

Purpose of this Operating Procedure

1. The purpose of this Operating Procedure is to define the HPAC/ACVL pilot rating system and specify the requirements that pilots must meet in order to obtain specific ratings.

Description of the HPAC/ACVL Pilot Rating System

2. The HPAC/ACVL rating system consists of five levels each for hang gliding and paragliding. A pilot can hold one rating for hang gliding and one rating for paragliding.
3. The Student rating (H1/P1) is given at the introductory level of instruction and is aimed at introducing pilots early on to the HPAC/ACVL rating system and to make them aware of the Association.
4. The Master rating (H5/P5) is awarded to selected individuals who have contributed significantly to the sports of hang gliding and paragliding in Canada.

Minimum Requirements for Student through Advanced ratings

5. The tables below specify the minimum requirements that must be met by a pilot in order to obtain Student, Novice, Intermediate, Advanced ratings and specific endorsements for paragliders and for hang gliders.

Note: The HAGAR examination is administered by Transport Canada.

P1 - Paragliding Student**General Description**

A P1 Student pilot has the knowledge and basic skills necessary to fly and practice under direct instructor supervision and within significant operating limitations. The pilot understands the HPAC/ACVL paragliding rating systems and recommended operating limitations.

Logged Requirements

- Six solo flights, predetermined to show airspeed recognition and control:
 - Constant airspeed.
 - Smooth straight flight towards a pre-selected target.
 - Confident, slight variation in airspeed and direction showing awareness of control inputs and pendulum control.
 - Smoothly increasing airspeed, and smoothly slowing airspeed showing good control.
 - Safe, smooth landing, on feet, into wind.
- Must pass the HPAC/ACVL P1 Student Paragliding written exam.

Theoretical Knowledge

- Basic Aerodynamics
- Basic Meteorology
- Techniques of Flight
- Awareness of Air Regulations

Demonstrated Skills & Knowledge

- Layout and preflight of paraglider and harness.
- Demonstrate paraglider handling skills sufficient for controlled launch
- Demonstrate method(s) of establishing that pilot is properly connected to the glider, with cleared lines and risers, just prior to inflation.
- Launch unassisted showing:
 - Proper inflation and run.
 - Control during launch (pitch, roll, yaw, direction).
 - Smooth transition from running to flying.
- Show the ability to recognize and understand how different wind conditions at a site will affect their flights.
 - Wind direction.
 - Wind velocity.
 - Terrain shape.
 - Obstructions.
- On each flight, demonstrate proper post-landing procedure, to include, but not limited to:
 - Paraglider deflation, immobilization & disconnection
 - Landing Zone (LZ) protocol.
 - Demonstrate proper packing, storage, and care of the paraglider.
- Must agree to all the provisions of the HPAC/ACVL standard waiver and assumption of risk agreement for the P1 Student rating and deliver an original signed copy to the HPAC/ACVL office.

P1 - Paragliding Student**Safety & Risk Management**

- Human Factors
 - Concept of pilot-in-command / transfer of responsibility
- Environment
- Equipment
 - Radio use
 - Pre-flight
- Emergency Procedures
- Accident Reports / Accident Reporting
 - Definitions
 - Forms
 - Responsibilities
 - HPAC/ACVL website reports info

Operating Limitations for P1 Student Pilots:

- Once the P1 Student rating is attained, all flights and ground handling sessions must be at sites and within conditions defined by the instructor using instructor-approved equipment.

P2 - Paragliding Novice

Novice rated pilots have the knowledge and basic skills necessary to fly and practice without direct instructor supervision. The pilot understands the HPAC/ACVL rating system and recommended operating limitations. Pilots must demonstrate Student level skills and knowledge before obtaining the Novice rating. All witnessed flights must be pre-planned by the pilot and discussed with the Instructor/Apprentice Instructor

Prerequisites

- P1 Student Rating.

Logged Requirements

- HPAC/ACVL Instructor Recommendation.
- Pass HPAC/ACVL P2 Written Exam
- 25 solo flights
- Must have at least one Endorsement/Sign-off(s).
 - Thermal
 - Coastal soaring
 - Towing
 - SIV
 - Hike and Fly

Theoretical Knowledge

- Aerodynamics:
 - Air flow
 - Profile design / glider construction
 - Lift and drag
 - Stall
 - Performance
 - Glider stability
 - Wing loading
- Techniques of Flight:
 - Axis of movement (pitch, roll, yaw)
 - Launch techniques
 - Speeds (ground, air, wind)
 - Turns
 - Speed control
 - Landing approaches
- Meteorology:
 - Wind
 - Temperature
 - Clouds
 - Weather forecasting
 - Air mass & systems
 - Humidity / density / pressure
 - Venturi
 - Turbulence:
 - Mechanical
 - Thermic
 - Wake

- Air Regulations

- Transport Canada / HPAC/ACVL
- Cloud flying
- VFR
- Airspace classifications (TP6010)
- Rules of the ridge
- Right of way
- Radios

Demonstrated Skills & Knowledge

- Demonstrate consistent ability to achieve

- Aircraft landing approaches.
- S-turn
- Figure eight landing approaches
- Accurate, planned & controlled landings

- Demonstrate layout and pre-flight of the canopy, harness, and backup reserve parachute.
- Give a reliable analysis of general conditions of the site and self, and a flight plan including flight path, areas to avoid in relation to the wind flow, and obstacles to stay clear of.
- Demonstrate consistent ability to achieve consecutive forward and reverse inflations with a visual check and surge dampening of the canopy each time.
- Demonstrate controlled kiting
- Demonstrate consistent and reliable pre-flight checks
- Demonstrate consistent and reliable launching in various wind conditions
- Demonstrate how to brief and instruct a ground crew in assisted launch techniques and explain when an assisted launch is necessary.
- Demonstrate flight with smooth variation in airspeed, from minimum sink to fast flight, while maintaining a heading.
- Demonstrate controlled turns in both directions, and at various speeds and bank angles.
- Demonstrate one-handed flying skills, weight-shift turns, and rear-riser turns.
- Demonstrate big-ear technique for increased descent rate.
- Demonstrate the ability to judge and allow for proper clearance from a ridge and other aircrafts
- Demonstrate or explain proper strong wind landing procedures and how to keep from being dragged back.
- Demonstrate or explain how to lengthen and shorten the flight path.
- Demonstrate right-of-way traffic rules.
- Demonstrate the proper use of a speedbar/accelerating system.
- Demonstrate reserve deployment while hanging in a harness in a simulated environment

Safety & Risk Management

- Human Factors:

- Physical:
 - Hypoxia
 - Hypothermia
 - Vertigo
- Psychological factors:
 - Alcohol
 - Medication
 - Drugs
 - Peer pressure
 - Stress
 - Ego

P2 - Paragliding Novice

- Environment
 - Turbulence
 - Weather forecasting
 - Site analysis
- Equipment
 - Pre-flight
 - Maintenance
 - Gear selection
- Emergency Procedures
 - Rapid descent techniques
 - Water landing
 - Tree landing
 - Powerline
 - Reserve deployment
 - Stall/spin/incident avoidance and recovery
- Accident reports / Accident reporting
 - Definitions
 - Forms
 - Responsibilities
 - HPAC/ACVL website reports info

Recommended Operating Limitations for P2 Novice Pilots

- Should not fly in thermal lift exceeding your ability to maintain control
- Keep landing zone within a safe glide
- Avoid advanced maneuvers such as spirals, wing-overs, stalls without guidance of a certified instructor
- Fly a glider recommended by the manufacturer as suitable for beginner or Intermediate pilots.
- Avoid flying in wind speed that exceeds $\frac{2}{3}$ of your glider's trim speed

P3 - Paragliding Intermediate

General Description

Intermediate pilots have the knowledge and skills to fly most sites in mild to moderate soaring conditions, and to judge when the site and conditions are within the pilot's skill, knowledge, and experience level. The Intermediate pilot understands the HPAC/ACVL paragliding rating system and recommended operating limitations, and the CARs (Canadian Aviation Regulations) and other flying rules applicable to their flying (ridge rules, thermal right of way, CAR 602.29, airspace regulations, etc.). The pilot shall use good judgment and have a level of maturity commensurate with the rating.

Prerequisites

- P2 Novice rating
- Must have attained both the Coastal/Ridge Endorsement and the Thermal Soaring Endorsement.
- Pass the Transport Canada HAGAR exam.

Logged Requirements

- Pass the HPAC/ACVL P3 Written Exam
- 30 flying days.
- 90 solo flights.
- 60 hours of logged airtime.

Demonstrated Skills and Knowledge

- Has received training in and/or understands the importance and significance of:
 - Right of way rules.
 - Transport Canada Regulations and aircraft sectional charts
 - Airspeed control, stalls, spins, and turbulence-induced collapses and recoveries.
 - Canopy owner's manual.
 - HPAC/ACVL Accident Report current results.
 - First aid (highly recommended).
- Can give verbal analysis of conditions on the hill, demonstrating knowledge of wind shadows, gradients, lift, sink, laminar air, turbulence and rotors, and the effect these items have on an intended flight path and turns.
- Must give a verbal flight plan for each observed flight.
- Must show thorough pre-flight of the harness, canopy, and backup reserve parachute.
- With each flight, Demonstrate a method of establishing that the pilot is properly connected to the glider, with cleared lines and risers just prior to launch.
- All inflations/launches should be aggressive, confident, and with a smooth transition from running to flying. Flights with slow, unstable inflations/launches will not be considered adequate for witnessed tasks.
- For witnessed tasks, all landings must be safe, smooth, on the feet, and in control.
- Demonstrate the ability to differentiate airspeed from ground speed from wind speed.
- Demonstrate linked 180° turns along a predetermined ground track showing smooth controlled reversals and proper coordination at various speeds and bank angles.
- Demonstrate 360° turns in both directions, and at various speeds and bank angles.

P3 - Paragliding Intermediate

- Demonstrate symmetric and asymmetric tip folds (25% per side, 50% total) or some other method of canopy reduction for increased descent rate.
- Demonstrate one method to increase forward speed.
- Demonstrate proper surge control of canopy using properly timed brake application.
- Give a thorough verbal description how to maintain directional control during and correct a 50% asymmetric wing collapse.
- Give a thorough explanation of:
 - Why flying a paraglider with one or both control toggles significantly extended should be avoided unless flaring for a landing.
 - The signs that the paraglider has entered a stalled configuration (one or both sides).
- In 5-15 mph (8-24 km/h) winds, demonstrate the ability to maintain airspeed at or near minimum sink during crosswind and upwind legs, without any evidence of stalls.
- Demonstrate five landings within 10 feet (3 m) of a target after flights requiring turns on approach.
- Demonstrate proper airspeed control on landing approach when descending through a gradient.
- Demonstrate proper airspeed for maximum distance flown into a significant headwind.
- Acknowledge and understand the need to become familiar with site-specific restrictions and launch or landing access limits, consistent with preservation of flying privileges at a site.

Recommended Operating Limitations for P3 Intermediate Pilots

- Maximum base wind of 16 mph (25 km/h).
- Maximum peak gusts to 19 mph (30 km/h).
- Maximum gust rate of 5 mph (8 km/h) in five seconds.
- Avoid steep turns close to the ground.
- Avoid application of either brake beyond 3/4 of the way from full off to stall position.
- Limit turns to bank angles recommended by the manufacturer, limit speed in turns to 2 times the straight line, brakes off, cruise speed, and smoothly exit any spiral turn that shows a tendency to steepen or accelerate.
- Should initiate downwind turns only with 300 feet (100 m) of clearance outward from the hill or ridge in winds above 15 mph (24 km/h), and 250 feet (75 m) of clearance in winds above 9 mph (15 km/h).
- Should not fly in thermals where peak climb rates exceed 800 fpm (4 m/s) or where significant vertical cloud development exists.
- Upon mastering the above skills, an Intermediate Paragliding Pilot should pursue new maneuvers, sites, and conditions with the guidance of a HPAC/ACVL Certified Advanced Paragliding Instructor or Observer

P4 - Paragliding Advanced

Advanced pilots have the knowledge and skills to fly technically demanding sites in strong soaring conditions, and to judge when the site and conditions are within the pilot's skill, knowledge, and experience level. The advanced pilot understands the HPAC/ACVL paragliding rating system and recommended operating limitations, and the CARs (Canadian Aviation Regulations) and other flying rules applicable to their flying. Knowledge of First Aid is highly recommended. The pilot will fly using good judgment and have a level of maturity commensurate with the rating.

Prerequisites

- P3 Intermediate rating
- All three of the following endorsements:
 - Coastal/Ridge
 - Thermal Soaring
 - SIV ("Simulation d'Incident en Vol", Simulation of Incidents in Flight).
- Pass the Transport Canada HAGAR exam.

Logged Requirements

- Pass the HPAC/ACVL P4 Written Exam
- 250 solo flights.
- Five flights at each of five different sites in Intermediate level conditions, of which three were inland.
- 80 flying days.
- Three 1-hour flights in thermal lift without sustaining ridge lift. Flights must originate from at least two different sites in Intermediate level conditions.
- Must have logged at least one 1-hour flight in ridge lift without sustaining thermal lift.
- Must have logged a minimum of 120 hours total solo airtime. Of these 120 hours, 60 must be in thermal lift.
- Must have flown a minimum of five different models of paragliders
- Must have achieved the Coastal/Ridge Endorsement and the Thermal Endorsement.

Demonstrated Skills and Knowledge

- Demonstrate preflight of the harness, canopy, and reserve parachute.
- Can give a verbal analysis of conditions.
- Can develop then follow a flight plan.
- With each flight, demonstrate a method of establishing that the pilot is properly connected to the glider, with cleared lines and risers just prior to launch.
- All inflations/launches should be aggressive, confident, and with a smooth transition from running to flying. Flights with slow, unstable inflations/launches will not be considered adequate as witnessed tasks.
- All landings must be safe, smooth, on the feet and in control.
- Demonstrate ability to allow clearance when doing 360° turns by demonstrating figure eights:
 - In a wind sufficient to cause drift, two points will be selected on a line perpendicular to the wind.
 - The pilot will fly along a line parallel to that joining the pylons, slightly downwind of the pylons, toward a point midway between them. During the crosswind leg, the pilot will establish the degree of wind drift. At the midpoint between the pylons, the pilot will make a smooth, deliberate upwind turn and enter a figure eight course consisting of smooth turns of constant ground track radius around the pylons (centered on the pylons) with straight segments at the midpoint between the pylons.
 - The pilot must complete two consecutive figure eights in which the airspeed, bank angle, and turn rate are altered smoothly around the course such that the proper ground track is held and the drift is compensated for, without overcompensation or hesitation.
- Demonstrate three consecutive landings within 10 feet (3 m) of a target after a flight which requires turns on approach. In smooth conditions, the spot location should be changed by the Observer, for each of the three flights. Flights should be a minimum of one minute and 200 feet (60 m) AGL.
- Demonstrate smooth coordinated 360° turns in both directions, with reversal at various speeds and bank angles appropriate to the rating level.
- Pass the HPAC/ACVL Advanced Paragliding (P4) written exam.
- The Instructor or Observer must be confident that the pilot can check in and fly Advanced rated sites without endangering spectators, other pilots, or jeopardizing the site.

Paragliding Endorsements	
TS (Thermal Soaring)	The Thermal Soaring Endorsement signifies that the pilot understands the special conditions and has demonstrated the flying skills required to fly safely in moderate to strong thermal conditions (400-1200 fpm, 2-6 m/s) • Demonstrate controlled, calm and confident flight in conditions requiring quick, deliberate, substantial, and correct control application to reduce pendulum motion. • Demonstrate the ability to launch unassisted with strong, running forward-inflation launches in winds less than 3 mph (5 km/h). • Demonstrate proper directional control and correction of full (i.e., 50% of the wing span) asymmetric collapses. • Demonstrate sustained flight in moderate thermal conditions without the aid of ridge lift. • Demonstrate smooth and correctly timed surge control. Must have logged five 30-minute thermal flights without sustaining ridge lift. • Demonstrate understanding of high altitude conditions (e.g., air density, cloud suck, anabatic and katabatic conditions, hypoxia, hypothermia). Recommended Operating Limitations for Thermal Soaring Conditions • Maximum base wind of 9 mph (15 km/h). • Wind velocity gust variation of ± 4 mph (± 6 km/h) (up or down). • Maximum crosswind in a launch window of 15 degrees.
CR (Coastal / Ridge Flying)	The Coastal or Ridge Soaring Endorsement signifies that the pilot understands the special conditions and has demonstrated the flying skills required to fly safely in the strong laminar wind flow found on ridge and coastal sites which in turn makes soaring possible. • Demonstrate two high-wind (12-16 mph, 20-25 km/h) inflations/launches. • Demonstrate symmetric and asymmetric tip folds for increased descent rate. • Demonstrate the ability to judge and allow for proper clearance from ridge obstacles and aircraft. • Demonstrate a consistent ability to top land in 12-16 mph (20-25 km/h) laminar flow wind and be able to identify the different approaches needed for landing in those wind speeds. • Understand and explain the causes, variations and problems associated with Venturi. • Understand and explain the causes, variations and problems associated with Wind gradient. • Understand and explain the signs indicating change in wind speed and direction that may be observed during flight. • Demonstrate how to brief and instruct a ground crew in assisted launch techniques and explain when an assisted launch is necessary. • Explain proper strong wind landing procedures and how to keep from being dragged back, as well as various strong wind glider disabling techniques. • Demonstrate the effective use of the acceleration/speed system. Recommended Operating Limitations for Ridge and Coastal Soaring Paragliding Pilots • Maximum base wind of 19 mph (30 km/h) • Maximum peak gusts to 22 mph (35 km/h)

Paragliding Endorsements	
T (Towing)	• Must participate in a structured ground school and instructional course whose focus is the theory and practical demonstration of the skills, techniques, methods and communication skills needed in towing • Understand and discuss towing pressure. • Demonstrate consistent ability to inflate and launch in no wind from the forward inflation position • Demonstrate consistent ability to inflate and launch in winds up to 12 mph (20 km/h) from the reverse inflation position. • Demonstrate an ability to communicate both with hand or leg signals and by radio. • Understand the term "lock out" and describe how to avoid it. • Demonstrate consistent skill in staying "on line" during tow. • Demonstrate consistent skill in staying "on line" during crosswind conditions of up to 30°. • Understand and communicate with the instructor the skills and procedure necessary to safely exit a low level line break. • Understand and communicate with the instructor the procedure to take should the towline fail to release or become entangled with the pilot upon release. • Understand and explain the mechanism for stalling a wing that is specific to towing, such as high cable tension, or excessive brake tension.
SIV "Simulation d'Incident en Vol", Simulation of Incidents in Flight	A pilot wanting the SIV Endorsement must present to the rating HPAC/ACVL Instructor signed proof by an SIV Instructor, of their successful completion of a SIV course consisting of the following basic criteria: • Big ears • Spiral descent ability • Recovery from induced asymmetrical collapse • Recovery from induced frontal collapse • Recovery from induced spin • Recovery from induced stall <i>Note: The SIV Endorsement is <u>not</u> an aerobatics Endorsement.</i>
HF (Hike and Fly)	• Demonstrate ability to plan launch location, flight plan, and landing options from maps and aerial photographs, as well as other sources of information • Demonstrate an increased ability to assess weather conditions in advance and understand the limitations thereof • Demonstrate an increased ability to assess launch safety and develop plans to mitigate launch hazards, including understanding when to postpone or abandon flight plans • Demonstrate an increased ability to launch, including both forward and reverse launch techniques, and to safety check wing prior to committing, and abort launches in a confined space. • Demonstrate a consistent ability to assess launch suitability for given weather conditions and flight plan • Understand the types of flight plan hazards such as airspace and other restrictions, and demonstrate the ability to identify and plan for these hazards • Understand how to assess a flight plan, explanation of how to assess glide slope, and explain methods to mitigate hazards presented in flight • Explain how to assess emergency landing options from flight and how to maximize landing safety to these options • Understand the increased skill requirements of pioneering sites • Understand equipment required for wilderness travel, leave no trace guidelines, and development of emergency and safety plans • Have completed 25 additional alpine flights Instructors should use the Hike and Fly Questionnaire to assess the above requirements.

H1 – Hang Gliding Student

A Student pilot has the knowledge and basic skills necessary to fly and practice within significant operating limitations. The pilot understands the HPAC/ACVL hang gliding rating system and recommended operating limitations. The pilot shall use good judgment and have a level of maturity commensurate with the rating.

Logged Requirements

- Six solo flights showing
 - Constant airspeed
 - Smooth, straight-forward flight to predetermined target
 - Confident, slight variation in airspeed and direction showing awareness of control inputs.
 - Smoothly increasing airspeed, and smoothly slowing airspeed showing good control.
 - Safe, smooth landing, into wind.
- Pass the HPAC/ACVL H1 Student hang gliding written exam.

Theoretical Knowledge

- Basic Aerodynamics
- Basic Meteorology
- Wind direction.
- Wind velocity.
- Terrain shape.
- Obstructions.
- Techniques of Flight
- Awareness of Air Regulations (that HAGAR exists)

Demonstrated Skills and Knowledge

- Ground Handling
 - Hang check (CPC)
 - Post landing:
 - Hang glider control appropriate for wind conditions.
 - Unhooking prior to ground handling in moderate winds.
 - Checking traffic.
 - Removal of hang glider from landing area.
- Training Flights
 - Proper pitch control at launch
 - Level wings and directional control
 - Smooth transition to flight

Safety & Risk Management

- Human Factors
- Concept of pilot-in-command / transfer of responsibility
- Environment
- Equipment
 - radio use
 - pre-flight
 - post-flight (packing, transport, storage, glider care)
- Emergency Procedures

H1 – Hang Gliding Student**Operating Limitations H1 Student Pilots:**

Once the H1 Student rating is issued by HPAC/ACVL the H1 - Student Pilot must:

- Fly a hang glider recommended by the manufacturer as suitable for Beginner pilots.
- Fly a hang glider equipped with wheels on the basetube.
- Conduct their flights and ground handling sessions at sites and within conditions defined by the instructor using instructor-approved equipment.

H2 – Hang Gliding Novice

Novice pilots have the knowledge and basic skills necessary to fly and practice without direct instructor supervision within operating limitations. The pilot understands the HPAC/ACVL rating system and recommended operating limitations.

Pilots must demonstrate Student level skills and knowledge before obtaining the Novice rating. All witnessed flights must be pre-planned by the pilot and discussed with the Instructor/Apprentice Instructor

Prerequisites

- H1 Student rating

Logged Requirements

- HPAC/ACVL Instructor Recommendation.
- Must have at least one endorsement/sign-off(s):
 - Thermal soaring
 - Coastal/ridge soaring
 - Aero towing
 - Ground based towing
- Training Flights
 - Two hours solo airtime
 - 75 supervised solo flights including 10 at height greater than 500' (150m)
- Pass HPAC/ACVL H2 Written Exam

Theoretical Knowledge

- Aerodynamics
 - Air flow
 - Profile design / glider construction
 - Lift and drag
 - Stall
 - Performance
 - Glider stability
 - Wing loading
- Techniques of Flight
 - Axis of movement (pitch, roll, yaw)
 - Launch techniques
 - Speeds (ground, air, wind)
 - Turns
 - Speed control
 - Landing approaches
- Meteorology
 - Wind
 - Temperature
 - Clouds
 - Weather forecasting
 - Air mass & systems
 - Humidity / density / pressure
 - Venturi
 - Turbulence:
 - Mechanical
 - Thermic
 - Wake

H2 – Hang Gliding Novice

Demonstrated Skills and Knowledge

- Ground Handling
- Five landings within 100 feet (30 m) of a target; safe, smooth and into the wind. The target must be sufficiently distant from launch such that turns are required to set up an approach and avoid over-flying the target.

Air Regulations

- Transport Canada / HPAC/ACVL
- Cloud flying
- VFR
- Airspace classifications (TP6010)
- Rules of the ridge
- Right of way
- Radios

Safety & Risk Management

- Human Factors
 - Physical
 - Hypoxia
 - Hypothermia
 - Vertigo
 - Psychological factors
 - Alcohol
 - Medication
 - Drugs
 - Peer pressure
 - Stress
 - Ego
- Environment
 - Turbulence
 - Weather forecasting
 - Site analysis
- Equipment
 - Pre-flight
 - Critical Pre-launch Checklist (CPC)
 - Maintenance
 - Gear selection
- Emergency Procedures
 - Rapid descent techniques
 - Water landing
 - Tree landing
 - Powerline
 - Reserve deployment
 - Stall/spin/incident avoidance and recovery

Recommended Operating Limitations

- Should not fly in thermal lift exceeding your ability to maintain control
- Keep landing zone within a safe glide
- Avoid advanced maneuvers such as spiral dives, wing-overs, full stalls without guidance of a certified instructor
- Fly a glider recommended by the manufacturer as suitable for Beginner or Intermediate pilots.
- Avoid flying in wind speed that exceeds $\frac{2}{3}$ of your glider's trim speed

H3 – Hang Gliding Intermediate

The pilot has the knowledge and skills to fly most sites in mild to moderate soaring conditions, and to judge when the site and conditions are within the pilot's skill, knowledge, and experience level. The pilot understands the HPAC/ACVL hang gliding rating system and recommended operating limitations, and the CARs (Canadian Aviation Regulations) and other flying rules applicable to their flying (ridge rules, thermal right-of-way, CAR 602.29, airspace regulations, etc.). The pilot shall use good judgment and have a level of maturity commensurate with the rating.

Prerequisite

- H2 Novice hang gliding rating.

Logged Requirements

- Pass the HPAC/ACVL Intermediate (H3) written exam.
- Pass the Transport Canada HAGAR exam.
- 10 hours solo airtime, five hours in the past year.
- 150 solo flights.
- 30 flying days.
- 10 inland thermal soaring flights.
- Flights at five different sites.

Demonstrated Skills and Knowledge

- Has received training in and/or understands the importance and significance of:
 - Right of way rules.
 - Transport Canada Regulations and aircraft sectional charts
 - Airspeed control, stalls, spins, and turbulence-induced pitch and roll forces and recoveries.
 - The hang glider owner's manual.
 - Current results of HPAC/ACVL Accident Report.
 - First aid (highly recommended).
- Give verbal analysis of conditions on the hill, demonstrating knowledge of wind shadows, gradients, lift, sink, laminar air, turbulence and rotors, and the effect these items have on an intended flight path and turns.
- Give a verbal flight plan for each observed flight.
- Show thorough pre-flight of the harness, glider, and backup reserve parachute.
- With each flight, confirm that the pilot is properly connected to the glider just prior to launch, i.e. hang check.
- Demonstrate aggressive and confident launches with a smooth transition from running to flying. Flights with slow, unstable launches will not be considered adequate for witnessed tasks.
- Demonstrate consistently safe landings on the feet and in control.
- Demonstrate the ability to differentiate airspeed from ground speed from wind speed.
- Demonstrate linked 180° turns along a predetermined ground track, showing smooth controlled reversals and proper coordination at various speeds and bank angles.
- Demonstrate 360° turns in both directions, and at various speeds and bank angles.
- Verbalizes why whip stalls are dangerous.
- Give a thorough verbal description of spins and spin recovery.
- Give a thorough explanation of the consequences of flying at minimum sink in turbulent or strong wind conditions.
- Demonstrate five landings within 50 feet (15 m) of a target after flights requiring turns on approach.
- Demonstrate proper airspeed control on landing approach when descending through a gradient.
- Demonstrate proper airspeed for maximum distance flown into a significant headwind.
- Acknowledge and understand the need to become familiar with site-specific restrictions and launch or landing access limits, consistent with preservation of flying privileges at a site.

H3 – Hang Gliding Intermediate**Recommended Operating Limitations for Intermediate (H3) Pilot**

- Maximum base wind of 16 mph (25 km/h).
- Maximum peak gusts to 19 mph (30 km/h).
- Maximum gust rate of 6 mph (10 km/h) in 10 seconds.
- Avoid steep turns close to the ground.
- Do not fly beyond the limitations stated by the manufacturer for that wing.
- Initiates downwind turns only with 300 feet (100 m) of clearance outward from the hill or ridge in winds above 12 mph (20 km/h), and 250 feet (75 m) of clearance in winds above 9 mph (15 km/h).
- Do not fly in thermals where peak climb rates exceed 800 fpm (4 m/s) or where significant vertical cloud development exists.
- Upon mastering the above skills, an Intermediate pilot should pursue new maneuvers, sites, and conditions with the guidance of a HPAC/ACVL Certified Advanced hang gliding instructor or observer.

H4 – Hang Gliding Advanced

Advanced pilots have the knowledge and skills to fly technically demanding sites in strong soaring conditions, and to judge when the site and conditions are within the pilot's skill, knowledge, and experience level. The advanced pilot understands the HPAC/ACVL hang gliding rating system and recommended operating limitations, and the CARs (Canadian Aviation Regulations) and other flying rules applicable to their flying. Knowledge of First Aid is highly recommended. The pilot will fly using good judgment and have a level of maturity commensurate with the rating.

Prerequisite

- H3 Intermediate rating
- Pass HAGAR exam

Logged Requirements

- Pass the HPAC/ACVL Advanced (H4) written exam.
- Pass the Transport Canada HAGAR exam.
- 75 hours solo airtime.
- 250 solo flights.
- Actively flying hang gliders for more than three years.
- 25 mile (40 km) cross country flight.
- Five flights at each of five different sites in Intermediate level conditions, of which three were inland.
- 80 flying days.
- At least three 1-hour flights in thermal lift without sustaining ridge lift. Flights must originate from at least two different sites in Intermediate level conditions.
- At least one 1-hour flight in ridge lift without sustaining thermal lift.
- Flown a minimum of five different models or sizes of hang gliders.

Demonstrated Skills and Knowledge

- Demonstrate preflight of the harness, wing, and reserve parachute.
- With each flight, Demonstrate a method of establishing that the pilot is properly connected to the glider, ie. hang check just prior to launch.
- Demonstrate aggressive and confident launches, with a smooth transition from running to flying.
- Demonstrate safe & smooth landings on the feet and in control.
- Demonstrate ability to allow clearance when doing 360° turns by demonstrating figure eights:
 - In a wind sufficient to cause drift, two points will be selected on a line perpendicular to the wind.
 - The pilot will fly along a line parallel to that joining the pylons, slightly downwind of the pylons, toward a point midway between them. During the crosswind leg, the pilot will establish the degree of wind drift. At the midpoint between the pylons, the pilot will make a smooth, deliberate upwind turn and enter a figure eight course consisting of smooth turns of constant ground track radius around the pylons (centered on the pylons) with straight segments at the midpoint between the pylons.
 - The pilot must complete two consecutive figure eights in which the airspeed, bank angle, and turn rate are altered smoothly around the course such that the proper ground track is held and the drift is compensated for, without overcompensation or hesitation.
- Demonstrate three consecutive landings within 10 feet (3 m) of a target after a flight which requires turns on approach. In smooth conditions, the spot location should be changed by the Observer, for each of the three flights. Flights should be a minimum of one minute and 200 feet (60 m) AGL.
- Demonstrate smooth coordinated 360° turns in both directions, with reversal at various speeds and bank angles appropriate to the rating level.
- The instructor or observer must be confident that the pilot can check in and fly Advanced rated sites without endangering spectators, other pilots, or jeopardizing the site.

Hang Gliding Endorsements	
TS (Thermal Soaring)	The Thermal Soaring Endorsement signifies that the pilot understands the special conditions and has demonstrated the flying skills required to fly safely in moderate to strong thermal conditions (400-1200 fpm, 2-6 m/s) • Demonstrate controlled, calm and confident flight in conditions requiring quick, deliberate, substantial, and correct control application. • Demonstrate the ability to launch unassisted with strong consistent launches in winds less than 3 mph (5 km/h). • Demonstrate proper directional control and correction in turbulent conditions. • Demonstrate sustained flight in moderate thermal conditions without the aid of ridge lift. • Demonstrate smooth and correctly timed speed control in turbulent conditions. No stall. • Logs five 30-minute thermal flights without sustaining ridge lift. • Demonstrate understanding of high altitude conditions (e.g., air density, cloud suck, anabatic and katabatic conditions, hypoxia, hypothermia). • Demonstrate consistent safe landings in thermic conditions with zero damage to person or glider.
CR (Coastal / Ridge flying)	The Coastal or Ridge Soaring Endorsement signifies that the pilot understands the special conditions and has demonstrated the flying skills required to fly safely in the strong laminar wind flow found on ridge and coastal sites which in turn makes soaring possible. • Demonstrate two high-wind (9-19 mph, 15-30 km/h) launches. • Demonstrate the ability to judge and allow for proper clearance from ridge obstacles and aircraft. • Demonstrate a consistent ability to top land in 12-19 mph (20-30 km/h) laminar flow wind and be able to identify the different approaches needed in landing in those wind speeds. • Understand and explain the causes, variations and problems associated with venturi. • Understand and explain the causes, variations and problems associated with wind gradient. • Demonstrate how to brief and instruct a ground crew in assisted launch techniques and explain when an assisted launch is necessary. • Explain proper strong wind landing procedures and how to keep from being turned down wind, as well as various strong wind glider unhooking technique.
GT (Ground-based Towing)	Ground-Based Towing is defined as any method of towing where the mechanism providing the towing force remains on the ground. • Participates in an instructional course whose focus is the theory and practical demonstration of the skills, techniques, methods, equipment and communication skills needed for the type of towing being practiced, i.e. foot launch, cart, wheel, or vehicle. • Understand and discuss towing pressure. • Demonstrate consistent ability to launch in no wind with the method for which the pilot has received instruction, ie foot launch, cart, wheel, or vehicle. • Demonstrate an ability to communicate both with hand or leg signals and by radio. • Understand the term "lock out" and describe how to avoid it. • Demonstrate consistent skill in staying "on line" during tow. • Demonstrate consistent skill in staying "on line" during a cross wind conditions of up to 30° • Understand and communicate with the instructor the skills and procedure necessary to safely exit a low level line break. • Understand and communicate with the instructor the procedure to take should the tow line fail to release or become entangled with the pilot upon release.

Hang Gliding Endorsements	
AT (Aerotowing)	Aerotowing is defined as any method of towing where the mechanism providing the towing force is an aircraft. • Participates in an instructional course whose focus is the theory and practical demonstration of the skills, techniques, methods, equipment and communication skills required for aero towing. • Understand and discuss towing pressure. • Demonstrate consistent ability to launch in no wind with the method for which the pilot has received instruction, ie foot launch, cart, wheel. • Demonstrate an ability to communicate both with hand or leg signals and by radio. • Understand the term "lock out" and describe how to avoid it. • Demonstrate consistent skill in staying "on line" during tow. • Demonstrate consistent skill in staying "on line" during a turn by the tow plane. • Understand and communicate with the instructor the skills and procedure necessary to safely exit a low level line break. • Understand and communicate with the instructor the procedure to take should the tow line fail to release or become entangled with the pilot upon release.

Application for Student (H1/P1) to Advanced (H4/P4) Rating

6. Certified instructors are responsible to forward rating applications to the HPAC/ACVL Office within 30 days of the completion of requirements for a rating by a pilot. Ratings are not valid until received, validated and recorded by the office.
7. Pilots must email a copy of the letter they receive from Transport Canada confirming they have passed the HAGAR exam before ratings requiring the HAGAR exam can be recorded at the Office.
8. Rating application forms are available on the HPAC/ACVL website.

Requirement for Master Rating

9. The HPAC/ACVL BoD will award all Master pilot ratings.
10. Pilots seeking a Master Rating can apply in writing to the President. In the application, the candidate must describe their accomplishments and contributions to the sport of hang gliding and paragliding. Alternatively, an HPAC/ACVL member can submit a nomination on behalf of a pilot.
11. An applicant for a Master's rating must have an advanced rating and 250 hours of flight time in the activity for which the rating is sought. Upon reception of an application for a Master's rating, the BoD will rate the applicant's accomplishments against the criteria below. A score of 25 points is required to qualify a pilot for a Master's rating.

Accomplishment	Point Value
Service on the Executive, Board of Director and/or Officer level of the national association.	0-6
Service in outreach programs or committee levels of the national association. This includes HPAC/ACVL committee chairperson, representative to the FAI/CIVL or provincial or national aviation related associations.	0-4
Service on the Executive or Board of Directors of a Provincial Association	0-4

Service at the committee or officer level of any provincial association. Includes Board of Directors, secretaries, representatives to the HPAC/ACVL, committee chairpersons, representatives to provincial aviation related associations	0-2
Service at the Executive or Director level of a club or regional association	0-6
Service at the committee or officer level of any club or regional association. Includes secretaries, representatives to the provincial associations, committee chairpersons, representatives to local or provincial aviation related associations.	0-3
Responsibility for the organization of a hang gliding or paragliding competition or responsibility for direction of the meet	0-4
Responsible assistance in the operation of a hang gliding or paragliding competition. Eg: launch director, launch assistant, landing director or landing assistant, chief scorer or scoring assistant, pylon judge	0-2
Certification and record of accomplishments as an HPAC/ACVL Instructor	0-4
Editing a local, provincial or national Newsletter or Webmaster for a Web site pertaining to Hang Gliding and / or Paragliding	0-5
Canadian Correspondent for a foreign hang gliding or paragliding publication	0-2
Contribution of articles on hang gliding or paragliding for publication or for press release	0-2
Representing Canada in FAI/CIVL sanctioned competitions	0-5
Production and release of a documentary, film, television coverage or commercial advertisement on hang gliding or paragliding	0-4
Establishing an FAI approved world record in a category pertaining to hang gliding or paragliding	0-4
Other contributions worthy of consideration — Noting the total point total awarded will take into consideration the weighting of the above criteria	Open

12. Master Pilot ratings will be awarded following the receipt of an application and discussion/vote by the BoD at a monthly meeting.

13. There is no fee for an application for a Master rating.

Foreign Rating Conversion

14. Current members as well as new applicants to HPAC/ACVL who have or receive a foreign rating are required to contact an HPAC/ACVL-certified instructor to have their skills and knowledge tested to determine the equivalent HPAC/ACVL pilot rating for which they may be qualified. It is the responsibility of the instructor to administer the appropriate HPAC/ACVL exam, conduct a flight test, and submit a standard rating form to the HPAC/ACVL office with a copy of the foreign rating documentation.

Responsibilities

15. The BoD is responsible for reviewing applications for, and award, Master (H5/P5) ratings.

16. The Executive Director is responsible for reviewing applications for, and issuing, Student (H1/P1/S1) to Advanced (H4/P4/S4) ratings.