre-training formalities which will now also include application of <u>AS</u> membership of PAI (Full Annual membership optional).
- 1.2 The membership card gets prepared online in which rating will be added after the successful completion of the level and the soft copy of the card will be emailed to the student.

### 2. QUICK VIEW OF THE PROCESS:

### 2.1 STUDENT Level / NOVICE Level:

- 2.1.1 Fill in PAI AS membership form (and other requirements/documents)
- 2.1.2 Level Task Sheet (LTS) to be filled up as per the Task completion
- 2.1.3 LTS to be handed over to the student on completion of NOVICE Level
- 2.1.4 School to fill up and retain Training Completion Record (TCR) for their records (refer all related documents for details)
- 2.1.5 School to conduct the Theory test for the level
- 2.1.6 School to issue Rating and inform PAI to be added to the membership card.

### 2.2 PILOT Level:

- 2.2.1 Fill in PAI Annual membership form if not already members (and other requirements/documents)
- 2.2.2 Verification/Declaration of Currently held pilot level skills if not from same school
- 2.2.3 LTS to be filled as per task completion
- 2.2.4 LTS to be handed over to the student.
- 2.2.5 School to fill up and retain TCR.
- 2.2.6 School to conduct the Theory test (online or offline if online not possible) for the concerned level

- 2.2.7 School to recommend the Rating and inform PAI for it to be added to the membership card.
- 2.2.8 The Schools's recommendation is countersigned by a second CFI after verification

### 2.3 Advanced Pilot Level

- 2.3.1 Fill in PAI Annual membership form (and other requirements/documents) if not already a member
- 2.3.2 Verification/Declaration of Currently held pilot level skills if not from same school
- 2.3.3 LTS to be filled as per task completion
- 2.3.4 LTS to be handed over to the student upon completion of course
- 2.3.5 School to fill up and retain TCR.
- 2.3.6 Student to take Online (offline if not possible) Theory test for the concerned level
- 2.3.7 School to recommend the Rating and inform PAI for it to be added to the membership card.
- 2.3.8 The Schools's recommendation is countersigned by a second CFI after verification

#### 2.4 Sports Tandem Level

- 2.4.1 Fill in PAI Annual membership form (and other requirements/documents) if not already a member
- 2.4.2 Verification/Declaration of Currently held pilot level skills if not from same school. Advanced Pilot Level is a must for applying for Sports Tandem Level.
- 2.4.3 LTS to be filled as per task completion
- 2.4.4 LTS to be handed over to the student upon completion of course
- 2.4.5 School to fill up and retain TCR.
- 2.4.6 Student to take Online (offline if not possible) Theory test for the concerned level
- 2.4.7 School to recommend the Rating and inform PAI for it to be added to the membership card.
- 2.4.8 The Schools's recommendation is countersigned by a second CFI after verification

### 3. GENERAL INFORMATION

- 3.1 All PAI cards will also display the Pilot's current Rated level.
- 3.2 The application can be filled up online on the PAI website
- 3.3 Membership cards will only be issued by PAI (softcopy emailed directly to the student).
- 3.4 Ratings are awarded by the CFI of the concerned schools up to NOVICE Level and 2 CFI signatures are required for higher levels
- 3.5 The LTS shall be retained by the trainee pilot. This will serve as a universal record and proof of the student's training for any other school/association and applying for higher Rating
- 3.6 Schools to maintain and submit a copy of a training record for each student, which can be linked to membership number.
- 3.7 The training record will include copies of Logbook, task sheet for the level, training completion record for each student duly signed by CFI

### Rating Fees and charges

Fee Structure for Rating Cards					
Level	Rating card fee	1st Assessment fee**	Renewal Fee	Reassessment fee**	Membership Req
L1 - STUDENT	200		200		PAI AS*
L2 - NOVICE	200		500		PAI Annual
L3 - Pilot	500		500		PAI Annual
L4 - Advance Pilot	500		500		PAI Annual
L5 - Sports Tandem	1000		1000		PAI Annual

\*PAI AS membership will be issued only by schools to students at Rs 100  $\,$ 

\*\* Assessment fee to be charged by the school conducting practical / task assesment and may include number of days required to complete and corresponding charges.

PAI rating fee to be paid to PAI for all levels under all below scenarios.

As for the Assessment fee :

Scenario 1. All levels - students doing courses at schools - no assessment fee as they are paying for the course which includes assessment. If students return after a gap for reassessment then the schools charge a fee.

Scenario 2 : students coming from other schools or informal training etc schools charge a fee for 1st assessment and reassessment.

Scenario 3 :

Schools to maintain and submit a copy of a training record for each student which can be linked to membership number. The training record can include copies of Logbook, task sheet for the level, training completion record for each student duly signed by CFI.

## List of PAI Affiliated Schools

Name of School	Location	CFI	
Paragliding Mantra	Kamshet, Maharashtra	Tanaji Takve	
Indus Paragliding	Kamshet, Maharashtra	Sanjay Pendurkar	
PG Gurukul	Bir, Himachal Pradesh	Gurpreet Dhindsa	
Wings and Flight	Pune, Maharashtra	Eric Menezes	
Space Apple	Virar, Maharashtra	Samson D'silva	
Orangelife	Kamshet, Maharashtra	Vijay Soni	
Big Air Paragliding	Manali, Himachal Pradesh	Ajay Kumar Sharma	

### **Experienced Pilots Rating Scheme**

This is a one time scheme to offer a fast track pilot rating for Basic and Advanced Pilot Levels

Pilots who have been flying since a few years after completing their training and who have demonstrable specific skill sets required of the Basic or Advanced Pilots levels may apply for a Rating commensurate to their experience and training.

NOVICE Level (old P3)

Minimum Age 18 Minimum hours 15 (Log required) Minimum Number of flights : 30 (Log required) A short theory exam of 5-10 questions Equivalence : None of the above details are required If the applicant holds a P3 Rating of BHPA, FFVL, SHA, USHPA etc, PAI rating will be issued against the currently held rating. Acceptability of the rating will be subject to Technical Committee's approval.

PILOT Level (Old P4)

Minimum Age : 18 Years Minimum hours 60 (Log required) Minimum Number of flights : 60 (Log required) A short theory exam of 5-10 questions Equivalence : None of the above details are required If the applicant holds a P4 Rating of BHPA, FFVL, SHA, USHPA etc, PAI rating will be issued against the currently held rating. Acceptability of the rating will be subject to Technical Committee's approval.

Advanced Pilot Level (Old P5)

SIV (Proof of successful completion required) SIV done in India with Gurpreet Dhindsa, Debu Chowdhury and Tanaji Takve will be accepted any other will need to be verified for validity. SIV done with well known International instructors like Jocky Sanderson will be accepted any other instructor will need to be verified for validity Minimum bours 200 (Log required)

Minimum hours 200 (Log required)

Minimum Number of flights : 120 (Log required)

Thermalling or XC courses attended if any

3-5 XC flights from 3 different sites.

Qualifying XC distances : Bir – 50 km, Panchgani - 30km, Vagamon – 20 km (xc flights done at other sites will be evaluated on a case to case basis.

A short theory exam of 5-10 questions

Equivalence : None of the above details are required If the applicant holds a P5 Rating of BHPA, FFVL, SHA, USHPA etc, PAI rating will be issued against the currently held rating. Acceptability of the rating will be subject to Technical Committee's approval.

### Procedure :

Pilots apply directly to PAI using the digital form Submit proof of flying hours should be signed or vouched for by one of our CFIs Submit digital track for XC flights Submit a certificate or an email confirmation from SIV Instructor Two CFI signoff for the skill level for P5 and above

Will need to clear a short Theory test online or Offline in the presence of a CFI. This can be waived if a theory exam of the same level has been cleared by the applicant not more than 24 months

Equivalence : If a pilot holding any other well known Rating wants to get the PAI rating, then an equivalent PAI rating will be issued just on the basis of the proof of Rating submitted provided the rating held is valid at the time of application.

Levels	ΡΑΙ	ВНРА	USHPA	APPI
Level 1	Student – P2	Elementary	Novice	Explore
Level 2	Novice – P3	Club	Intermediate	APPI Pilot
Level 3	Pilot – P4	Pilot	Advanced	Intermediate Pilot
Level 4	Advance Pilot – P5	Advanced	Master	Advanced Pilot
	Sports Tandem Pilot	Tandem	Tandem Instructor	Non-Commercial Tandem