

RAAP 15

How to conduct an observed BFR for PPC, WSM pilots

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RECREATIONAL AVIATION ADVISORY PUBLICATION—RAAP 15

HOW TO CONDUCT AN OBSERVED BFR FOR PPC, WSM PILOTS

Guidance on conduct of an observed Biennial Flight Review (BFR) for Weightshift Microlight (WSM) or Powered Parachute (PPC) aircraft when conducted by Group A or B RAAus Examiner.

The information below is intended to provide guidance to Group A or B RAAus Senior Instructors (SI) and higher approval holders (known as the RAAus Examiner) when requested to conduct observed BFRs for Group B Weight Shift Microlights (WSM, also known as “trikes”) or Group D Powered Parachute (PPC) operations. There are a number of unique considerations for the conduct and operation of these aircraft that a Group A (3 axis) Examiner should be aware of when completing an observed BFR. Examiners are encouraged to note the specific areas below and contact RAAus Flight Operations personnel if further advice is needed.

Over eighty percent of current RAAus flight operations are conducted in Group A aircraft. However, there are a significant number of WSM and PPC operators scattered across the country operating at airfields and private locations who also need to meet the general competency and flight review requirements for RAAus pilots.

Prior to a Group A Examiner conducting an observed BFR for a Group B or D pilot, they are required to obtain a Flight Operations approval number. Simply email ops@raaus.com.au with the candidate details and the location where the assessment is to be conducted.

All other normal compliance requirements such as candidate membership and medical status and aircraft registration are required to be confirmed by the Examiner prior to the flight commencing.

Considerations for examiners prior to the flight assessment

Information the Examiner should request of the candidate prior to requesting the Operations Approval number and conducting the observed BFR includes:

- Candidate name and member number
- Registration number of the PPC or WSM intended to be used
- Current BFR expiration date
- Confirmation of candidate meeting the medical requirements of Section 2.16 of the Flight Operations Manual
- Applicants regular flying location
- How many hours in the Group B or D aircraft the candidate has flown since last BFR
- How long ago the candidate conducted a flight in a Group B or D aircraft (confirmation of recency and currency)
- General requirements and expectations in conducting a BFR (RAAP 6)

Flight Operations Manual and legislative requirements review

The Examiner should confirm the candidates understanding of changes to RAAus Flight Operations and Technical Manuals and other legislative requirements.



The CFI may elect to use a smart phone to record the candidate conducting a preflight check, including, as relevant, parachute lay out, takeoff and flight sequences. This footage may be used for consultation with a Group D PPC CFI if a second opinion is required.

Common assessment considerations for Group B and D

- Confirm candidate references the aircraft POH or Flight Manual
- Discuss airmanship principles
- Discuss conduct of high wind landings, including how to collapse the parachute or manage the WSM wing when stronger winds prevail
- The common risk areas for Loss of Control events when operating weight shift aircraft including:
 - Pendular oscillations
- Review of recent regulatory changes and how they affect RAAus pilots
- Pilots must bring their logbook and RAAus membership information (although it is possible for the CFI to confirm membership and endorsement information along with aircraft registration using the RAAus Instructor Portal)

Specific areas relating to weightshift operations which the observing CFI should assess include:

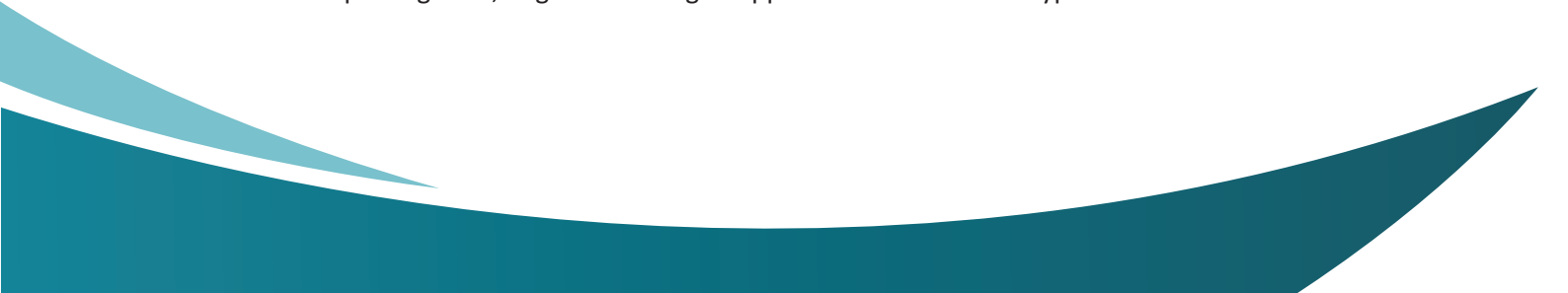
Weight Shift Microlights (WSM)

Specific unique areas for review

- The high risk areas resulting in Loss of Control (LOC) events for weight shift aircraft (wheel barrowed landings, excessive manoeuvring, spiral descents, Pilot induced Oscillations (PIO), thermal/turbulence upsets)
- Fuelling procedures including earth bonding
- Pendular oscillations
- Wing management during taxiing
- Securing of loose objects (the risks associated with pusher propellers)
- Steep turns (up to 45 degrees maximum for weight shift aircraft)
- Spiral dive LOC events in weight shift aircraft
- Pitching moments in rapid power applications (during a missed approach/go-around climb)

Pre Flight-Checks and Refuelling

The candidate should demonstrate:

- The structural integrity of the aircraft base and seating areas
 - The wing attachment hang points and backup loop integrity
 - Complete engine readiness assessment
 - Fuelling practice, including bonding and calculation of fuel for proposed flight.
 - Process of inspecting base, engine and wing as applicable to the aircraft type
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Set up aircraft ready for take-off

The candidate should ensure:

- The aircraft is readied with consideration for the prevailing conditions
- The correct hang point is used (as required) and that the mast securing points are correctly fixed
- The candidate demonstrates the conduct of a thorough visual inspection of the wing for rips and tears, stitching and bungee degradation, and degradation from UV or mildew storage, etc.
- The candidate follows a systematic process to check base, wing, engine and aircraft documents with special considerations to internal wing fixings, zips and nose covers, especially if after re-rigging the aircraft.
- The proposed take off area is clear with sufficient manoeuvring room if veering left or right if the parachute fails to inflate directly overhead
- The candidate provides an explanation of why an aborted take-off may be required and how it is to be conducted

Engine warm up

The candidate should demonstrate:

- The warm up being conducted safely away from people or property to ensure the safety of uninformed participants
- Seat belts are secured appropriately
- Clear Prop warning observed
- The base/wing is secured for run ups
- Consideration is given to appropriate prevention of fire
- Access to switches to ensure quick shut off if required

Powered Parachutes (PPC)

Specific unique areas for review

- The high risk areas resulting in Loss of Control events in weight shift aircraft. (Turbulence, LL operations, obstacle clearance, pendular oscillations, uncontrolled inflations)
- Ensuring correct canopy layout and line checks
- Low level (300') operations and managing traffic mix at aerodromes
- Noise abatement procedures
- 2 stroke engine management (as relevant)
- Fuelling procedures
- Pendular oscillations
- Parachute stalls in PPC canopies (B- Line stalls)
- A discussion regarding an appropriate passenger briefing, set up of the aircraft and rigging of the parachute for dual flight (relevant to the aircraft type)

Preparation

- Review the candidate's preparation for flight (e.g. obtaining weather under CASR 91.465 requirement)
- Managing safety – (pilot and passenger) including loose objects for pusher engine configuration operations
- Medical considerations – use of IMSAFE checklist
- Personal minimums – discuss creation of minimum weather, visibility, maximum wind, personal minimums and expected observed flight tolerances
- Helmets and clothing are suitable for operation

Pre Flight-Checks and Refuelling

The candidate should demonstrate:

- The structural integrity of the aircraft base
- The parachute or wing attachment points and line integrity
- Complete engine readiness assessment
- Fuelling practice, including bonding and calculation of fuel for proposed flight.
- Process of inspecting base, engine and wing as it relates to the aircraft

Engine warm up

The candidate should demonstrate:

- The warm up is conducted safely away from people or property to ensure the safety of uninformed participants.
- Seat belts are secured
- Clear Prop warning observed.
- The base is secured for run ups
- The canopy is laid out to ensure no possible fouling of lines by propeller
- Access to switches to ensure quick shut off if required

Set up aircraft ready for take-off

The candidate should ensure:

- The parachute is laid out with regard for the prevailing conditions
- The correct use of solo weight (if required) and that the attachment points are correct for solo flight (as appropriate to the PPC type)
- The candidate conducts a thorough visual inspection of the parachute for rips and tears, line degradation, and parachute material degradation from UV or mildew storage, etc.
- The lines are untangled, free to raise, and with particular emphasis on ensuring lines are not wrapped around the back of the shackles, that control lines are clear, lines tensioned as appropriate for aircraft type (with regard to consequences of avoiding line snags for proper deployment)

- The proposed take off area is clear with sufficient manoeuvring room if veering left or right if the parachute fails to inflate directly overhead
- The candidate provides an explanation of why an aborted take-off may be required and how it is to be conducted

Briefing on Flight Sequences

The Examiner should ensure:

- Clear information is provided to the candidate for the required flight elements and sequences to successfully complete the observed BFR
- The candidate understands the expected actions if other traffic becomes a factor
- Both the candidate and Examiner are clear on the expectations of the flight

Designated flight sequence

The candidate should be requested to successfully demonstrate:

- A solo take-off
- A low pass (missed approach) for the first circuit
- A touch and go landing for the second circuit
- A simulated engine failure for third circuit (using flare only) to a controlled full stop landing
- Any other relevant flight maneuvers required for the location of usual operations by the weight shift candidate

Assessment criteria

The Examiner should ensure the candidate:

- Understands the unique aerodynamic for type of wing and considerations
- Understands local flight procedures versus circuits including circuit exit and entry procedures if applicable to area
- Prepares the base and wing in accordance with POH or flight manual prior to flight
- Completes pre take-off checks
- Completes the flight manoeuvres within briefed parameters and expected tolerances
- Demonstrates appropriate radio calls are made (the Examiner can monitor on VHF handheld radio)
- Completes circuit procedures correctly, including recommended radio procedures as provided in CASA Advisory Circular AC 91-10 and 91-14 and the Visual Flight Rules Guide (VFRG)
- Completes pre-landing checks, as appropriate to the aircraft manufacturer requirements
- Safely lands and manoeuvres to the edge of the landing area, collapsing the wing safely and clear of the base

Debrief

Once the review is completed, the Examiner should debrief the elements of the flight review and agree on what standard was demonstrated for specific areas. If the candidate is not to a competent standard the Examiner will not complete the paperwork or make a logbook entry until required retraining is completed.

The Examiner and candidate should conduct a formal debrief and review the following items:

- In flight observations
- Plan for continuous practice- future proficiencies, creation of personal minimum expectations for flight tolerances
- Retraining plan (if required)
- Future development of candidate

Administration

If the above is completed to an appropriate standard, the Examiner should complete a logbook entry for the candidate, complete the appropriate RAAus form (BFR001) (including the Operations Approval number) and submit to RAAus.

Suggested logbook wording:

I certify that _____

Has satisfactorily completed an observed flight review in accordance with

The RAAus Flight Operations Manual Section 2.07 paragraph 29 (a) (ii)

Name _____ Examiner/Member # _____ Date _____

BFRs – not a pass or fail exercise

Whilst Examiners cannot fail a candidate during a BFR (it is not a test, there are no pass or fail criteria) the Examiner providing the BFR may decline to endorse your logbook. This may be on the basis that a flight review is not completed or not to an appropriate standard of competency for a Pilot Certificate (minimum standards).

Feedback from Examiners about common problem areas for review with weight shift operators (usually linked with lack of currency or based on the limited operations by the pilot) include:

- Flights over populous areas (CAO 95.32) CASR 91.265
- Passenger briefings
- Pre take-off safety brief –a “what if” plan
- Weather forecasts – obtaining and interpreting as defined in CASR 91.230

Enjoy the BFR, which should provide benefit from the review as well as making sure pilots remain safe flying an RAAus aircraft.

That's a WRAP!