	SAAA CONTROLLED DOCUMENT	
	Reference / Name	**FO 1.01-002 Flight Training and Safety Manual**
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	Owner	MFO

Flight Training

and

Safety Manual

Revisions

Revision No:	Revision Date:	Comments
0	27 - 07 - 2018	First issue – draft basis
1	10 - 11 - 2018	First approved Issue
2	11 – 09 - 2019	Allow commercial flight instructors to receive fees

Contents

Appendix A
SAAA General Competency Flight Training Program – Type Transition Training & Recurrent Training

Appendix B
SAAA General Competency Flight Training Program - Aircraft Flight Reviews
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1. **EXECUTIVE SUMMARY**

Accidents are wasteful in human lives, finances, aircraft-hulls, transport, resources and property. They are a serious handicap to the aims and objectives of the SAAA and its community opinion and operational success of experimental aircraft.

The cause of many accidents can often be traced to human factors and failings. In our experimental flight operations, this can be countered by higher build and maintenance standards, maintenance training, improved aircraft operational standards and by promoting a sound safety culture of all SAAA members.

The use of the SAAA Risk Radar Aviation (RRAv) will guide the owner / builder / pilot and all of their advisors and trainers through each project and related operations from start to finish. RRAv is essentially a comprehensive and continual risk assessor and ongoing checklist throughout the life of an aeroplane and the pilots who fly that aeroplane.

We seek in SAAA Flight Training and Standards to have a culture of open and transparent information sharing, of mentoring and dissemination, of proven knowledge and the development of sound basic aviation skill-sets.

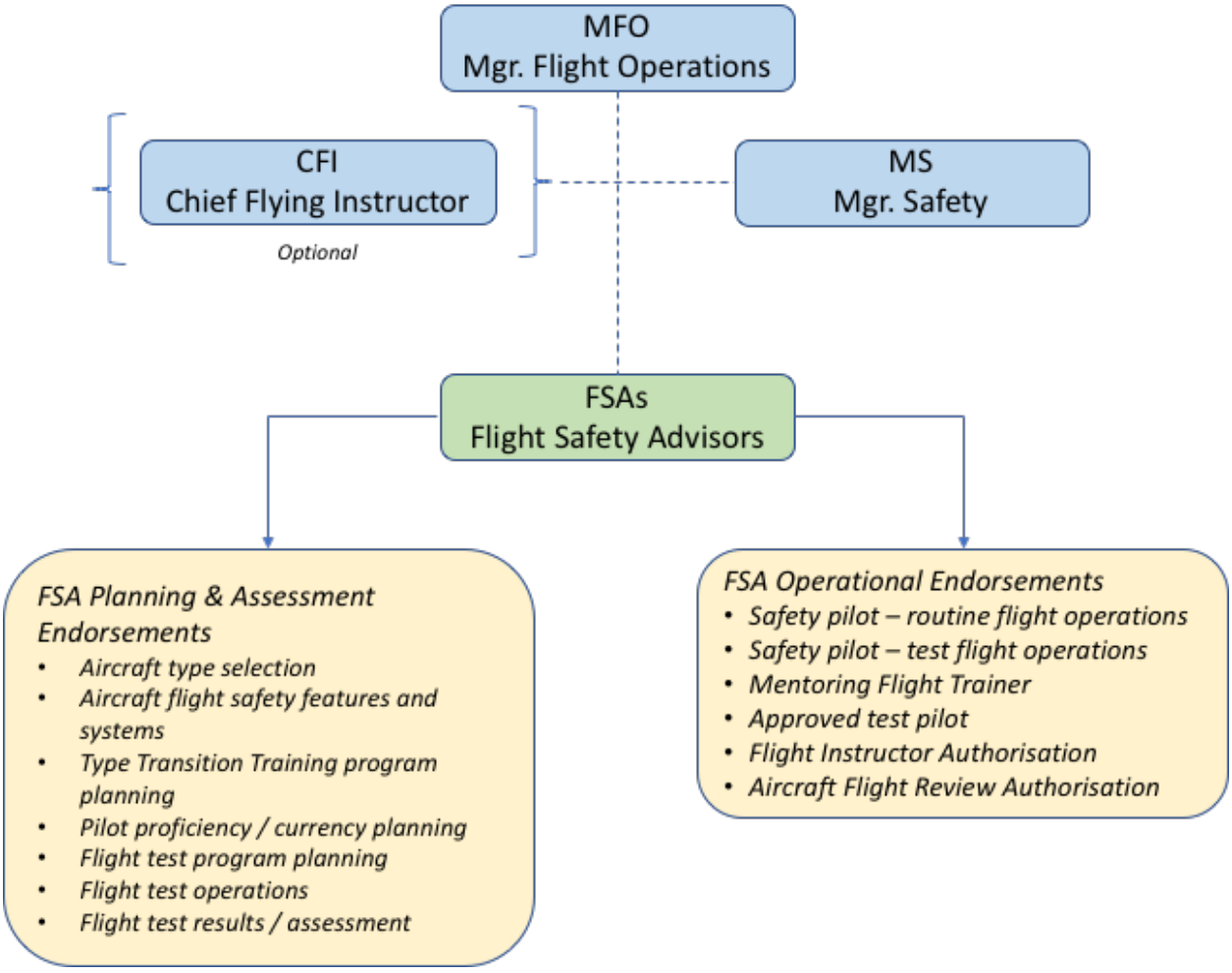
The foundation of the SAAA is our members. The Chapters are our greatest assets for dissemination of knowledge and advice. At the same time our mentoring and type transitional training must become an integral part of our safety culture

All training should be viewed as a means of effective threat mitigation to achieve the safety effectiveness and outcomes that perpetuate a sound safety culture.

The SAAA has an Occurrence Management System in place and we encourage our members to use it as a reporting tool and not just for accident and incident notification.

Amongst the SAAA members, there is exists a wealth of relevant flight operations experience that must be accessed to reduce the potential for accidents. Many SAAA members have thousands of general aviation flight experience, and often many hundreds of hours specific type flight time. Further many of the SAAA members are professional pilots with advanced qualifications and endorsements in respect of flight operations including test flying and flight training. The object of the SAAA flight training program is to define a structured and effective means to capture and apply this experience.

2. SAAA FLIGHT TRAINING ORGANISATION, FUNCTIONS & EXPERIENCE REQUIREMENTS



The following describes the elements of approvals and reports / duties for each Flight Safety Advisor (FSA) category:

Categories of Approved Operations Persons

Category	Approvals	Reports / Duties
Manager Flight Operations (MFO)	Approved to direct and manage all aspects of SAAA member flight operations support	• Reports to SAAA National Council • Liaise with CASA in respect of SAAA member flight operations support • Responsible for the oversight and management of all SAAA member flight operations support
Chief Flight Instructor (CFI)	Approved to conduct (as an SAI): • AFRs IAW CASA authorisations • Recurrent Training and instruction IAW endorsements, CASA authorisations • Type Transition Training and instruction IAW endorsements and CASA authorisations • Planning & flight test assessment support	• Reports to the SAAA Manager Flight Operations (MFO) • Responsible for providing the legislative oversight & regulatory flight operations functions to members IAW the requirements stated in the FTSM • Monitors & maintains SAI standards • Conduct of AFRs, flight training guidance and instruction to SAAA members • Delivery of planning & flight test assessment support to SAAA members
Flight Safety Advisor (FSA)	Approved to conduct: • Recurrent Training guidance IAW endorsements and FTSM • Type Transition Training guidance IAW endorsements and FTSM • Planning & flight test assessment support	• Reports to MFO • Act as a safety pilot to SAAA members in the course of Phase 1 (test flying) and Phase 2 (routine flight operations) • Act as a flight mentoring trainer to SAAA members in the course of Phase 1 (test flying) and Phase 2 (routine flight operations) • Delivery of planning & flight test assessment support to SAAA members
SAAA Accredited Instructor (SAI)	Approved to conduct: • AFRs IAW CASA authorisations • Recurrent Training and instruction IAW endorsements and CASA authorisations • Type Transition Training and instruction IAW endorsements and CASA authorisations • Planning & flight test assessment support	• Reports to MFO • Conduct of AFRs, flight training guidance and instruction to SAAA members • Delivery of planning & flight test assessment support to SAAA members
SAAA Approved Phase 1 Test Pilot (ATP)	Approved to conduct: • Phase 1 flight test operations • Planning & flight test assessment support	• Report to MFO • Conduct Phase 1 (test flying) on behalf of SAAA members in SAAA member owned aircraft

The minimum experience levels to act in the capacity as Manager Flight Operations (MFO), Chief Flying Instructor (CFI), a Flight Safety Advisor (FSA), Appointed Test Pilot (ATP) or SAAA Flight Instructor (SAI) within the SAAA Transitional Training Program are:

SAAA Appointment	**Experience Requirements**
Manager Flight Operations (MFO)	• Managerial experience in an aviation enterprise and hold or have held any of CP, CFI, CPL or ATPL ratings or positions.
Chief Flying Instructor (CFI)	• Extensive experience in Single Engine Aircraft operations. • Minimum 500hrs Experimental Category aircraft operations as PIC and at least 2000hrs GA experience. • CASA Grade 1 Flight Instructor approval or higher. Current or prior CFI or ATO approvals.
Flight Safety Advisor (FSA)	• Broad experience in Single Engine Aircraft. • Minimum 300 hrs Experimental Category aircraft operations as PIC and at least 1000hrs GA experience.
Safety Pilot	• Be an appointed Flight Safety Advisor with appropriate endorsement
Mentoring Flight Trainer	• Be an appointed Flight Safety Advisor with appropriate endorsement. • Be familiar with the Type Transition Training & Recurrent Training syllabus (refer Appendix A)
SAAA Approved Phase 1 Test Pilot (ATP)	• Broad experience in Single Engine Aircraft. • Minimum 300hrs Experimental category aircraft operations as PIC and at least 2000hrs GA. • Have successfully completed a recognised industry test pilot school or demonstrate equivalent capability.
SAAA Accredited Instructor (SAI) / AFR Examiner	• Hold a current membership with the SAAA, • Hold a current Grade one, two or three (aeroplane) instructor rating; or hold an instructor rating with a single engine class rating training endorsement in accordance with the requirements specified in CASR Table 61.1235 Item 6 - as at the effective date of this manual, these requirements are: i. Commercial pilot licence or air transport pilot licence ii. Aircraft class rating for the specified class iii. At least 50 hours of aeronautical experience as pilot of an aircraft of the specified class • Provide evidence of having successfully completed an instructor rating proficiency check within the last two-years in a relevant aircraft, • Hold a suitable medical certificate, • Have a sound working knowledge and proven practical application of all aspects of the SAAA Type Transition Training and Re-Current Training Program (refer Appendix A), and if relevant the requirements and condition of the SAAA AFR Examiner authorisation (refer Appendix B) • Successfully complete an interview with the MFO to confirm the applicant possesses the knowledge, skills and attitudes required to conduct the functions of an SAI

The Manager Flight Operations (MFO) may optionally also assume the position of CFI provided that person satisfies the experience requirements for the CFI position. The CFI is position is also an optional appointment at the discretion of MFO.

All Flight Safety Advisors (FSAs) endorsed to act in the capacity of SAAA Accredited Instructors (SAIs) and AFR examiners must comply with relevant CASA authorisations and standards, and comply with any observation checks with prior notice from CASA.

3. FTSM GENERAL MATTERS

3.1. PURPOSE STATEMENT

This Manual is designed to provide SAAA Flight Safety Advisors (FSAs) with the instructions and information required to deliver the endorsements available to FSAs under the SAAA Flight Training & Safety program. The available endorsements include those of Safety Pilot, Mentoring Flight Trainer, Approved Test Pilot, Accredited Instructors and AFR Examiners. Accredited Instructors and AFR Examiners will require approvals IAW specially approved CASA procedures and related regulations.

3.2. FLIGHT TRAINING AND SAFETY MANUAL (FTSM) AMENDMENT

All elements of the FTSM are subject to authorisation and approval IAW SAAA policy & procedure MGT 1.1.02 Change Management under the direction of SAAA Manager Flight Operations (MFO).

Sections relating directly to SAAA Accredited Instructors (SAIs) and AFR Examiner operations, specifically Appendix A (FO1.02 SAAA General Competency Flight Training Program – Type Transition Training & Recurrent Training) and Appendix B (FO1.03 SAAA Aircraft Flight Review Authorisations) require CASA approval prior to these sections of the FTSM having effect in or are amended.

3.3. EFFECTIVE DATE

This copy of FTSM becomes effective from the Revision Date listed in the “Revisions” tabulation on the inside cover of this document.

This publication is prepared by MFO under the direction of SAAA National Council.

3.4. AUTHORISATION

This document is authorised by the National Council of the Sport Aircraft Association of Australia and by CASA approvals in respect of Appendix A (FO1.2 SAAA General Competency Flight Training Program – Type Transition Training & Recurrent Training) and Appendix B (FO1.3 SAAA Aircraft Flight Review Authorisations).

3.5. GOVERNANCE

All aspects of the FTSM program are managed IAW the relevant SAAA policies and procedures:

a. MGT 1.1.02 Change Management
b. OPNS 2.2.02 Flight Safety Advisor (FSA), Approved Phase 1 Test Pilot (ATP) and SAAA Accredited Instructor (SAI) Management & Critical Actions
c. OPNS 2.2.03 Criterion for the Appointment of a Flight Safety Advisor (FSA)
d. OPNS 2.2.04 Flight Safety Advisor (FSA) Training and Performance Standards
e. OPNS 2.2.05 Criterion for the Appointment of an Approved Phase 1 Test Pilot (ATP)
f. OPNS 2.2.06 Approved Phase 1 Test Pilot (ATP) Training and Performance Standards
g. OPNS 2.2.07 Criterion for the Appointment of an SAAA Accredited Instructor (SAI)
h. OPNS 2.2.08 SAAA Accredited Instructor (SAI) Training and Performance Standards

3.6. APPLICABILITY, ROLES AND RESPONSIBILITIES

All SAAA members and staff involved in the FTSM program have responsibilities relating to the day to day management, planning, execution and oversight of all aspects of the FTSM as defined in the relevant SAAA polices & procedures.

3.7. SAAA FLIGHT OPERATIONS AND TRAINING MEDIA

The SAAA website http://www.saaa.com is used as the principal means of communication amongst SAAA members along with our regular communications distributed to members via email.

All communications to SAAA members specifically in relation to procedural matters around any aspect of the FTSM require the approval of MFO.

3.8. STANDARDS

Ground and operational guidance and training standards must be conducted in accordance with the FTSM in order to ensure consistency in delivery to SAAA members.

3.9. FLYING TRAINING RECORDS

The SAAA is required to maintain flying training and examination records IAW requirements of the following documents:

- FO 1.02 SAAA General Competency Flight Training Program – Type Transition Training & Recurrent Training (refer Appendix A)
- FO 1.03 SAAA General Competency Flight Training Program - Aircraft Flight Reviews (refer Appendix B)

MFO hold the responsibility for these records.

The SAAA will provide:

- Secure systems for the retainment of these records
- On-line access and related IT support

3.10. LOG BOOKS

Pilots must maintain log book records IAW the regulations. However, for the avoidance of doubt, pilots in receipt of training or who examined (AFRs) under the SAAA Flight Training & Safety program must maintain a logbook that records the following items for each flight:

- Date of the flight
- Aircraft type and registration
- Pilot in command
- Flight time
- The route or training sequences covered in the flight
- The progressive total of aeronautical experience

Note: Full requirements for logging of flight time are found in CAO 40.1.0.

3.11. APPROVED FLIGHT SAFETY ADVISORS

SAAA will maintain a record of FSA appointments and related endorsements as provided for within the FTSM.

The SAAA will provide:

- Secure systems for the retainment of these records
- On-line access and related IT support

SAAA will provide CASA with updated reports on a quarterly basis containing details of all FSAs appointed as SAIs or AFR Examiners.

4. FLIGHT SAFETY ADVISOR ROLES – PLANNING & ASSESMENT (NON-OPERATIONAL)

These aspects of the FSA guidance are purely “on-ground” related and cover the following:

- Aircraft type selection
- Aircraft flight safety features and systems
- Flight training planning
    - Type Transition Training program planning
    - Pilot proficiency / currency planning
- Test flying planning and assessment
    - Flight test program planning
    - Flight test operations
    - Flight test results / assessment

For most of these elements, the Risk Radar (RRAv) is the FSA’s and owner / builder / pilot’s friend. RRAv will help everyone get their eye in to identify the risk exposure, state of preparedness and understanding, and will certainly provide a general check list of the subjects to be addressed, discussed and thought about.

For these reasons, it is essential that the owner / builder / pilot completes the relevant sections of RRAv – they don’t have to complete all modules – just those relevant to the discussion. So, for example, a member who is “beginning to think about building an aircraft” would be well advised to complete the Aircraft Definition and Pilot Capability Radars – two of the elements belonging to the Planning Phase module. This will very quickly tease out the sense of a member’s aspirations to select a particular aircraft type – in a “nutshell” – how much of a challenge will this aircraft type present to the member as a pilot of this aircraft? This ultimately gets to planning a program of type transition training, but right at the outset when there is the thought “I’m going to build an aircraft”, what we are really trying to do is make sure that this is a wise decision or not – and if the “challenge” appears to be immense, look at other types.

So, let’s take each of the planning and assessment elements in turn.

4.1. AIRCRAFT TYPE SELECTION

As referred to above, ask the member - as potential owner / builder / pilot - to complete the RRAv Aircraft Definition and Pilot Capability Radars. Review the “challenge gap”. Work with the Member to explore the reasons – particular characteristics of the proposed aircraft type – that may suggest whether or not the proposition makes sense or not. The real question is – assuming the owner / builder / pilot has generally sufficient flight experience, is there a high probability that they will be able to safely handle and manage this aircraft type subsequent to a structured program of type transition training, irrespective of the scope.

If collectively there is doubt around the answer to this question, suggest and explore alternative aircraft types – may be the turbo-prop pressurised speed machine isn't the best choice, yet.

The sorts of factors that should feed into the discussion around the pilot's experience would get to total hours, total general aviation experience, hours on type classes, hours on same type or similar, recency etc. This experience can then be related to the proposed aircraft type and its characteristics. A good place to start - apart from understanding the aircraft configuration and powerplant / cockpit complexity etc - would be to identify some key specs such as MTOW, V_{SO}, V_{NO}, and wing loading. These factors collectively drive the pilot skill capacity north very quickly as a function of inertia management, take-off and landing operations and the precision required to generally fly the aircraft.

As an FSA, you can only provide your thoughts and guidance in this regard. But make sure everyone is clear that this is an extremely important decision, and that everyone understand what they are getting into. And given the importance of the decision, it would be prudent if there is a substantial difference of opinion, to suggest that another FSA or other suitably qualified aviator is brought into the discussion.

Another factor that needs to be considered is insurance. Before a member presses the button on a build or purchase project, it is prudent that the member seeks confirmation from underwriters that they will indeed be able to insure themselves on the proposed aircraft type. It may be that the underwriter requires more hours and / or more training – but the owner / builder / pilot needs to understand the limitations or conditions upon which insurance may be available.

At the end of the day, the member may and is quite entitled to pursue their aspiration – even if the guidance is that the "challenge" is significant. If this is the case, then this places even greater focus on planning a type transition training program – and at the extreme, a general flight experience training program.

4.2. AIRCRAFT FLIGHT SAFETY FEATURES AND SYSTEMS

Again, encourage the owner / builder / pilot to complete this section of the RRAv Planning module. The Flight Safety Systems radar gets to looking at passive / active flight safety devices (stall strips, wing cuffs etc, stall warning devices, angle of attack indicators etc, to door / canopy safety latches and indicators) and testing the understanding the owner / builder / pilot has of the selected aircraft flight performance and procedures.

The real purpose of this exercise is to check that all reasonable steps are taken to minimise the flight risk. It really starts with understanding the selected aircraft flight performance and procedures – this sets the scene.

Many aircraft kits, or perhaps a completed / flying aircraft that a member seeks to acquire, come with a measure of flight safety systems. But are they adequate? Is the member aware of other options? What is the specific experience of others with the particular aircraft type? This all points to a bit a research through which the FSA can help guide the member and then there can be an informed discussion around what might be worthwhile adding to improve the safety outcome.

The RRAv Flight Safety Systems radar identifies many of the generic points to consider but is likely not exhaustive – hence some independent type specific research is worthwhile. Encourage

the member to do this – the process also helps the member to develop a far deeper understanding of the aircraft they are building or acquiring. The process may also throw up some less obvious / unexpected issues – such as cockpit configuration – some aircraft have central joysticks, some side sticks or yokes; some have engine controls in the middle, some to the side and some operating in different directions – all of which conspire to introduce another factor that can easily influence the flight safety outcomes. And depending on the pilot's experience, the extent to which such factors may influence flight risk will vary greatly.

Generally speaking, it is far easier to identify and plan any additional systems before a build project commences. That is not to say nothing cannot be retrofitted to a part built or completed aircraft; and of course, if a member is seeking to buy an already part built or completed / flying aircraft, at least they would be aware of what comes with the aircraft and what they may be wise to add themselves – or perhaps choose another aircraft - that could, for example be planned into a build.

4.3. FLIGHT TRAINING PLANNING

It is not surprising that when an owner / builder / pilot has embarked on a build or is about to conclude a purchase of a part or completed / flying aircraft, they will be thinking type transition training – or they should be!

So, whilst general pilot proficiency is an issue if an owner / builder / pilot has a level of experience that is below that which is considered prudent for a particular class of aircraft (and needs to be addressed if that is the case) – the real trap for a builder is that they may spend "years" building and spend very little time flying. This leads to, irrespective of type experience or overall flight experience, a "currency problem".

So – in the context of advising / guiding a member who is building or who is acquiring an aircraft – it is likely that a combination of all three of pilot proficiency, currency and type transition training will be appropriate.

There is really no formula that will provide the answer – however, yet again, RRAv is an essential part of the process. Encourage the member to complete the three elements of the RRAv Planning module at the outset, and then periodically through a build – as relevant. This will make it obvious, if it is not so intuitively – that if at the extreme a builder does no flying over a 5-year build period then irrespective of any type transition training, they will really not be considered "current". As an FSA, this highlights the need to stay in touch with a member who is building – ideally, check-in "Been doing any flying recently?" and advise accordingly.

In the context of "routine flying operations" – the build or purchase and any proficiency and type transition training behind them, and owner / pilot has still to stay current. There will be times when for whatever reason, currency is not maintained and as an FSA, you can work with the owner / pilot to restore currency and confidence.

Collectively – this all adds up working with an owner / builder / pilot to define a plan to transition to a new aircraft type, or to stay current. The plan, particularly if the skill gap is large, should ideally be defined as early as possible so there isn't a rush for the owner / builder to "get prepared" and so run the risk of pressure to "cut a few corners"- as most will know, the urge to go flying after

a 5-year build is not to be underestimated. So, encourage the builder to work through the plan progressively and in good time.

4.4. TEST FLYING PLANNING AND ASSESSMENT

The test flying phase, or formally known as Phase 1 as defined in an initial Special Certificate of Airworthiness (SCOA), does not often receive the attention to detail that it deserves. Let's just consider the typical scenario – most of our members will only do this once! Are they experienced at test flying operations – in this scenario, by definition "No". And even if they have flown a test program once, likewise – they are not experienced.

But, there is no legal impediment that prevents our members test flying their own aircraft, nor any statutory experience requirements or standards required for the conduct of such operations. Therefore, as an FSA, what you must endeavour to do is guide, explain and support the owner / builder / pilot to draw correct conclusions, make the correct decisions and plan the entire test program to the best of everyone's ability.

Yet again, RRAv is everyone's friend. At this stage, the owner / builder / pilot must have completed the entire set of RRAv modules – this is required before an Authorised Person will even begin to consider the issuance of a SCoA – Why? Because it is a requirement IAW the CASA accepted Authorised Person's Manual of Procedures for the Authorised Person (AP) to consider a risk assessment of the aircraft, its pilot and the test flying (Phase 1) program before composing any special limitations or conditions of the SCoA.

4.4.1. TEST FLYING PLANNING

The two elements of the RRAv Test Flying module consider the test program itself and the pilot – whether it be owner / builder or another pilot.

The RRAv addresses a number of areas that cover the planning, circumstances and emergency support. Most of these elements are fairly intuitive or obvious but less obvious to the novice is the design of the test flying program itself. The SAAA Flight Test Program guide and associated Flight Test Card set is a very good start – and an owner / builder / pilot and, if relevant the Phase 1 test pilot, should be encouraged use these products to ensure a structured / methodical approach to the conduct of all operations and data gathering.

But what deserves special attention is the detailed planning of the first three or four flights – particularly the maiden flight. Now, if an SAAA Approved Test Pilot (ATP) or other suitably qualified pilot is conducting the early flights, then now is a good time to get this person connected to the planning.

The trick is not to get too ambitious. Small steps, that allow plenty of opportunity to recover from unexpected circumstances is what is required. Blasting off into the wide blue yonder and performing aerobatics is not the way to go on a maiden or other early flights – so the owner / builder / pilot needs to be encouraged to understand the issues that may arise and allow themselves, if they are to be the test pilot, plenty of time and opportunities to monitor everything that is going on without making life too complicated – remind the member why it is that test pilots are highly trained pilots qualified to manage test flight operations and handle any amount of emergency conditions. So – assuming the owner / builder / pilot is going to be the test pilot,

discuss the scenarios that could occur and at various stages of the flight – engine failure, high oil temperature, systems failure etc – discuss what to be looking out for to detect an issue early, and what the action would be. This then begins to drive the detail of each flight's plan.

As an example – let's take a single engine retractable gear aircraft. The first flight and second flight plan might be as follows:

1. Plan to fly a single circuit – take-off and land, taxi clear of runway
    a. One becoming airborne, do not retract gear, leave flaps at take-off setting
    b. Continuously monitor oil temperature and pressure, and coolant temperatures if liquid cooled engine
    c. Fly the circuit, select more flap as required, adjust power etc and land
    d. Taxi clear of runway
    e. Check all ops normal – presuming no issues taxi for another circuit
2. Plan to fly a single circuit – take-off and land, taxi clear of runway
    a. One becoming airborne, retract gear, do not retract flaps
    b. Continuously monitor oil temperature and pressure, and coolant temperatures if liquid cooled engine
    c. Fly the circuit, select more flap as required, adjust power etc and land
    d. Taxi clear of runway
    e. Check all ops normal – return to hangar / parking

This may seem a conservative approach, but it can be used to demonstrate to the owner / builder / pilot "novice test pilot" that a simple structured approach is likely to place the least stress on the pilot.

Much depends on the nature of the aircraft, how well proven the airframe and / or power plant are, and of course on the test pilot's experience. But – your guidance should be – please err on the side of caution. You do not need to scare-monger, but if it becomes appropriate, point out the statistics which indicate the incredibly high accident rates for low time on type pilots, and with low time airframes – refer the most recent ATSB 2012 Statistics Report of VH-Experimental aircraft activities. Combining the two creates a "double whammy" – and represents the most likely SAAA member scenario – a new airframe, and a new type.

So next we get to the test pilot capability. RRAv provides the basis to gauge whether or not the proposed test pilot is up for the job. If the owner / builder or even a proposed test pilot do not measure up, then as an FSA, you should initiate a serious discussion. If the matter cannot be resolved, then the likelihood is that the AP will likely impose some special limitations on the SCoA which might severely restrict flight operations so as to mitigate the risk to the general public – that is the AP's principle concern, not the pilot.

A more likely scenario is that the proposed pilot, whilst not coming up to the capability of an experienced test pilot, will likely be deemed competent enough to conduct the test flying operation with the support of a second experienced pilot (who could be an FSA) to provide

flight / systems monitoring, flight support and decision-making support. This scenario assumes of course that any type transition training has been satisfactorily completed as would be indicated (or not) by the post training RRAv owner / builder / pilot capability radar. Before a two-pilot operation is entertained, refer to the SAAA two-pilot operations in Phase 1 Guide – there must, as required at law, be an identified safety case for conducting Phase 1 operations with two persons on board the aircraft.

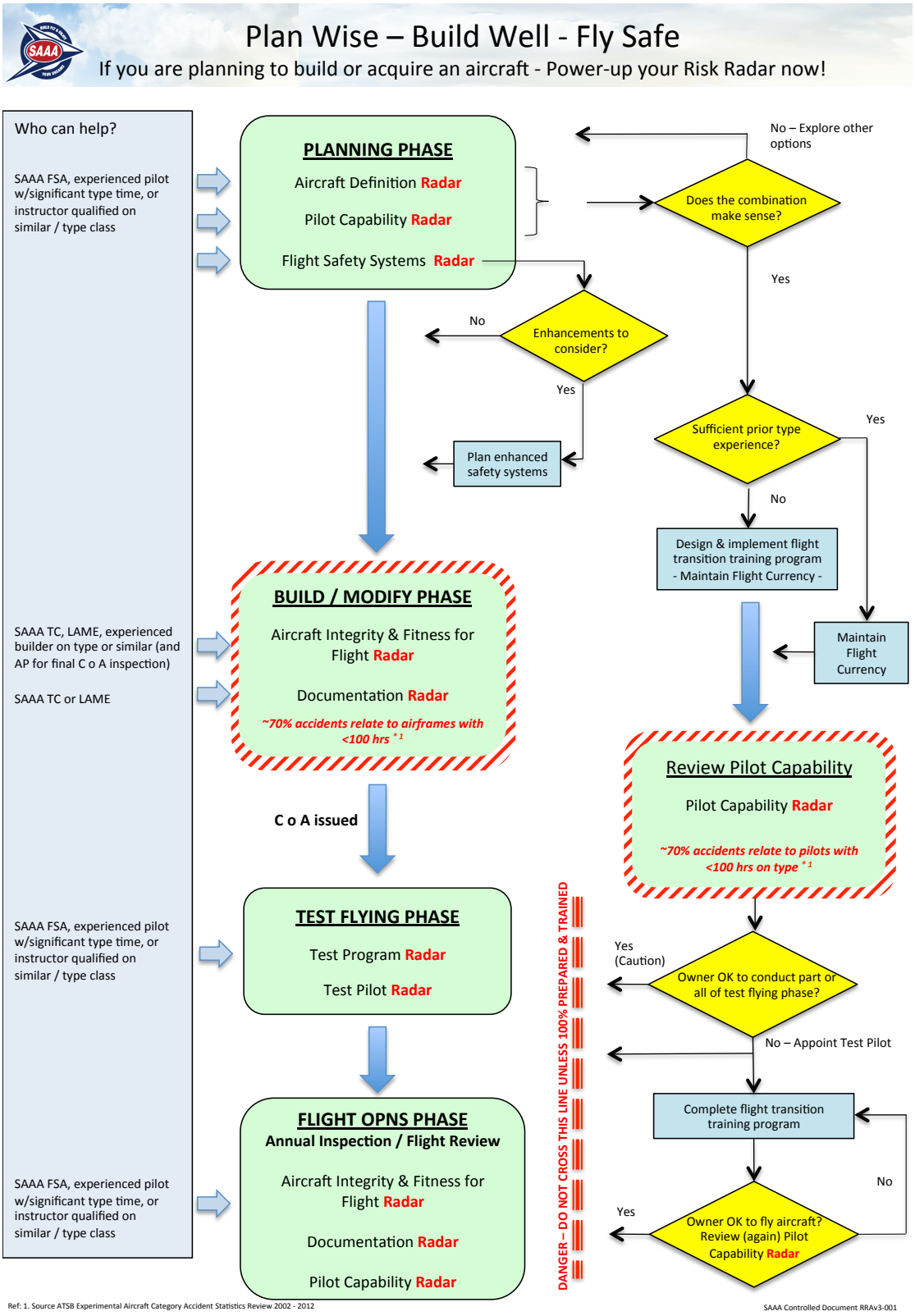
4.4.2. TEST FLYING ASSESSMENT

First and foremost, encourage the pilot to focus on verifying normal operations of the aircraft and getting comfortable with flight normal operations before even thinking about gathering data and exploring the flight envelope. With 25 hours typically specified for Phase 1, there is plenty of time.

As an FSA, and provided the two-pilot ops criteria are met, accompanying the owner / builder / pilot to effectively and safely conduct the complete flight test program is sensible. Again – more often than not, this will be the first time the member has conducted test flying operations. It also provides the FSA with the opportunity to quietly assess the owner / builder's competency as pilot on type – any concerns, then the FSA should begin a conversation with the owner / builder and endeavour to put a plan in place to rectify any such concerns.

Encourage the member to take relatively small steps and not to endeavour to cover too much of the test flight scope and data gathering in any one flight. If not accompanying all flights, endeavour to make arrangements to touch base periodically as the program progresses, with the objective of making sure that the program is being effectively conducted and there are no misunderstanding interpreting / assessing data captured.

Be prepared to assist the owner / builder as test pilot to assess the outcomes of the test flying program, and compile the Phase 1 test report that the AP will require before considering the issuance of a Phase 2 SCoA.



5. FLIGHT SAFETY ADVISOR ROLES – FLIGHT OPERATIONS (OPERATIONAL)

The FTSM is founded on delivery of "guidance and training" delivered by FSAs with a progressing level of depth and formality that is dependent on the experience and hence endorsements given to accredited FSAs.

The specific operational endorsements available and the role descriptions are each discussed as follows:

5.1. SAFETY PILOT – ROUTINE FLIGHT OPERATIONS

This role is one where the FSA acting as Safety Pilot may only advise, guide and support – there must be no element of specific instruction. Reference may be made to published general aviation flight procedures, the aircraft operating manual, and personal knowledge and experience to assist with the maintaining pilot confidence and skills.

In this regard, the FSA must have the relevant endorsements that reflect the aircraft configuration (fixed wing, heli etc tricycle, tail dragger, sea plane etc), and the aircraft type class etc.

The role is designed to introduce a level of poignancy that goes beyond "a mate going for a fly with another mate". The Safety Pilot may not under any circumstances act as PIC.

The principal focus of the Safety Pilot is to observe pilot compliance with flight procedures, aircraft handling and management of the aircraft systems. However, if the Safety Pilot observes circumstances that may pose a threat to the safe operation of the flight, the Safety Pilot should advise the pilot accordingly and, if requested or appropriate assist in decision making and / or conduct of certain tasks (other than flight control) so as to reduce cockpit load on the pilot.

It is recommended that the Safety Pilot makes simple notes of any relevant observations and provide these to the pilot at the end of the flight. At this juncture, it may be appropriate for there to be some discussion around such notes and discussion of what if any further guidance may be useful to the pilot. Suggested actions may include a further flight with a Safety Pilot, a Flight Mentoring Trainer or a flight Instructor (SAAA accredited or otherwise) - but under no circumstances should the pilot be directed by a Safety Pilot.

Any decision around whether or not the pilot is compliant with regulation 61.385 of the CASR 1998 – The General Competency Requirement rest entirely with the pilot, and not in way with the Safety Pilot. The Safety Pilot may suggest the pilot might wish to judge whether or not they comply with 61.385 by asking themselves the "general competency question" –

"If I was to conduct a flight review in that aircraft <u>today</u> – would I successfully complete that flight review to all of the standards that are described in schedule 7 of the CASR Part 61 MOS?"

If the answer to the general competency question is "No" – then it is *unlikely* the pilot meets the general competency requirements specified in 61.385. A pilot then needs to conduct general competency training with a flight instructor.

5.2. SAFETY PILOT – TEST FLIGHT OPERATIONS

This role is specific only to test flying operations and requires observance of the SAAA "2-pilot in Phase 1" policy and procedure.

The FSA acting as a Safety Pilot must not accompany a member for this purpose unless he or she is satisfied that a safety case exists for 2-pilot operations under these circumstances.

It is the Safety Pilot's decision to determine whether they participate on a maiden flight or at any stage afterwards. And the Safety Pilot should advise the member if he or she considers that an Approved Test Pilot (ATP) or other suitably qualified person should conduct early test flights.

The FSA as Safety Pilot, if participating in Phase 1 operations must specifically ensure they are first familiar with:

- All emergency procedures relevant to the aircraft
- The pilot in command's flight test plan

Otherwise, all provisions noted above for an FSA acting as a Safety Pilot for routine operations should be observed.

5.3. MENTORING FLIGHT TRAINER

The role of the Mentoring Flight Trainer (MFT) is essentially that defined for a Safety Pilot during routine operations, excepting that a further degree of formality and poignancy of the flight should be introduced.

The MFT is required to be familiar with the Type Transition Training and Recurrent Training syllabus to the extent that prior to a flight with a pilot, there is some discussion about the nature of flight operations and exercises the pilot may want to conduct.

The pilot and the Mentoring Flight Trainer should mutually agree in essence a "flight operations plan", which should contain elements that the pilot will follow and the Mentoring Flight Trainer will observe.

Otherwise, all provisions noted above for an FSA acting as a Safety Pilot for routine operations should be observed.

5.4. SAAA ACCREDITED INSTRUCTOR

The approved SAAA flight instruction activities and training syllabus are defined in FO 1.02 SAAA General Competency Flight Training Program – Type Transition Training & Recurrent Training; this is a CASA accepted document, and is contained for ease of reference in Appendix A of the FTSM.

This addresses the practical flight skills and underpinning knowledge requirements for a pilot to successfully transition to operate a different type of aircraft covered by the single-engine aeroplane class rating.

The purpose of the training is to satisfy the general competency requirement in regulation 61.385.

It further addresses:

- Flight training and theory examination summary
- Planning matrix
- Achievement record
- Syllabus lesson plans
- Training records
- Course completion certificate

The approved activities do not include Ab Initio training or other training relating to flight licences, ratings or endorsements.

For an FSA to act as a SAAA Flight Instructor (SAI), they must be specifically approved, be appointed by SAAA and act IAW the CASA accepted document FO 1.02 SAAA General Competency Flight Training Program – Type Transition Training & Recurrent Training.

The Type Transition Training component is designed to deal with preparing a pilot to fly an unfamiliar aircraft type for either Phase One Test Flying or Phase 2 Routine Flight Operations.

Recurrent training may occur at any time, irrespective of whether a pilot considers that they do or do not meet the requirements of regulation 61.385.

Re-current training will in any event form part of an AFR.

The SAAA flight instructional functions are generally non-commercial activities - meaning SAIs operate as volunteers and do not seek or receive reward for delivery of instruction, although they may at their discretion seek consideration for out of pocket expenses. However, in cases where an SAI also operates commercially under their own AOC, an SAI may at their discretion seek consideration for instructional fees. Irrespective, all instruction delivered IAW the FTSM may only be provided by designated financial members of SAAA to other SAAA members, and any commercial arrangements are between a student and an instructor.

The SAAA may at its discretion remunerate SAIs in respect their preparation of post-instructional flight reports and their lodgement. The SAAA may also at its discretion seek reimbursement from members in respect of preparation of post-instructional flight reports and their lodgement.

5.5. AIRCRAFT FLIGHT REVIEW EXAMINER

For an FSA to act as a SAAA AFR Examiner, they must first be an Accredited SAAA Flight Instructor (SAI) and subsequently be endorsed IAW the regulations in respect of CASR Pt 141

and operate IAW the CASA authorisation per document FO 1.03 SAAA General Competency Flight Training Program – Aircraft Flight Reviews). For ease of reference, this document is contained in Appendix B of the FTSM.

Authorisation in respect to the conduct of AFRs by SAIs is not presently available and is the subject of impending application.

The AFRs conducted by SAIs will ONLY be conducted in respect of financial SAAA members in SAAA member owned EAB Experimental category aircraft.

6. GUIDANCE NOTES FOR FLIGHT SAFETY ADVISORS

The following sections cover a number of aspects relating to FSAs delivering planning and assessment advice or whilst acting as Safety Pilots, Flight Mentoring Trainers, Accredited Instructors or AFR Examiners.

The objective is to provide background and matters for consideration that may be relevant to an FSA's non-operational or operational advice and support activities.

Nothing in these notes may take precedence over approved procedures and requirements as defined for flight instruction and AFR activities as described in Appendix A SAAA General Competency Flight Training Program - Type-transition Training & Recurrent Training, and Appendix B SAAA General Competency Flight Training Program - Aircraft Flight Reviews.

6.1. MANAGING RISK

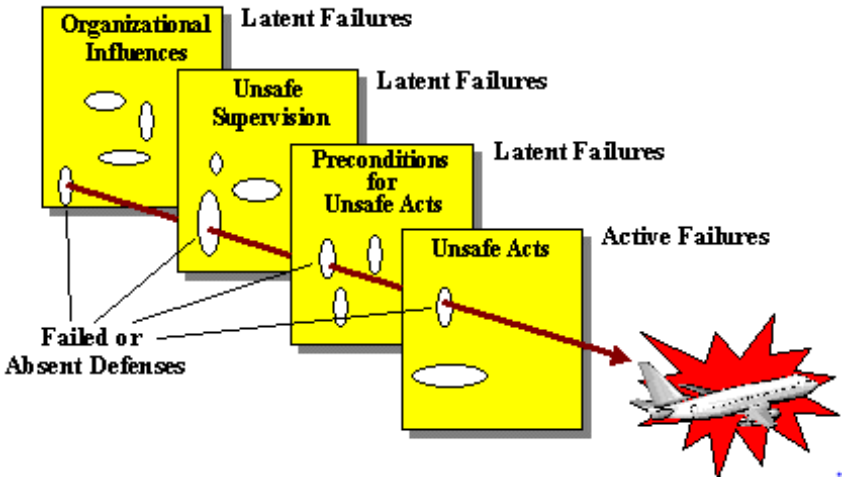
Risk management is a shared responsibility, supported by the SAAA Risk Radar (risk assessment tool) which provides a foundation for planning the scope of type transition training and currency training.

Understanding the "gap" in pilot capability and currency in the context of the particular aircraft a Member flies is critical. It is also critical to consider the human factors. Collectively. The "gap" and human factors have to be considered in order to deliver the intended safety outcomes.

The well-known James Reason "Swiss Cheese" Model is relevant in this context.

Recognition of human factors is recognised as a key factor in accident and incident mitigation and prevention. Knowledge of the principles is an essential requirement for SAAA FSAs.

The original reference source for the aviation-based safety analysis is the "Swiss Cheese" Model – James Reason (1990).



Additionally, CASA provides online Human Factors modules. These can be found at http://services.casa.gov.au/elearning/hf_mod_1/. Module 1 looks at Human Factors in Sport, Recreational and General Aviation. There are several other modules that may be of broader interest.

6.2. WHY DO WE NEED TRANSITION TRAINING?

If you have a look at CASR 61.385 you can clearly see what is expected from a pilot before any flight. This supports SAAA's approach to type transition training.

> ***CIVIL AVIATION SAFETY REGULATIONS 1998 - REG 61.385***
>
> ***Limitations on exercise of privileges of pilot licences--general competency requirement***
>
> *(1) The holder of a pilot licence is authorised to exercise the privileges of the licence in an aircraft only if the holder is competent in operating the aircraft to the standards mentioned in the Part 61 Manual of Standards for the class or type to which the aircraft belongs, including in all of the following areas:*
>
> *(a) operating the aircraft's navigation and operating systems;*
>
> *(b) conducting all normal, abnormal and emergency flight procedures for the aircraft;*
>
> *(c) applying operating limitations;*
>
> *(d) weight and balance requirements;*

(e) applying aircraft performance data, including take-off and landing performance data, for the aircraft.

(1A) Subregulation (1B) applies if the holder of a pilot licence also holds an operational rating or endorsement.

(1B) The holder is authorised to exercise the privileges of his or her pilot licence in an activity in an aircraft under the rating or endorsement only if the holder is competent in operating the aircraft in the activity to the standards mentioned in the Part 61 Manual of Standards (if any) for:

(a) the class or type to which the aircraft belongs; and

(b) the activity.

(2) The holder of a pilot licence is authorised to exercise the privileges of the licence in an aircraft that has an operative airborne collision avoidance system only if the holder is competent in the use of an airborne collision avoidance system to the standards mentioned in the Part 61 Manual of Standards.

6.2.1. TYPE TRANSITION TRAINING CONCEPT

Transition training in the context of members of SAAA involves preparing a pilot for flight, as pilot in command of a sport aircraft that he is unfamiliar with. The situation may occur when a pilot builds a sport aircraft or purchases a sport aircraft that the pilot has not previously flown or not flown recently.

Transitional Training should be considered as the opportunity to enhance your individual flight manipulation skills. Its purpose is to assist in the development of a full understanding of aircraft flight performance issues, aircraft systems and to improve flight safety. Training is given by pilots who are familiar with that specific type.

There is no legal requirement for type transition training providing the pilot is endorsed on the type (generally single engine aeroplanes). However, research has shown that the accident rate for pilots flying a type that they are unfamiliar with is much higher than for aircraft that the pilot is familiar with.

Analysis of general aviation aircraft accidents, and the experience of the military and the airlines, indicates that whenever a pilot's total "time-in-type" is low, Transition Training is very beneficial. And the research shows that the risk of an accident for the sport pilot is high, and especially so in the absence of adequate type transition training.

Transition training is unlikely to be available through an approved flying school because flying schools generally have little if any experience in operating sport aircraft. As a result, SAAA has proactively decided to seek cooperation and support from CASA to provide transition training by SAAA members for SAAA members at a cost that the pilot can afford.

Transition Training needs to be educational and enjoyable, so we will talk a lot about what we are going to do, before going out and doing it. All training sessions are to be fully briefed.

One of the first things that need to be done is to be added as a nominated pilot on the insurance policy for the aeroplane whose owner or pilot you will be working with. Either get the insurers details so that you can get in touch with them, or send details to the student.

The reason for doing this is so that the trainer has the opportunity to fly the aeroplane and so develop a good feel for the aeroplane's handling characteristics, check oil temperatures and pressures, and find out what works and what doesn't. A less obvious reason, or often forgotten reason, is that we know that two same type experimental aircraft may not necessarily be perform identically.

Most pilots new to the experimental arena have never flown aircraft that are as responsive, sensitive, and perhaps light on the controls, and therefore tend to over control. This over controlling creates pilot induced oscillations (PIO), something we don't want, but something we should expect to see and be aware of. Speed and energy control in all phases of flight, particularly in the approach to land configuration, is most vital.

It is important to feel the aeroplane in the low speed area, and in the stall, in all configurations to determine that it does not behave in an unexpected or unusual manner. It is best to do it here than to be faced with surprises during the training flights.

A trainer needs to be comfortable and happy to demonstrate what we are doing along the way. We need to be able to comfortably visit all corners of the envelope in a controlled and safe manner.

Most owners will not be interested in intentionally re-visiting those same areas, but it is clearly advantageous that they see this first-hand during transition training than being totally caught out when they find themselves in an unintended similar position.

We already have the start of what will become type specific manuals, for most RV models and Lancairs (LOBO Oz) that we can rework for SAAA, however transition training can be very specific as above, or may be simply only an outline that refers to the Pilot's Operating Handbook or Approved Airplane Flight Manual.

Transition training can be very effective by following the same approach simply using data from the POH without the need for type specific manuals.

The CASA approved SAAA type transition training syllabus (refer Appendix A SAAA General Competency Flight Training Program - Type-transition Training & Recurrent Training) has a solid and distinct four lesson plan to be as a minimum followed.

The student will need to do a lot of preparation as previously mentioned above in the introduction.

6.2.2. THE GOAL

The over-arching objective is help reduce to the minimum the accident rate of pilots of VH registered experimental aircraft by offering a SAAA sponsored, CASA endorsed, training system for pilots (minimum PPL) transitioning to unfamiliar VH registered aircraft operating under the experimental rules.

As noted by the FAA, March 2014:

> *"The lack of transition training has been cited as a causal factor in many general aviation accidents. Although pilots think of transition training as necessary when stepping up to a high performance or complex airplane; or from single engine to multi-engine; or from tricycle gear to tail wheel, it is also beneficial to pilots who are moving from traditional aircraft to amateur built or light sport flying machines.*
>
> *Whether a pilot is transitioning to a higher- or lower-performance aircraft, or even a different model, a sound transition training program should involve."*

The following is an extract from the Vans Aircraft RV documentation which presents another useful view of the intent and purpose of type transition training:

> *"The goal of Van's Transition Training Program is to provide competent, current, pilots the experience they need to fly an RV safely.*
>
> *Transition instructors will demonstrate and teach the differences between the RV and other typical light aircraft.*
>
> *Transition Instructors will evaluate the trainee's energy management skills, the smoothness of their control operation, the level of discipline practiced and their understanding that RV aircraft offer performance greater than that of training and low performance touring aircraft.*
>
> *At the successful completion of the Transition Training course, the transition student should be able to perform the following basic flying manoeuvres and procedures to the minimum standard required of a Private Pilot check ride.*

The scope of the SAAA Type Transition Training Program has been structured so as to:

a. Align training requirements with privileges appropriate to the CASA PPLA and

b. List mandatory flight sequences for each phase

c. Specify the skill standard to be attained for each flight sequence

Refer to Appendix A SAAA General Competency Flight Training Program - Type-transition Training & Recurrent Training; this reflects the CASA approved lesson plans and outcomes.

6.3. FLYING SYLLABUS

The following notes are offered to assist understanding and delivery of aspects of the flight training program by FSAs; they do not take the place of the specific approved lesson plans.

6.3.1. AIRCRAFT PRE-FLIGHT

The pre-flight procedure for any Experimental aircraft is generally typical of a prefight for any single engine, aircraft. Special attention may be needed when checking tire condition and pressure when close fitting wheel fairings hide the majority of the tire from easy view.

6.3.2. GROUND OPERATIONS

a. Engine start - typical of any light plane

b. Taxi Operations. Some tail wheel models have limited forward visibility at taxi attitude, requiring planning ahead and s-turning

c. Many tricycle gear aircraft use free-castoring nose wheels and depend primarily on rudder movement and slight differential braking for ground steering

d. Training will emphasize proper techniques for brake steering.

6.3.3. TAKE-OFF AND CLIMB

a. Normal take-off. Emphasis on the rapid acceleration and the need for high right rudder pressure for counteracting the high P-factor

b. Crosswind take-off. General principles apply. However, emphasis should be placed on possible over controlling because of light stick forces and quick control response

c. Understand the tendency of a particular aircraft to weather cock into wind. A need to consider and understand where a critical crosswind will affect rudder available

d. Short/soft field take-offs

6.3.4. INFLIGHT MANOUVERING

a. Climb

   i. Emphasis on high P-factor which requires more right rudder correction than for typical low power trainers and touring aircraft

   ii. It is most important to keep the ball in the middle during all phases of flight, particularly the take-off and climb

   iii. Also, stress the limited over-the-nose visibility because of steep climb angles attainable during full power climbs

b. Descents

   i. Emphasis on possible high descent rates at low speeds, with very little change in the attitude of the aircraft.

ii. Related this to the wing configurations / design (short wings, high wind loading etc)

c. Level Flight

i. Emphasis on nose attitude which corresponds to level flight

d. Constant Altitude turns

i. Accurate altitude control is a challenge because high speed, high power, and light controls contribute to excessive altitude excursions

6.3.5. LOW SPEED HANDLING

a. Slow flight at minimum controllable airspeed

i. Typical procedure of any lightplane

ii. Emphasis on ability to hold airspeed within 5 kts above stall buffet

iii. Demonstrate that the aerodynamic stall warning is light and subtle on many of our Experimental aircraft

b. Turns, climbs and descents at minimum controllable airspeed

i. Similar to above with emphasis on balanced flight and precise speed control, combined with maintaining all the other parameters as well

c. Power-off stalls

i. Emphasis on stall recognition despite light aerodynamic warning characteristic of RVs and many other Experimental types

ii. Demonstrate stall recovery with minimal control movement and attitude change

b. Power-on stalls

i. Demonstrate the higher than normal pitch attitudes and reduced forward visibility

6.3.6. HIGH SPEED HANDLING

a. Accelerated stalls

i. Demonstrate the warnings and conditions that can led to the accelerated stall

ii. Emphasis the need to for gentle recovery with minimal control inputs

6.3.7. NON-NORMAL AND EMERGENCY OPERATIONS

As the FSA / Flight Instructor – always refer to the emergency section of the aircraft flight manual, and ensure you have a good understanding of these emergency procedures because you will not have time to start reading the POH in a real emergency.

As far as the trainee is concerned:

a. Ensure the trainee likewise is intimately familiar with all emergency procedures published or known about for the specific aircraft

b. Make sure that they understand how to implement the procedures

c. Verify the trainee's capacity to implement in flight under simulated conditions, as far as is safe / practical to do so and in manner that is as realistic as possible

6.3.8. APPROACHES AND LANDINGS

a. Normal Landings

i. Ideal landing approach speeds are a slightly higher multiple of stall speed than the traditional 1.3 x V_{S0}. Use 1.35 or 1.4

ii. The RV's (and other similar type arrangements) spring steel landing gear is less tolerant of bounces and un-arrested impacts than typical light trainers

iii. Emphasise that if the approach is not as it should be - go-around!

b. Crosswind landings

i. Typical control procedure of most light planes except that slips with flaps are OK in an RV

c. Go-around procedures

i. Teach and check for correct implementation of go-around procedures

ii. Emphasis that RVs will climb well even with full flaps, but that heavy P-factor correction is necessary for coordinated climb

d. Short and Soft Field landings

i. Emphasis on the limited ground effect available with many of our fleet types, with short wings typical of the RVs

e. Wheel landings

i. Review the characteristics of each type

ii. Emphasise the often-limited prop/ground clearances and how to manage this for touch down and all ground operations

iii. The sensitive rebound characteristics of the RV landing gears demand precise touchdown control.

6.4. COMPETENCY

Competency standards are assessed as part of the program and syllabus of training. Competency standard forms in respect of all elements of the lesson plans are contained in Appendix A SAAA General Competency Flight Training Program - Type-transition Training & Recurrent Training.

Competency itself is defined as the combination of knowledge, skills and behaviour required to perform a task to the standard required by industry. The competency standards specify all those skills that must be demonstrated by pilots in order to obtain a PPLA.

6.5. FLIGHT STANDARDS & TOLERENCES

As a guide for transitional flight training and pilot refresher / recurrent training, and for the conduct of aircraft flight reviews, a standard set of flight path and manoeuvre tolerances must be applied as defined in the following table.

For Single Engine Aeroplane Class or Type Rating

Flight Path / Manoeuvre		**Flight Tolerances**
Taxying Aircraft		±1.5 metres of centreline
Nominated Heading		±10°
Climb Airspeed		-0 / +5kts
Level off from climb / descent		±150ft
Straight & and level	Altitude	±150ft
	IAS	±10kts
Power Descent Airspeed		±10kts
Glide		-5 / +10kts
Turns		Angle of Bank ±5°
Turns onto nominated headings		Heading ±10°
Final Approach Airspeed		-0 / +10kts
Landing	Touchdown point	±120m
	Centreline Tracking	±2m

Note: While using this guide, minor excursions outside of these tolerances may be acceptable, depending on conditions, however a sustained out of tolerance is not acceptable.

6.6. TECHNIQUE AND JUDGEMENT

Assessment IAW the standards should be based on the technique used by the candidate and not just the ability to perform the task within specified numerical tolerances. Technique involves

smooth and accurate control application in adjusting power, attitude, trim and balance in a timely and coordinated fashion whilst following correct procedures.

Situational awareness is maintained at all times. Additionally, sound judgement and decision-making should be displayed. It may be that on some occasions flight conditions (e.g., turbulence) are such that even though the pilot's technique is sound the aeroplane may deviate outside specified tolerances for short periods. In such cases the assessment of technique should be the determining factor.

6.7. AIRMANSHIP

Simply defined, good airmanship is represented by the consistent use of good judgment and well-developed skills to accomplish flight objectives. This consistency is founded on a cornerstone of aeronautical knowledge and uncompromising flight discipline and is developed through systematic skill acquisition and proficiency.

6.8. THREAT AND ERROR MANAGEMENT (TEM) AND SINGLE PILOT HUMAN FACTORS

ICAO has recommended that TEM should be introduced into flight training at all licence levels. Thus, SAAA support this stance. For TEM to be effective, human factors skills must be practiced. The reference to this important area of our risk management is referenced under prior section 4.1 Managing Risk; this also references CASA's comprehensive online Human Factors modules, which can be found at http://services.casa.gov.au/elearning/hf_mod_1/.

TEM is an operational concept applied to the conduct of a flight that includes the traditional roles of human factors and airmanship, however provides for a structured and pro-active approach for pilots to use in identifying and managing threats and errors (hazards) that may affect the safety of the flight. Therefore, SAAA, trainers and assessors must teach and measure these items of competency.

The flight standards in the PPLA Syllabus have linked airmanship and human factors. The unit of competency titled 'Manage Flight' is comprised of elements that, when properly applied, can be a measure of the effects of airmanship.

These elements are:

- Maintain effective lookout
- Maintain situation awareness
- Assess situations and make decisions
- Set priorities and manage tasks

As a practical example, appropriately positioning an aircraft in the circuit area to avoid conflict with preceding traffic is considered good airmanship. Alternatively, the result could be seen as a function of good human factors practice. 'Effective lookout' locates the other aircraft in the circuit, good 'situation awareness' could be used to predict the possibility of future conflict, and timely

‘decision making’ could also be used by the pilot to adjust the position or performance of his or her aircraft to ensure a trouble-free final approach.

Therefore, although the term ‘airmanship’ does not appear in the competency standards, the effect of good airmanship can be measured by applying competent human factors practices.

7. **DEFINITIONS**

AFR	Aircraft Flight Review - CASA designated Flight Review as per VFR, NVFR, IFR Syllabus
AOC	Air Operator's Certificate
AP	(SAAA) Authorised Person authorised by CASA to issue a Special Certificate of Airworthiness in respect of EAB aircraft
ATO	Approved Testing Officer
ATP	(An SAAA) Approved Phase 1 Test Pilot
ATPL	Airline Transport Pilot License (CASA issued)
CARs	Civil Aviation Regulations of Australia
CASA	Civil Aviation Safety Authority
CFI	Chief Flight Instructor – in the context of this document this refers to an SAAA approved CFI
CP	Chief Pilot
CPL	Commercial Pilot Licence
EAB	Experimental and Amateur Built (Aircraft)
FSA	An SAAA approved Flight Safety Advisor
IFR	Instrument Flight Rules (including Private IFR)
Member	A member of the SAAA Member
MFO	Manager Flight Operations – a person appointed by and responsible to the SAAA National Council
MFT	An SAAA approved Mentoring Flight Trainer
NC	National Council of the SAAA

NVFR	Night Visual flying Rules
PIC	Pilot in Command
POH	Pilot Operating Handbook
PPLA	Private Pilot (Aeroplane) License (CASA issued)
SAAA	Sport Aircraft Association of Australia
SAI	SAAA Accredited Instructor
SOP	Standard Operating Procedures
TEM	Threat and Error Management
VFR	Visual Flight Rules

8. **REFERENCES**

a. FO 1.01 SAAA Flight Training & Safety Manual

b. FO 1.02 SAAA General Competency Flight Training Program – Type Transition Training & Recurrent Training (refer Appendix A of the FTSM)

c. FO 1.03 SAAA General Competency Flight Training Program – Aircraft Flight Reviews (refer Appendix B of the FTSM)

d. OPNS 2.2.02 Flight Safety Advisor (FSA), Approved Phase 1 Test Pilot (ATP) and SAAA Accredited Instructor (SAI) Management & Critical Actions

e. OPNS 2.2.03 Criterion for the Appointment of a Flight Safety Advisor (FSA)

f. OPNS 2.2.04-000 Flight Safety Advisor (FSA) Training and Performance Standards

g. OPNS 2.2.05-000 Criterion for the Appointment of an Approved Phase 1 Test Pilot (ATP)

h. OPNS 2.2.06-000 Approved Phase 1 Test Pilot (ATP) Training and Performance Standards

i. OPNS 2.2.07-000 Criterion for the Appointment of an SAAA Accredited Instructor (SAI)

j. OPNS 2.2.08-000 SAAA Accredited Instructor (SAI) Training and Performance Standards

k. FO 2.01 2-pilot Operations in Phase 1 Test Flying Operations

l. IPM 9.01-000 Information Paper - Safety Pilot Initiatives

SAAA
General Competency
Flight Training Program

Type Transition Training
& Recurrent Training

Fly Safe

**** No part of this Manual may be amended unless approved by CASA ****

Revisions

Revision No:	Revision Date:	Comments
0	12-SEPT-2018	First issue

Contents

1. OVERVIEW – GENERAL COMPETENCY TRAINING PROGRAM

According to ATSB report AR-2007-043(2) "amateur-built aircraft have an accident rate three times higher than comparable factory-built certified aircraft conducting similar flight operations between 1988 and 2010. The fatal and serious injury accident rate was over five times higher in amateur-built aircraft, in particular due to relatively more serious injury accidents. The pilots of amateur-built aircraft involved in accidents were significantly more experienced overall than factory-built aircraft accident pilots. However, they were significantly less experienced on the aircraft type that they were flying at the time of the accident."

It is common for pilots of amateur-built aircraft to invest significant money, time and effort building their aircraft over many years and during that time, allow their own personal flying skills to progressively lapse due to that focus. Owner-builders often develop a misperception that because they 'know their aircraft' by virtue of building it – they also know how to fly it. These two aspects should be considered as quite discrete considerations (i.e. to *build well* is not necessarily to *fly safe*).

The regulation relevant to a pilot's general competency is prescribed in regulation 61.385 of the CASR 1998 – The General Competency Requirement. Whilst a pilot may hold a particular class rating which authorises operation of a 'class' of aircraft, the general competency requirement applies a *limitation* on the holder - to ensure they are competent in certain specified matters. These general competency considerations require a pilot to be competent in operating the aircraft to the standards mentioned in the Part 61 Manual of Standards (MOS) for the class to which the aircraft belongs.

The pilot must be competent in:

a) Operating the aircraft's navigation and operating systems,
b) Conducting all normal, abnormal and emergency flight procedures for the aircraft,
c) Applying operating limitations,
d) Weight and balance requirements,
e) Applying aircraft performance data, including take-off and landing performance data for the aircraft.

A good test of whether a pilot meets the general competency regulation prescribed in 61.385 can be made by asking the 'general competency question' -

> ***"If I was to conduct a flight review in that aircraft <u>today</u> – would I successfully complete that flight review to all of the standards that are described in schedule 7 of the CASR Part 61 MOS?"***

If the answer to the general competency question is "No" – then it is *unlikely* that the pilot meets the general competency requirements specified in 61.385. A pilot then needs to conduct general competency training with a flight instructor.

This general competency question applies to all flights and has particular relevance for SAAA Members;

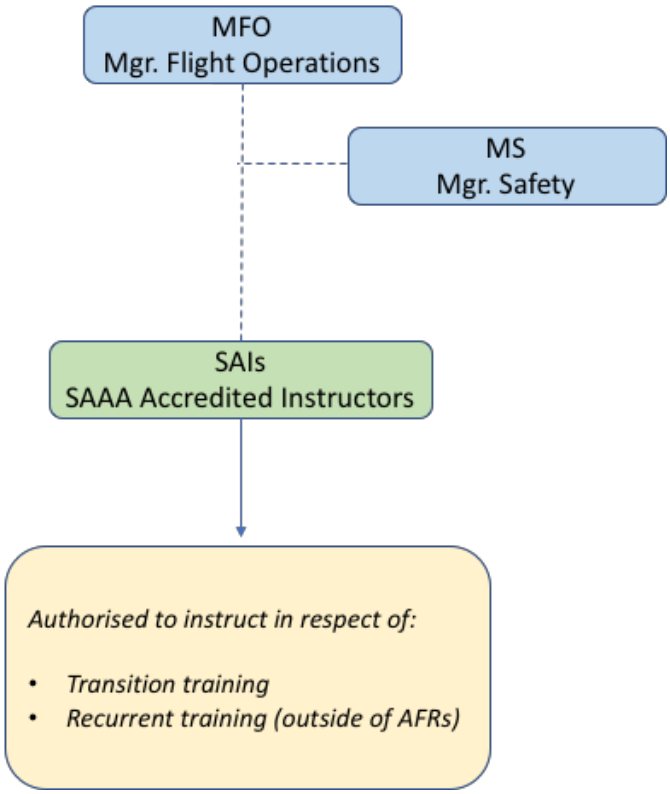
a) when a pilot is considering operating *a new aircraft type* for which they are rated - but have not previously operated. This is the case when an amateur-builder considers operating their new 'pride and joy' – they may not meet the limitation applied by the general competency rule, or

b) when a pilot determines they may not meet the **five criteria** specified in the general competency rule.

The SAAA Training Program provides a framework to assist members meet these general competency requirements by utilising the knowledge and skills of other SAAA members who are accredited by the SAAA as competent to provide type-transition training specifically for amateur-built aircraft.

Persons accredited by the SAAA to deliver training associated with the general competency requirements (61.385) are known as SAAA Accredited Instructors (SAIs). SAIs may deliver training as part of the type-transition training program or assist a person in gaining competency to meet the general requirements.

2. ROLES AND RESPONSIBILITIES



2.1. MANAGER FLIGHT OPERATIONS (MFO)

The Manager Flight Operations (MFO) is responsible to the SAAA Board for the;

a) Maintenance of associated training materials, handbooks and manuals,
b) Managing and recording the accreditation of SAIs,
c) Maintain a record of qualifications for persons appointed as an SAI,
d) The continuous professional development of SAIs,
e) Monitoring safety data and trends relevant to amateur-built aircraft and encouraging SAIs to focus on particular emerging aspects.

The MFO may delegate any of the responsibilities listed above, however the MFO retains the accountability.

A person appointed to the role of MFO must meet the below criteria:

a) Has extensive experience operating amateur-built aircraft,
b) Hold or have held a supervisory position in an aviation operational environment,
c) Have the capability to engage and manage a geographically disperse team of SAIs,
d) Holds a CASR Part 61 Flight Instructor Rating.

2.2. SAAA ACCREDITED INSTRUCTOR (SAI)

The training conducted by an SAI must only be training which is considered to be associated with the general competency requirement. An SAI is not authorised to conduct training which is associated with a flight review; that task requiring a CASR Part 141 authorisation.

To be accredited as an SAI the person must meet the requirements specified in this document under accreditation process. An SAI must only conduct training which is authorised under Part 61 for the grant of the single-engine (aeroplane) class rating. The person must not conduct any training that is described in CASR Part 141.015.

In maintaining accreditation an SAI makes an undertaking to:

a) Conduct type-transition training (61.385) in accordance with the SAAA syllabus of training,
b) Conduct recurrent training (61.385) as required for pilots who do not meet the general competency requirements,
c) Retaining training records for a period of seven years for all training conducted as an SAI,
d) Provide feedback to the MFO for the continuous improvement of the type-transition program,
e) Advise the MFO in the event that the SAI no longer seeks to maintain their accreditation,
f) Provide feedback to the MFO with regards to any safety-related trends observed when conducting SAI training activities.

3. ACCREDITATION PROCESS – SAAA ACCREDITED INSTRUCTOR (SAI)

An SAI must meet the minimum experience and qualifications prescribed below.

3.1. MINIMUM REQUIREMENTS – SAI

a) Hold a current membership with the SAAA,
b) Hold a current Grade one, two or three (aeroplane) instructor rating; or hold an instructor rating with a single engine class rating training endorsement in accordance with the requirements specified in CASR Table 61.1235 Item 6 - as at the effective date of this manual, these requirements are:
    i. Commercial pilot licence or air transport pilot licence
    ii. Aircraft class rating for the specified class
    iii. At least 50 hours of aeronautical experience as pilot of an aircraft of the specified class
c) Provide evidence of having successfully completed an instructor rating proficiency check within the last two-years in a relevant aircraft,
d) Hold a suitable medical certificate,
e) Successfully complete an interview with the MFO to confirm the applicant possesses the knowledge, skills and attitudes required to conduct the functions of an SAI.

3.2. PROCESS TO ACCREDIT AN SAI

On receipt of an application from a person seeking to become an SAI (the Applicant):

a) MFO will conduct an interview, ideally face to face, or alternatively by telephone to determine the suitability of the applicant,
b) MFO will conduct at least two general reference checks to further gauge the capability and suitability of the Applicant,
c) On receipt of the required documentary evidence (see minimum requirements), MFO to check all required criterion are satisfied, seeking additional information as might be required,
d) At the discretion of the MFO, an evaluation flight may be conducted by either the MFO or a person nominated by the MFO,
e) Provided all minimum requirements are satisfied, notify the Applicant, authorise the Office to issue a Certificate of Appointment and update the published list of SAIs.
f) Office to record details of appointment in the Member Records System (MRS) and add details of the newly appointed SAI to the various relevant SAAA publications and website.

3.3. PROCESS TO REMOVE AN ACCREDITED SAI

The MFO may at their discretion remove a person as an SAI.

4. LIST OF PERSONS ACCREDITED AS AN SAI

A list of SAIs will be maintained on the SAAA website.

5. TRAINING COURSE

5.1. COURSE OVERVIEW

This course of training covers the practical flight skills and underpinning knowledge requirements for a pilot to successfully transition to operate a different type of aircraft covered by the single-engine aeroplane class rating. The purpose of the training is to satisfy the general competency requirement in regulation 61.385. The unit FR-SEAC has been applied to this course as it is relevant to the objective of achieving competency operating a single-engine class-rated aeroplane. Not all of the elements in that unit are relevant to the course objective.

Each course of training needs to be tailored to the individual needs of the trainee and depends on the trainee's entry level competencies, knowledge and current level of skills.

The training needs to be orientated to the practical application of the skills in the airborne environment, recognising the unique circumstances of the location of where the training is conducted, notwithstanding the need to address the core competencies that apply regardless of where the training is conducted.

Appropriate recognition of prior learning and current skills should be applied to the content of the training and notated accurately in the training records.

Relevant previous training can be counted towards the minimum flight training requirements that are prescribed in Part 61 for the endorsement. Relevant training has to be identifiable in the applicable competency standards that are prescribed for the endorsement.

The course has the following components (note these are generic for all training courses):

Flight training and theory examination summary

The summary table lists each training session with a reference, its description and the allocated time. The table also lists the aeronautical knowledge examination(s) that are required according to Schedule 4 of the Part 61 MOS – in this case, there is no examination required.

The summary provides for 4 hours of training. It is a template and can be adjusted depending on the entry level of the applicant and the training he or she needs to demonstrate competency.

Planning matrix

The Planning matrix sets out the order in which the units and elements of training are presented as well as the anticipated performance standards for each lesson. The matrix is a model plan and can be adjusted according to the needs of the trainee at the time the training is being conducted.

Achievement record

The achievement record is a record of the trainee achieving the relevant practical flight standards. The record should be progressively completed when the trainee has satisfactorily demonstrated competency for the unit and element on at least two occasions.

Trainees are expected to achieve competency at performance standard 1 in each element of each unit in this achievement record. The performance criteria for the elements are prescribed in Schedule 2 of the Part 61 MOS.

The trainee may demonstrate competency using a combination of training course assessments and assessments of current competency that was achieved through prior training and operational experience.

The instructor conducting the training and assessments must certify that competency has been achieved by entering the details in the table below entering their ARN, signature and the date when the applicant achieved the required competency performance standard

Syllabus lesson plans

A lesson plan is provided for each lesson listed in the planning matrix.

Each lesson plan includes details on the aeronautical knowledge topics that need to be covered as a precursor to the next practical flight training activity along with the associated underpinning knowledge topics that are to be addressed prior to commencing the flight training activity.

The lesson includes the agenda which is a breakdown of the estimated time required for the long briefing and pre-flight briefing.

The resources described in the lesson plan are based on a model and could be modified with suitable equivalent resources.

The underpinning knowledge topics are taken from the relevant sections of the units of competency in Schedule 2 of the Part 61 MOS.

The practical flight training section details the units and elements that need to be covered in the training lessons. The units and elements are prescribed in Schedule 2 of the Part 61 MOS.

Training records

A training record is provided for each flight training lesson that is listed in the planning matrix and aligns with the associated syllabus lesson plan.

The record includes header details for the instructor, the date of the activity, the aircraft used, and the flight time. Space is provided for free text comments.

Course completion certificate

A sample course completion certificate is provided.

6. FLIGHT TRAINING AND THEORY EXAMINATION SUMMARY

Training session number	Training session description	Dual day	Dual night	Solo night	Total night	IF	Total IF	Total flight time
TT(A)1	Introduction and general handling	1.0						1.0
TT(A)2	Low speed handling and upset prevention and recovery	1.0						2.0
TT(A)3	Circuit operations	1.0						3.0
TT(A)4	Emergencies and partial power loss	1.0						4.0
Aeronautical Knowledge examination								
	Not applicable							
No flight test		**0.0**						**4.0**

7. **PLANNING MATRIX**

Legend D = Demonstration Di = Direct R = Revision M = Monitor S = Solo A = Assessment T = Flight Test (independent assessment)		**SAAA Transition Training**					
		1	**2**	**3**	**4**	**5**	**6**
Performance Standards **3 =** Has received training in the element, however is not able to consistently demonstrate competency to the standard required for qualification issue. **2 =** Is able to achieve competency to the standard required for qualification issue on the majority of occasions and is safe to operate solo under direct supervision. **1 =** Achieves competency to the standard required for qualification issue.		Introduction and general handling	Low speed handling and upset prevention and recovery	Circuit operations	Emergencies and partial power loss		
	Dual day	**1**	**1**	**1**	**1**		
	Assessment	A					
	Exams	Nil					
Units and Elements							
1	**Pre-flight**						
	Perform pre-flight actions and procedures;	**1**	**1**	**1**	**1**		
	Perform pre-flight inspection	**1**	**1**	**1**	**1**		
	Refuel aircraft	**1**	**1**	**1**	**1**		
2	**Ground ops, take-off, departure and climb**						
	Complete all relevant checks and procedures	**1**	**1**	**1**	**1**		
	Taxi aircraft	**1**	**1**	**1**	**1**		
	Plan, brief and conduct take-off and departure procedures	**1**	**1**	**1**	**1**		
	Conduct crosswind take-off	**2**	**2**	**1**	**1**		
	Conduct short field take-off			**1**	**1**		
	Conduct climbs and climbing turns – must include any 2 of maximum rate, maximum angle or cruise climb	**1**	**1**	**1**	**1**		

3	**General handling**						
	straight and level and turn aircraft	1	1	1	1		
	Perform any 1 cruise configuration for turbulence, flaps selected or high speed	1	1	1	1		
	Enter and recover from stalls – 1 must be in the approach configuration and at least 1 stall		1	1	1		
	Conduct steep level turns of at least 45˚ bank;	1	1	1	1		
	recover from at least 2 unusual attitudes		1	1	1		
4	**Managing emergencies**						
	Manage engine failure after take-off				1		
	Manage system malfunctions;				1		
	perform forced landing				1		
5	**Descent and arrival**						
	Conduct descents and descending turns	1	1	1	1		
	Plan and conduct arrival and circuit joining procedures	1	1	1	1		
6	**Circuit, approach, landing and shutdown**						
	Conduct normal circuit pattern, approach and landing	1	1	1	1		
	Conduct cross-wind landing	1	1	1	1		
	Conduct short field and flapless landings			1	1		
	Perform a go-around procedure			1	1		
	Perform after-landing actions and procedures	1	1	1	1		
	Park and shutdown aircraft	1	1	1	1		
NTS1	**Non-technical skills 1**						
NTS1.1	Maintain effective lookout	1	1	1	1		
NTS1.2	Maintain situational awareness	1	1	1	1		
NTS1.3	Assess situations and make decisions	1	1	1	1		
NTS1.4	Set priorities and manage tasks	1	1	1	1		
NTS1.5	Maintain effective communications and interpersonal relationships	1	1	1	1		
NTS2	**Non-technical skills 2**						
NTS2.1	Recognise and manage threats	1	1	1	1		
NTS2.2	Recognise and manage errors	1	1	1	1		
NTS2.3	Recognise and manage undesired aircraft state	1	1	1	1		
* Assessment conducted in VMC by day							

8. ACHIEVEMENT RECORD – TRANSITION TRAINING

Trainee's name	
Trainee's ARN	
Date commenced training	
Date of assessment of prior learning and current competency (if applicable)	

Performance Standard		
3	**2**	**1**
Has received training in the element, however is not able to consistently demonstrate competency to the standard required for the grant of the authorisation	Is able to achieve competency to the standard required for the grant of the authorisation on the majority of occasions, and is safe to operate as pilot in command under direct supervision	Achieves competency to the standard required for the grant of the authorisation.

Aeronautical Knowledge Examination pass	Date:	Not applicable
Knowledge Deficiency Report assessment	Date:	Not applicable

Unit FR-SEAC Single-engine aeroplane class rating flight review

ELEMENT	Date	Instructor's ARN	Instructor's signature
FR-SEAC.1 Conduct flight			
FR-SEAC.2 Manage aircraft systems			
FR-SEAC.6 Manage non-normal and emergency conditions			
FR-SEAC.7 Non-technical skills			

Trainee's confirmation

I have received the training specified in the elements, which have been certified on this competency achievement record.	
Trainee's signature	Date: ____/____/____

9. SYLLABUS LESSON PLANS

Syllabus Lesson Plan – TT(A)1: General handling

Aeronautical knowledge training for TT(A)1

Agenda	• Long briefing .....1.0 hour • Underpinning knowledge as required
Resources	• Briefing room with white board and white board markers • Aircraft model and other relevant visual aids as required • Aircraft flight manual and checklist

Content – aeronautical knowledge TT(A)1	Teaching technique	Trainee activity
Long Briefing • If required, brief trainee on critical aspects of operating the type of aircraft. • Review performance and loading requirements • Prepare load sheet and calculate critical performance figures	• Long briefing	• Take notes • Ask/answer questions • Interact
Underpinning knowledge topics – unit FR-SEAC-1 (as required) (a) weight and balance and aircraft performance; (b) operation of systems fitted to the aircraft; (c) extract and apply aircraft performance data, including take-off and landing performance data for the aircraft; (d) passenger and baggage handling; (e) non-normal and emergency procedures including full and partial failures; (f) local operating procedures; (g) airworthiness requirements; **Underpinning knowledge topics – unit NTS1** (a) effective communication under normal and non-normal circumstances; (b) hazard identification and risk management;	• Discuss/ • ask questions • Include in long briefing as applicable	• Take notes • Ask/answer questions • Interact

Practical flight training for TT(A)1

Agenda	• Pre-flight briefing..... 0.3 hour • Underpinning knowledge..... as detailed • Flight time..... 1.0 hour dual
Content summary	• Revision of aircraft performance and systems for the type • Prepare performance and loading documents
Resources	• Owner's aeroplane • Area map • Aircraft flight manual and checklist

Content – practical flight training TT(A)1	Teaching technique	Trainee activity
Pre-flight Briefing • Review flight sequences, what to expect, see & do • Check essential knowledge • Reinforce threat & error management • Reinforce significant airmanship points	• Pre-flight briefing	• Take notes • Ask/answer questions • Interact

Content – practical flight training TT(A)1	Teaching technique	Trainee activity
TT.1 – Pre-flight (a) Perform pre-flight actions and procedures; (b) Perform pre-flight inspection; (c) Refuel aircraft;	• Demonstration if required • Monitor	• Perform tasks with guidance • Perform tasks with monitoring
TT.2 – Ground ops, take-off, departure and climb (a) Complete all relevant checks and procedures; (b) Taxi aircraft; (c) Plan, brief and conduct take-off and departure procedures; (d) Conduct crosswind take-off.	• Demonstration if required • Monitor	• Perform tasks with guidance • Perform tasks with monitoring
TT.3 – General handling (a) conduct climbs and climbing turns, including maximum rate, maximum angle and cruise climb; (b) establish and maintain cruise flight for normal configuration, turbulence and high speed; (c) perform medium turns.	• Demonstration if required • Monitor	• Perform tasks with guidance • Perform tasks with monitoring
TT.5 – Descent and arrival (a) Conduct descents and descending turns; (b) Plan and conduct arrival and circuit joining procedures	• Demonstrate if required • Monitor	• Perform tasks with guidance • Perform tasks with monitoring
TT.6 – Circuit, approach, landing and shutdown (a) Conduct normal circuit pattern, approach and landing; (b) Conduct cross-wind landing; (c) Perform after-landing actions and procedures (d) Park and shutdown aircraft.	• Demonstrate if required • Monitor	• Perform tasks with guidance • Perform tasks with monitoring
NTS1 1.1 Maintain effective lookout 1.2 Maintain situational awareness 1.3 Assess situations and make decisions 1.4 Set priorities and manage tasks 1.5 Maintain effective communications and interpersonal relationships	• As required	• As required
NTS2 2.1 recognise and manage threats 2.2 recognise and manage errors 2.3 recognise undesired aircraft states 2.4 prioritise tasks to ensure an undesired aircraft state is managed effectively 2.5 apply corrective actions to recover an undesired aircraft state in a safe and timely manner	• Monitor	• Perform tasks with monitoring

Debriefing for TT(A)1

Resources	• Briefing room with white board and white board markers • Aircraft model and other relevant visual aids as required • Aircraft flight manual and checklist

Content – debriefing TT(A)1	Teaching technique	Trainee activity
• Training review and outcomes achieved against lesson objectives and the described competency standards • Recommendations for next lesson (including any carryover/remedial training) • Trainee preparation for next lesson • Training record completion & sign off	• Open discussion • Feedback • Ask/answer questions	• Open discussion • Feedback • Ask/answer questions • Sign off on training record

Syllabus Lesson Plan – TT(A)2: Low speed handling and upset prevention and recovery

Aeronautical knowledge training for TT(A)2 – not applicable

Practical flight training for TT(A)2

Agenda	• Pre-flight briefing ..... 0.3 hour • Underpinning knowledge..... as detailed • Flight time..... 1.0 hour dual
Content summary	• As required
Resources	• Owner's aeroplane • Area map • Aircraft flight manual and checklist

Content – practical flight training TT(A)2	Teaching technique	Trainee activity
Pre-flight Briefing • Review flight sequences, what to expect, see & do • Check essential knowledge • Reinforce threat & error management • Reinforce significant airmanship points	• Pre-flight briefing	• Take notes • Ask/answer questions • Interact
TT.1 – Pre-flight (a) Perform pre-flight actions and procedures; (b) Perform pre-flight inspection; (c) Refuel aircraft;	• Demonstration if required • Monitor	• Perform tasks with guidance • Perform tasks with monitoring
TT.2 – Ground ops, take-off, departure and climb (a) Complete all relevant checks and procedures; (b) Taxi aircraft; (c) Plan, brief and conduct take-off and departure procedures.	• Demonstration if required • Monitor	• Perform tasks with guidance • Perform tasks with monitoring
TT.3 – General handling (a) conduct climbs and climbing turns, including maximum rate, maximum angle and cruise climb; (b) establish and maintain cruise flight for normal configuration, turbulence and high speed; (c) perform medium turns; (d) enter and recover from stalls including basic configuration, approach configuration and in the climb; (e) conduct steep level turns of at least 45˚ bank; (f) recover from unusual attitudes including low energy and high energy states.	• Demonstration if required • Monitor	• Perform tasks with guidance • Perform tasks with monitoring
TT.5 – Descent and arrival (a) Conduct descents and descending turns; (b) Plan and conduct arrival and circuit joining procedures	• Demonstrate if required • Monitor	• Perform tasks with guidance • Perform tasks with monitoring
TT.6 – Circuit, approach, landing and shutdown (a) conduct normal circuit pattern, approach and landing; (b) conduct cross-wind landing;	• Demonstrate if required • Monitor	• Perform tasks with guidance • Perform tasks with monitoring

Content – practical flight training TT(A)2	Teaching technique	Trainee activity
(c) perform after-landing actions and procedures (d) Park and shutdown aircraft.		
NTS1 1.1 Maintain effective lookout 1.2 Maintain situational awareness 1.3 Assess situations and make decisions 1.4 Set priorities and manage tasks 1.5 Maintain effective communications and interpersonal relationships	• As required	• As required
NTS2 2.1 recognise and manage threats 2.2 recognise and manage errors 2.3 recognise undesired aircraft states 2.4 prioritise tasks to ensure an undesired aircraft state is managed effectively 2.5 apply corrective actions to recover an undesired aircraft state in a safe and timely manner	• Monitor	• Perform tasks with monitoring

Debriefing for TT(A)2

Resources	• Briefing room with white board and white board markers • Aircraft model and other relevant visual aids as required • Aircraft flight manual and checklist

Content – debriefing TT(A)2	Teaching technique	Trainee activity
• Training review and outcomes achieved against lesson objectives and the described competency standards • Recommendations for next lesson (including any carryover/remedial training) • Trainee preparation for next lesson • Training record completion & sign off	• Open discussion • Feedback • Ask/answer questions	• Open discussion • Feedback • Ask/answer questions • Sign off on training record

Syllabus Lesson Plan – TT(A)3: Circuit operations

Aeronautical knowledge training for TT(A)3 – not applicable

Practical flight training for TT(A)3

Agenda	• Pre-flight briefing ..... 0.3 hour • Underpinning knowledge..... as detailed • Flight time..... 1.0 hour dual
Content summary	• As required
Resources	• Owner's aeroplane • Area map • Aircraft flight manual and checklist

Content – practical flight training TT(A)3	Teaching technique	Trainee activity
Pre-flight Briefing • Review flight sequences, what to expect, see & do • Check essential knowledge • Reinforce threat & error management • Reinforce significant airmanship points	• Pre-flight briefing	• Take notes • Ask/answer questions • Interact
TT.1 – Pre-flight (a) Perform pre-flight actions and procedures; (b) Perform pre-flight inspection; (c) Refuel aircraft;	• Demonstration if required • Monitor	• Perform tasks with guidance • Perform tasks with monitoring
TT.2 – Ground ops, take-off, departure and climb (a) Complete all relevant checks and procedures; (b) Taxi aircraft; (c) Plan, brief and conduct take-off and departure procedures; (d) Conduct crosswind take-off; (e) Conduct short field take-off.	• Demonstration if required • Monitor	• Perform tasks with guidance • Perform tasks with monitoring
TT.3 – General handling (a) conduct climbs and climbing turns, including maximum rate, maximum angle and cruise climb; (b) establish and maintain cruise flight for normal configuration, turbulence and high speed; (c) perform medium turns; (d) enter and recover from stalls including basic configuration, approach configuration and in the climb; (e) conduct steep level turns of at least 45˚ bank; (f) recover from unusual attitudes including low energy and high energy states.	• Demonstration if required • Monitor	• Perform tasks with guidance • Perform tasks with monitoring
TT.5 – Descent and arrival (a) Conduct descents and descending turns; (b) Plan and conduct arrival and circuit joining procedures	• Demonstrate if required • Monitor	• Perform tasks with guidance • Perform tasks with monitoring

TT.6 – Circuit, approach, landing and shutdown (a) Conduct normal circuit pattern, approach and landing; (b) Conduct cross-wind landing; (c) Conduct short field and flapless landings; (d) Perform a go-around procedure; (e) Perform after-landing actions and procedures (f) Park and shutdown aircraft.	• Demonstrate if required • Monitor	• Perform tasks with guidance • Perform tasks with monitoring
NTS1 1.1 Maintain effective lookout 1.2 Maintain situational awareness 1.3 Assess situations and make decisions 1.4 Set priorities and manage tasks 1.5 Maintain effective communications and interpersonal relationships	• As required	• As required
NTS2 2.1 recognise and manage threats 2.2 recognise and manage errors 2.3 recognise undesired aircraft states 2.4 prioritise tasks to ensure an undesired aircraft state is managed effectively 2.5 apply corrective actions to recover an undesired aircraft state in a safe and timely manner	• Monitor	• Perform tasks with monitoring

Debriefing for TT(A)3

Resources	• Briefing room with white board and white board markers • Aircraft model and other relevant visual aids as required • Aircraft flight manual and checklist

Content – debriefing TT(A)3	Teaching technique	Trainee activity
• Training review and outcomes achieved against lesson objectives and the described competency standards • Recommendations for next lesson (including any carryover/remedial training) • Trainee preparation for next lesson • Training record completion & sign off	• Open discussion • Feedback • Ask/answer questions	• Open discussion • Feedback • Ask/answer questions • Sign off on training record

Syllabus Lesson Plan – TT(A)4: Emergencies and partial loss of power

Aeronautical knowledge training for TT(A)4 – not applicable

Practical flight training for TT(A)4

Agenda	• Pre-flight briefing ..... 0.3 hour • Underpinning knowledge..... as detailed • Flight time..... 1.0 hour dual
Content summary	• As required
Resources	• Owner's aeroplane • Area map • Aircraft flight manual and checklist

Content – practical flight training TT(A)4	Teaching technique	Trainee activity
Pre-flight Briefing • Review flight sequences, what to expect, see & do • Check essential knowledge • Reinforce threat & error management • Reinforce significant airmanship points	• Pre-flight briefing	• Take notes • Ask/answer questions • Interact
TT.1 – Pre-flight (a) Perform pre-flight actions and procedures; (b) Perform pre-flight inspection; (c) Refuel aircraft;	• Demonstration if required • Monitor	• Perform tasks with guidance • Perform tasks with monitoring
TT.2 – Ground ops, take-off, departure and climb (a) Complete all relevant checks and procedures; (b) Taxi aircraft; (c) Plan, brief and conduct take-off and departure procedures; (d) Conduct crosswind take-off; (e) Conduct short field take-off.	• Demonstration if required • Monitor	• Perform tasks with guidance • Perform tasks with monitoring
TT.3 – General handling (a) conduct climbs and climbing turns, including maximum rate, maximum angle and cruise climb; (b) establish and maintain cruise flight for normal configuration, turbulence and high speed; (c) perform medium turns; (d) enter and recover from stalls including basic configuration, approach configuration and in the climb; (e) conduct steep level turns of at least 45˚ bank; (f) recover from unusual attitudes including low energy and high energy states.	• Demonstration if required • Monitor	• Perform tasks with guidance • Perform tasks with monitoring
TT.4 – Managing emergencies (a) Manage engine failure after take-off; (b) Manage system malfunctions; (c) perform forced landing;	• Demonstration if required • Monitor	• Perform tasks with guidance • Perform tasks with monitoring

TT.5 – Descent and arrival (a) Conduct descents and descending turns; (b) Plan and conduct arrival and circuit joining procedures	• Demonstrate if required • Monitor	• Perform tasks with guidance • Perform tasks with monitoring
TT.6 – Circuit, approach, landing and shutdown (a) Conduct normal circuit pattern, approach and landing; (b) Conduct cross-wind landing; (c) Conduct short field and flapless landings; (d) Perform a go-around procedure; (e) Perform after-landing actions and procedures (f) Park and shutdown aircraft.	• Demonstrate if required • Monitor	• Perform tasks with guidance • Perform tasks with monitoring
NTS1 1.1 Maintain effective lookout 1.2 Maintain situational awareness 1.3 Assess situations and make decisions 1.4 Set priorities and manage tasks 1.5 Maintain effective communications and interpersonal relationships	• As required	• As required
NTS2 2.1 recognise and manage threats 2.2 recognise and manage errors 2.3 recognise undesired aircraft states 2.4 prioritise tasks to ensure an undesired aircraft state is managed effectively 2.5 apply corrective actions to recover an undesired aircraft state in a safe and timely manner	• Monitor	• Perform tasks with monitoring

Debriefing for TT(A)4

Resources	• Briefing room with white board and white board markers • Aircraft model and other relevant visual aids as required • Aircraft flight manual and checklist

Content – debriefing TT(A)4	Teaching technique	Trainee activity
• Training review and outcomes achieved against lesson objectives and the described competency standards • Recommendations for next lesson (including any carryover/remedial training) • Trainee preparation for next lesson • Training record completion & sign off	• Open discussion • Feedback • Ask/answer questions	• Open discussion • Feedback • Ask/answer questions • Sign off on training record

10. **TRAINING RECORDS**

Training record TT(A)1 Introduction and general handling

Suggested flight time 1.0 hour dual

Trainee's details	Name			
	ARN			
Instructor details	Name			
	ARN			
Aircraft details	Aircraft registration		Aircraft type	
Flight details	Date		Flight time	

Completion dates	Long briefing	Pre-flight briefing	Underpinning knowledge

Performance Standard		
3	**2**	**1**
Has received training in the element, however is not able to consistently demonstrate competency to the standard required for qualification issue	Is able to achieve competency to the standard required for the grant of the authorisation on the majority of occasions, and is safe to operate as pilot in command under direct supervision	Achieves competency to the standard required for qualification issue

Unit / Element	Description	Required standard	Demonstrated standard
FR-SEAC.1	Conduct flight	1	
FR.SEAC.2	Manage aircraft systems	1	
FR.SEAC.3	Manage non-normal and emergency conditions	1	
FR.SEAC.4	Non-technical skills	1	

Note: *Where an element has either not been conducted, or where the trainee has not attained the required performance standard, that element is to be covered during the next training session*

Comments

Proceed to next training session?	YES	NO

Instructor's signature	Trainee's signature

Training record TT(A)2 Low speed handling and upset prevention and recovery

Suggested flight time 1.0 hour dual

Trainee's details	Name			
	ARN			
Instructor details	Name			
	ARN			
Aircraft details	Aircraft registration		Aircraft type	
Flight details	Date		Flight time	

Completion dates	Long briefing	Pre-flight briefing	Underpinning knowledge

Performance Standard		
3	**2**	**1**
Has received training in the element, however is not able to consistently demonstrate competency to the standard required for qualification issue	Is able to achieve competency to the standard required for the grant of the authorisation on the majority of occasions, and is safe to operate as pilot in command under direct supervision	Achieves competency to the standard required for qualification issue

Unit / Element	Description	Required standard	Demonstrated standard
FR-SEAC.1	Conduct flight	1	
FR.SEAC.2	Manage aircraft systems	1	
FR.SEAC.3	Manage non-normal and emergency conditions	1	
FR.SEAC.4	Non-technical skills	1	

Note: *Where an element has either not been conducted, or where the trainee has not attained the required performance standard, that element is to be covered during the next training session*

Comments

Proceed to next training session?	YES	NO

Instructor's signature	Trainee's signature

Training record TT(A)3 Circuit operations

Suggested flight time 1.0 hour dual

Trainee's details	Name			
	ARN			
Instructor details	Name			
	ARN			
Aircraft details	Aircraft registration		Aircraft type	
Flight details	Date		Flight time	

Completion dates	Long briefing	Pre-flight briefing	Underpinning knowledge

Performance Standard		
3	**2**	**1**
Has received training in the element, however is not able to consistently demonstrate competency to the standard required for qualification issue	Is able to achieve competency to the standard required for the grant of the authorisation on the majority of occasions, and is safe to operate as pilot in command under direct supervision	Achieves competency to the standard required for qualification issue

Unit / Element	Description	Required standard	Demonstrated standard
FR-SEAC.1	Conduct flight	1	
FR.SEAC.2	Manage aircraft systems	1	
FR.SEAC.3	Manage non-normal and emergency conditions	1	
FR.SEAC.4	Non-technical skills	1	

Note: *Where an element has either not been conducted, or where the trainee has not attained the required performance standard, that element is to be covered during the next training session*

Comments

Proceed to next training session?	YES	NO

Instructor's signature	Trainee's signature

Training record TT(A)4 Manage non-normal and emergency conditions including emergency and partial power loss

Suggested flight time 1.0 hour dual

Trainee's details	Name			
	ARN			
Instructor details	Name			
	ARN			
Aircraft details	Aircraft registration		Aircraft type	
Flight details	Date		Flight time	

Completion dates	Long briefing	Pre-flight briefing	Underpinning knowledge

Performance Standard		
3	**2**	**1**
Has received training in the element, however is not able to consistently demonstrate competency to the standard required for qualification issue	Is able to achieve competency to the standard required for the grant of the authorisation on the majority of occasions, and is safe to operate as pilot in command under direct supervision	Achieves competency to the standard required for qualification issue

Unit / Element	Description	Required standard	Demonstrated standard
FR-SEAC.1	Conduct flight	1	
FR.SEAC.2	Manage aircraft systems	1	
FR.SEAC.3	Manage non-normal and emergency conditions	1	
FR.SEAC.4	Non-technical skills	1	

Note: *Where an element has either not been conducted, or where the trainee has not attained the required performance standard, that element is to be covered during the next training session*

Comments

Proceed to next training session?	YES	NO

Instructor's signature	Trainee's signature

11. COURSE COMPLETION CERTIFICATE

Name of Course	
Course conducted in aircraft **(Make / Model / Type)**	
Instructor	
Instructor ARN	
Trainee's name	
Trainee's ARN	
Date commenced training	
Date of final assessment	
Certification	The certificate confirms the trainee has completed the described course to the standards prescribed in the relevant Appendix of Schedule 2 of the Part 61 Manual of Standards to comply with the general competency requirement in regulation 61.385.
Manager Flight Operations - Name	
Signature	
Date	

Appendix B

SAAA
General Competency
Flight Training Program

Aircraft Flight Reviews

Fly Safe

**** No part of this Appendix B may be amended unless approved by CASA ****