

RAAP 6

CONDUCT OF BIENNIAL FLIGHT REVIEWS (BFR) BY INSTRUCTORS

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Regardless of when a pilot gained their RAAus Pilot Certificate, to maintain competency, skills and ensure up to date knowledge, a Biennial Flight Review (BFR) or similar is mandated by RAAus as is the case for pilots internationally.

Aside from the regulatory requirements outlined in RAAus Flight Operations Manual Section 2.07, a regular flight review provides a practical and ground based means to assess changes in competence, ensure understanding of new regulations or procedures and forms an important part of safe ongoing flight. Section 2.07 of the RAAus Flight Operations Manual notes that the review should include:

- A review of current operating procedures, radio calls and flight rules, and
- a review of those manoeuvres that, at the discretion of the RAAus **Examiner** completing the review, are necessary for the pilot to demonstrate the competence to continue to safely exercise the privileges of the RAAus Pilot Certificate (RPC)

Conduct of a flight review

Who can complete a BFR?

A BFR may be completed by a Senior Instructor, Deputy Chief Flying Instructor (DCFI) or Chief Flying Instructor (CFI) or Pilot Examiner (PE), (known as the **Examiner**). As the **Examiner**, you will require the pilot (the **candidate**) to manoeuvre the aircraft in specific exercises or flight sequences. The **Examiner** is the Pilot in Command and the flight must be logged in the **candidate** logbook as dual time.

When conducting a BFR, the **Examiner** must remember the exercise requires demonstration by the **candidate** that they maintain the skill level required to hold a RAAus Pilot Certificate. Accepting a lesser standard or taking a soft hearted approach to anything less has the potential to reduce safety for the **candidate** and cause reputational damage to the organisation. An RAAus **Examiner** is the standards bearer for the organisation and must ensure the competency of RAAus pilots remains acceptable.

Management of emergencies

Prior to the flight taking place it is critical to the safe conduct of the flight to nominate who will be pilot in command should an emergency occur. While the **Examiner** may have greater experience overall, if the BFR is being conducted in the **candidate's** aircraft, they may have greater familiarity with the aircraft systems and competence flying the aircraft.

Consideration could be given to management of the operation of the aircraft from the operation of the radio and communications with other aircraft, immediate troubleshooting emergency actions and determining appropriate emergency landing options are some of the topics which could be included.

Regardless of the specific circumstances, as for any emergency, it is easier and simpler to manage if a plan has already been discussed and can then be implemented.

Pilots are encouraged to complete a BFR with a different **Examiner** to the Instructor/s or CFI who completed their basic training or recommended the issue of the Pilot Certificate. The opportunity to learn something new from another Instructor is invaluable.

Discuss and outline the process first

Examiners are strongly recommended to set out the objective of the BFR with the **candidate** by discussion, prior to beginning the review (which could be days or more before the proposed day of the flight). This can be done by discussing flights conducted by the **candidate** in the past and proposed flights in the future to ensure the review is relevant. Elements to be covered include both ground and flight segments of the review. These elements should be

understood by the **candidate** and the **Examiner** prior to commencement of the review. The **candidate** should also identify any specific objectives or areas for review that they want to achieve during the BFR. **Examiners** may consider sending the candidate a copy of **RAAP 5 – What to expect for your BFR** prior to the review.

Each review is therefore individually tailored to meet, at the reasonable discretion of the **Examiner**, the safe operating demands of the **candidate**. The primary objective of any review should be to assess the **candidate's** competencies and ability to conduct safe flight operations. Rather than using standard guidelines or a list of manoeuvres the **candidate** should be encouraged to participate positively to ensure that they gain the maximum benefit from the review.

Is a BFR a pass/fail exercise?

A critical component of the responsibilities of an **Examiner** when conducting a BFR is their actions if the **candidate** does not demonstrate the required standard. If, during the BFR, a **candidate** does not achieve the expected standard of competency or the **Examiner** identifies remedial training is required the **Examiner** must not make an entry in the **candidate's** logbook that the BFR is complete. This is not a pass/fail issue; the requirement for a BFR is that the **candidate** must demonstrate their ability to *continue to meet the required standard for a RAAus Pilot Certificate*.

If the **candidate** does not indicate an intention to complete remedial training, attempts to pressure the **Examiner** to sign off the BFR or provides an indication they may attempt to try a BFR with another **Examiner**, the **Examiner** should contact the Head of Flight Operations (HFO) and discuss the situation. There are a number of actions the HFO can complete, all of which are intended to assist the **candidate** to achieve the required standard. **Examiners** may consider entering the flight into the **candidate** logbook and noting the areas of deficiency, to reduce the possibility of the candidate BFR shopping with other **Examiners**.

If a BFR cannot be completed, a **candidate** has a number of options to attain the required standard, provided the BFR hasn't lapsed. They can complete practice in the element or elements they were not able to demonstrate to an appropriate standard, they can complete further work with the **Examiner** or contact an Instructor to complete further training, or they can complete additional study as required.

The **important** components for successful completion of a BFR is a clear brief of the expected requirements the **Examiner** is looking for, clear communications about the ground and in-flight requirements and a clear, concise debrief of the areas of concern. We will explore these areas in more detail in the next section.

BFR minimums

A BFR should include at least 1 hour of ground review and minimum 1 hour of flight time. Perhaps in the days of less sophisticated aircraft, a simple "lap around the paddock" was acceptable, however as our aircraft become more sophisticated and our privileges increase, the expectations for a BFR must also reflect this.

RAAus expects, as a minimum, the inclusion of the following manoeuvres:

- Complete 3 landings –combining partial/full flap (if available) and clean, go-around
- Stall entry and recovery
- Practice forced landing
- Satisfactorily demonstrated ability to conduct radio communication and circuit procedures

As noted above, the BFR should be tailored to the **candidates** previous and planned future flights, to ensure future flights will be conducted safely.

Examiners should note a number of areas generally require review and are usually linked with lack of currency or recent practice. These include:

- Aircraft knowledge – lack of reference to the Pilot Operating Handbook
- Attitude flying – reliance on instruments rather than referencing the horizon – simulated by partially covering the panel
- Over controlling the aircraft – failure to trim the aircraft for a given airspeed or attitude
- Passenger briefing – lack of formal structure or reference to the “informed participation” basis for RAAus
- Pre take-off safety brief – no pre briefed “what if” plan
- Weather forecast – obtaining and interpreting (valid for local and cross country flights)
- Fuel management – not referencing established fuel burn or usage, not using a fuel log
- Unusual circuits - low level or right hand circuit, rarely practiced
- Short field approach and landing – rarely practiced
- CTAF procedures – circuit entry/departure, in circuit calls and Situational Awareness
- Identifying controlled airspace or area frequency boundaries
- Crosswind take-off and landing – management of drift and runway alignment with rudder
- Engine failure after take-off – management of energy, reference to the pre take-off safety brief – make a plan, fly the plan
- Engine failure in the circuit – as above
- Management of simulated emergencies other than engine failure – partial power loss, failure of systems such as flaps, trim or electrics, diagnosis or troubleshooting of issues, etc.
- Go-arounds – failure to effectively manage effects of power application using rudder and pitch changes due to aircraft configuration (flaps) and trim effects
- Practice forced landing - away from the airport, failure to manage the flight path to the aim point, lack of emergency procedures including immediate actions, passenger briefing, Mayday call
- Flight at slow speed – management of the aircraft in turns, changing flaps configurations and simulating go-around actions at altitude
- Precautionary Search and Landing – effective management of the aircraft while scanning the ground and assessing options
- Understanding of pressure height and density altitude and the effect on aircraft performance
- Stalls – generally only last practiced at the last BFR, correct recovery technique, different configurations including the landing configuration
- Steep turns – chasing instrument indications, rather than referencing the horizon and maintaining an effective scan
- Weight and Balance calculations – lack of familiarity with the POH and ensuring the aircraft remains in balance

Examiners should consider factors such as:

Preparation

- Preparation for flight (e.g. cross country flight plan)
- Managing expectations – pilot and passenger
- Medical considerations – use of IMSAFE
- Personal minimums – consider creation of acceptable conditions for flight including amount of cloud cover, weather forecast, expected visibility, maximum wind for aloft and cross wind component
- Setting of personal standards for flight tolerances – accepted height deviations, speed management, altitude holding, runway centre line deviations

Ground Review

- Aircraft systems knowledge – POH, aircraft limitations
- ASIC requirements (if appropriate)
- Assessment of risk management and personal minimums
- Cross country planning – the **candidate** may be requested to prepare a cross country flight plan and review the plan considering weather and NOTAMS on the day of the flight.
- Operations at non-towered aerodromes - CTAF procedures and radio
- ERSA – references and special considerations using a local example
- Fuel management – as relevant to all flights
- IMSAFE
- Interpreting weather forecasts
- **Candidate** history and currency
- Pre take-off safety brief
- Review applicable regulations

Flight Review

Aircraft

- Pre-flight Inspection – thoroughness, assumption of expectations
- Current aircraft registration
- Aircraft serviceability and cleanliness
- Compliance to scheduled service, completion of annual maintenance requirements, completion of SBs and ADs
- Aircraft operating competency – management of the aircraft within minimum tolerances such as airspeed, height maintenance, heading maintenance, etc.

Pilot

- CTAF radio and procedures – recommended and required calls
- In flight decision making
- Situational awareness and lookout

De-Brief

- In flight observations of the **Examiner**
- Plan for continuous practice - future proficiencies -Tail wheel or Advanced Pilot Award (APA), Formation, creation of personal minimum expectations for flight tolerances
- Retraining plan (if required)
- Future development of **candidate**
- Ground review
- Create a plan for ongoing improvement exercises – rolling around a point, 360° turns within +/- 100 feet, turns along ground features (at a safe height)

This could be summarised as “**The Attitude to Flying and Flying the Attitude**”

Examiner recommendation

Refer to the RAAus Flight Tolerances provided below, to ensure the **candidate** can demonstrate the expected competency of a RAAus Pilot Certificate holder. Flexibility in applying flight tolerances can be provided to a **candidate** if the BFR is being conducted in an aircraft the **candidate** is not familiar with, or at an unfamiliar location, however the **candidate** could be expected to have prepared for these circumstances prior to the flight.

Request the **candidate** prepare a flight plan that can be used as part of the review and allows assessment of pilot departure procedures, flight record keeping practices, then request a diversion to the training area for upper air work. Assess the use of electronic devices to assist navigation and determine the **candidates** understanding of requirements including:

- Operations at non-towered aerodromes - CTAF procedures and radio call requirements and structure
- Consider role playing aircraft in the circuit and expected calls and responses
- ERSA – references and any special local considerations, changes to local requirements
- Obtaining NOTAM and AIP SUPP information
- Fuel management – as relevant to all flights
- IMSAFE
- Interpreting weather forecasts
- **Candidate** recent flight history and currency
- Pre take-off safety brief
- Review applicable regulations

Flight path or manoeuvre		Flight tolerances
Taxiing aircraft		± 1.0 metres of centreline
Nominated heading		± 10°
Climb airspeed		-0 / +5 kts
Level off from climb and descent		± 150 ft
Straight and level	Altitude	± 150 ft
	IAS	± 10 kts
Power descent airspeed		± 10 kts
Glide		-5 / +10 kts
Turns		Angle of Bank ± 5°
Turns onto nominated headings		Heading ± 10°
Steep turn		Heading ± 10°
		Height ± 150 ft
Final approach airspeed		-0 / +5 kts
Landing	Touchdown	± 60 m
	Centreline tracking	± 2 m

Alternative means of completion for BFR

Examiners should be aware a pilot may consider using an impending BFR due date as an opportunity to add to their overall skill level by training for additional endorsements. Adding Formation, Tail Wheel, In-Flight Adjustable Propeller or similar endorsements is a good process to expand skills. Adding another endorsement which requires a flight assessment (excludes Radio and Human Factors endorsements) will be accepted by RAAus as suitable for a flight review. Pilots are also encouraged to try flying different aircraft at different airports to operate outside a “comfort zone”.

Any additional endorsement which requires a flight assessment which was completed at a different time to the BFR date will update BFR expiry date for another two years. The initial date for a BFR was probably based on the date a Pilot Certificate was achieved. RAAus recommends members use reminders or refer to the RAAus Member Portal or Members App to confirm their BFR date.

Finally, if a pilot has:

- been issued a CASA Licence, including a Recreational Pilot Licence (RPL) or higher
- completed the training for issue of an endorsement which required a flight assessment
- completed a Flight Instructor initial issue or renewal

in a single engine aircraft up to a Maximum Take-Off Weight (MTOW) of 1500 kg under day Visual Flight Rules (VFR) this will be recognised by RAAus to reset a BFR. To have this recognised by RAAus provide the office with a copy of the licence or logbook entry and include your member number.

Examiners are recommended to refer to the table below, which contains key areas and requirements completing a BFR.

Administration	
Current RAAus membership	Yes / No
Review logbook, flight activity and revisions	Yes / No
Is the aircraft registered and compliant to airworthiness requirements?	Yes / No
Ground Based Assessment	
Examiner and pilot have identified specific areas to review?	Yes / No
Oral assessment of applicants Air Legislation knowledge completed	Yes / No
Pilot understands regulatory changes since last BFR?	Yes / No
Human Factors key elements reviewed	Yes / No
Flight planning requirements reviewed – local flight	Yes / No
Flight planning requirements reviewed – Cross country flight	Yes / No
VMC criteria reviewed?	Yes / No
Radio procedures at non-towered aerodromes	Yes / No
CTA avoidance and planning	Yes / No
Flight Assessment and debrief	
All pre-flight and flight sequences assessed as competent	Yes / No
All requirements of Section 2.07 met	Yes / No

Administration completed	
Logbook entry made	Yes / No
RAAus forms completed and submitted	Yes / No

It is a requirement the Examiner make an entry in the candidate's logbook when successfully completed and submit RAAus BFR Form (BFR001) to RAAus for processing. It is recommended the Examiner make a record of what was completed and a sample record has been provided below.

Once the BFR has been successfully completed the candidate can immediately operate a RAAus aircraft.

BIENNIAL FLIGHT REVIEW RECORD

Candidate Name	
Member number	
Date	

Before Flight

Documentation		Theory	
Current RAAus membership	Yes / No	Pressure height, density altitude	Yes / No
Correct endorsements held	Yes / No	Fatigue management	Yes / No
RAAus Operations Manual	Yes / No	IMSAFE	Yes / No
Aircraft maintenance record	Yes / No	PLB Operation	Yes / No
Log book (current)	Yes / No	Non-towered aerodromes	Yes / No
Weight and Balance (calculated)	Yes / No	CTA/PRD avoidance	Yes / No
Pilot Operation Handbook - Limitations: (flap operation; V_{ne} V_{no} V_{fe} V_s V_x)	Yes / No	Flight planning/ navigation - Weather Charts/NOTAMs/PRD	Yes / No
Glide speed (best L/D)			

Flight Proficiency

Interpret weather appropriate to operation	Competent / not competent
Pre-flight inspection	Competent / not competent
Passenger briefing	Competent / not competent
Start-up, taxiing, radio, lookout	Competent / not competent
Take-off – maintain runway centreline	Competent / not competent
Climbing, descending	Competent / not competent
Turning – medium, steep	Competent / not competent
Stalls - power on/off/in turns	Competent / not competent
Crosswind	Competent / not competent

STOL	Competent / not competent
Diversion procedure	Competent / not competent
Airmanship	Competent / not competent
Low/slow operation (in suitable area) simulate weather	Competent / not competent
Precautionary Search and Landing	Competent / not competent
Refuelling procedures	Competent / not competent

Manage emergencies (simulated as required)

Open window/door in flight (if safe to simulate in aircraft)	Competent / not competent
Carburettor icing	Competent / not competent
Electrical failure	Competent / not competent
Brake Failure	Competent / not competent
Flap Failure	Competent / not competent
High/Low Oil Pressure	Competent / not competent
Engine Failure after take-off	Competent / not competent
Circuit emergencies	Competent / not competent
Go-around	Competent / not competent
Engine Fire on Ground	Competent / not competent
Cabin fire in flight	Competent / not competent
Partial engine failure	Competent / not competent
Simulated system failure – flap, trim, electrics, etc.	Competent / not competent

Further Training Required

Details of flight

Aircraft type	
Registration	
Logbook entry made	Yes / no
Paperwork complete and sent to RAAus	Yes / no
Examiner name	
Date	
Signature	